



**NATURAL JUSTICE**

63 Hout Street,  
Mercantile Building,  
Cape Town, 8000,  
South Africa.

Tel: +27 21 426 1633

Att: Lauren Nel

Jacqueline Rukanda

**Email:**

lauren@naturaljustice.org

jacqueline@naturaljustice.org

**23 March 2024**

**TO:** DEPARTMENT OF MINERAL RESOURCES AND ENERGY  
Mr Jacob Mbele  
Director-General  
Building 2C  
Cnr Meintjies and Francis Baard Street  
Pretoria

**BY EMAIL:** IRP.Queries@dmre.gov.za

**RE: NATURAL JUSTICE COMMENTARY ON THE INTEGRATED RESOURCE PLAN 2023  
[Government Gazette Notice 4238]**

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1. **PART 1: INTRODUCTION**

Natural Justice is a non-profit organization, registered in South Africa since 2007. Our vision is the conservation and sustainable use of biodiversity and resources through the self-determination of indigenous peoples and local communities. Our mission is to facilitate the full and effective participation of indigenous peoples and local communities in the development and implementation of laws and policies that relate to the conservation and customary uses of biodiversity and the

protection of associated cultural heritage. Natural Justice works at the local, national, regional, and international levels with a wide range of partners. We strive to ensure that community rights and responsibilities are represented and respected on a broader scale and that gains made in international fora are fully upheld at lower levels.

This submission is done with the guidance from the Just Energy Transition Africa (JETA) Initiative.

We take note of the Minister introducing the Integrated Resource Plan 2023 (IRP2023) to update the Integrated Resources Plan 2019 (IRP2019). We have made submissions only under general comments and themes. We do not deal with specific comments as we believe the IRP2023 needs to be rewritten in line with environmental, social and democratic commitments as per the legal framework in South Africa and in line with the Energy Justice Framework cited below. The IRP2023 is a regression considering the IRP2019 and will not allow South Africa to achieve a just energy transition as committed to in the Just Energy Transition Partnership.

This submission is set out in the following sections:

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## 2.1 IRR 2023: LEGAL AUTHORITY

The legal framework for the development of an integrated resource plan (IRP) is poorly defined. The few legal provisions that mention the IRP show that it is intended to be an operational plan. In terms of s 1 of the Electricity Regulation Act 4 of 2006 (Electricity Regulation Act), an integrated resource plan means “a resource plan established by the national sphere of government to give effect to national policy”. **An IRP implements the national government’s electricity policy and should not be a policy instrument as such.**

Section 4(a)(iv) of the Electricity Regulation Act empowers the National Energy Regulator of South Africa (NERSA) to “issue rules designed to implement the national government’s electricity policy framework, the integrated resource plan and this Act.” The IRP is also mentioned in s 10(2)(g), which requires an application for a licence to include “evidence of compliance with any integrated resource plan applicable at that point in time or provide reasons for any deviation for the approval of the Minister.” To date, NERSA has not issued any rules on how an IRP should be implemented.

The Electricity Regulation Act does not confer a power on the Minister of Mineral Resources and Energy (MMRE) to develop and publish an IRP. Instead, in s 2(4)(j) it allows him to make regulations on “new generation capacity.” The authority to issue an IRP was subsequently nested in Regulations on New Generation Capacity published under GN R399 in GG 34262 of 4 May 2011. Regulation 4(1) of these regulations states that the IRP “shall be developed by the Minister after consultation with the Regulator; and shall be published in the *Government Gazette* by the Minister.”

Regulation 5 of the New Generation Capacity Regulations contains two further indications of an IRP’s legal effect. First, regulation 5(1) provides that “having regard to the need for new generation capacity as provided for in the integrated resource plan, the Minister may undertake or commission the buyer or another party to undertake feasibility studies in respect of such new generation capacity requirement.” The “buyer” in this instance is Eskom. Secondly, regulation 5(3), which was inserted by GN 1093 of 16 October 2020, essentially only allows municipalities to procure or buy new generation capacity if this accords with the integrated resource plan.

The IRP2023 defines an integrated resources plan as “A generation capacity expansion plan based on a least-based electricity supply and demand balance in the long term and incorporates government policy.” In a section titled “IRP in Context”, IRP2023 further indicates that the IRP is a “living plan” expected to be regularly reviewed “as necessitated by changing circumstances”. **There is no basis in law for these definitions.** Rather than implementing government policy, the IRP2023 is in fact determining government policy, *inter alia*, by holding that a generation capacity expansion plan should be based on “least-based electricity supply” (*sic – it is assumed this is “least-based-cost” electricity supply*).

Of even greater concern, is that IRP2023 announces that its “main purpose” is “to ensure security of electricity supply ... by balancing supply with demand, while considering the environment and total cost of supply.” Identifying energy security as a main purpose is a *policy position* which the IRP (erroneously, see further below) claims is in line with international trends and developments. The IRP 2023’s numerous further pronouncements on, *inter alia*, coal, gas, and nuclear amount to significant policy pronouncements on South Africa’s future energy policy. **There is no basis in law for these policy positions to be set forth in an IRP.**

The IRP is functioning as a *de facto* policy instrument because the MMRE has failed to develop and publish an Integrated Energy Plan (IEP) in terms of the National Energy Act 34 of 2008 (National Energy Act). **The IEP and not the IRP is meant to serve as the vehicle for the national sphere of government to develop and articulate national energy policy, based on a rigorous, annual review of energy supply and demand.** In this regard, s 3 of the National Energy Act states that the Minister responsible for energy, *must, inter alia*:

- Establish mechanisms to collect, collate, analyse and manage energy data and information and make energy statistics and information available to the public, as prescribed.
- *Annually publish* an analysis that reviews energy demand and supply for the previous year, forecasts energy supply and demand for no less than 20 years; and presents “plausible energy scenarios” for different demand and supply assumptions.

Based on these duties, s 6(1) of the National Energy Act directs the Minister responsible for energy to develop, and on an annual basis, review and publish the IEP in the *Gazette*.

The National Energy Act sets out the detailed content of the IEP in s 6(2), which is worth reproducing in detail:

## 6 Integrated energy planning

...

6(2) The Integrated Energy Plan must deal with issues relating to the supply, transformation, transport, storage of and demand for energy in a way that accounts for-

- (a) security of supply;
- (b) economically available energy resources;
- (c) affordability;
- (d) universal accessibility and free basic electricity;
- (e) social equity;
- (f) employment;
- (g) the environment;
- (h) international commitments;
- (i) consumer protection; and
- (j) contribution of energy supply to socio-economic development.

(3) The Integrated Energy Plan must-

- (a) take account of plans relating to transport, electricity, petroleum, water, trade, macro-economy energy infrastructure development, housing, air quality management, greenhouse gas mitigation within the energy sector and integrated development plans of local and provincial authorities;
- (b) inform and be informed by plans from all supply, production and demand sectors whose plans impact on or are impacted by the Integrated Energy Plan; and
- (c) be based on the results of the energy analysis envisaged in sections 3(4)(a) and 3(5).

(4) The development of the Integrated Energy Plan must take into account-

- (a) sustainable development;
- (b) optimal use of indigenous and regional energy resources;
- (c) balance between supply and demand;

- (d)* economic viability;
- (e)* environmental, health, safety and socio-economic impacts; and
- (f)* developmental requirements of the Southern African region.

(5) The Integrated Energy Plan must have a planning horizon of no less than 20 years.

(6) The Integrated Energy Plan must-

- (a)* serve as a guide for energy infrastructure investments;
- (b)* take into account all viable energy supply options; and
- (c)* guide the selection of the appropriate technology to meet energy demand.

(7) Before finalising the Integrated Energy Plan, the Minister must-

- (a)* invite public comments; and
- (b)* duly consider such comments.

The President assented to the National Energy Act on 17 November 2008 and sections of the Act - **excluding the crucial s 6** - came into force in a piecemeal fashion between 1 April 2009 and 1 March 2012. Curiously, notwithstanding the lack of legal authority, the Government published an IEP on 25 November 2016 (see GN 1430 of GG 40445). On 28 April 2023, almost **15 years after the date of assent**, President Ramaphosa finally published a proclamation indicating the date of commencement of s 6 as 1 April 2024 (Proc. 118 in GG 48480 of 28 April 2023).

While IRP2023 may address some of the mandated requirements in s 6 (as did their 2010 and 2019 predecessors), the full range of considerations set out in the National Energy Act have not had a chance to be honoured.

With the date of commencement of s 6 so close, it is also unfathomable as to why the Department of Mineral Resources and Energy (DMRE) is not applying its resources to developing a proper IEP and conducting a rigorous public participation process around it.

## 2.2 POLICY AND LEGISLATIVE FRAMEWORK FOR INTEGRATED ENERGY PLANNING IN SOUTH AFRICA

The IRP2023 makes no attempt to identify and define the national policy which it is supposed to implement. As a result, it makes inchoate and uncoordinated references to, amongst others, the Just Transition Framework and Just Transition Framework Investment Plan (s 1.4.1), the Energy Action Plan issued under the supervision of the National Energy Crisis Committee (s 1.4.2), and the Risk Mitigation Independent Power Producer Procurement Programme (s 1.4.5). Its exposition on energy carriers (hydrogen, for example), cites strategies or “roadmaps”, but for the most part it relies on uncited studies or vague references to opportunities.

As a result, it is necessary to spell out the policy and legislative framework that should, at the very least guide, if not determine, South Africa’s future energy landscape.

### **2.2.1 Constitution**

The national policy and legislative framework for South Africa’s energy sector is determined, first and foremost, by the Constitution. There is no express recognition of a right to affordable energy



or electricity in the Constitution. Nevertheless, without access to affordable energy, numerous rights enshrined in the Bill of Rights will be impaired. Two precedent setting cases are summarised below which defines how our legal system has applied the Constitution to electricity access.

The constitutional obligation of the government to provide municipal services, including electricity, was confirmed in the case of *Leon Joseph and others versus City of Johannesburg and others*.<sup>1</sup> Local government's mandate includes developing a service delivery capacity to meet the basic needs of all people in South Africa. The judgement stated that electricity is "one of the most common and important basic municipal services and has become virtually indispensable". The constitutional obligations by local governments to provide basic municipal services stem from s 152(1) and 152(2) of the Constitution. Section 73 of the Municipal Systems Act states that: "(2) municipal services must: (a) be equitable and accessible; (b) be provided in a manner that is conducive to - (i) the prudent, economic, efficient and effective use of available resources; and (ii) the improvement of standards of quality over time; (c) be financially sustainable; (d) be environmentally sustainable; and (e) be regularly reviewed and a view to upgrading, extension and improvement". The obligation for municipalities to provide electricity is included in the Housing Act 107 of 1997.

In the High Court of South Africa, Gauteng Division, Pretoria in the combined matters of *United Democratic Movement and others versus Eskom Holdings SOC Ltd and others, Democratic Alliance and others versus National Energy Regulator of South Africa and others, and South African Local Government Association versus National Energy Regulator of South Africa and others* (UDM Judgment) the Court confirmed that lack of access to electricity breached rights as protected in the Bill of Rights of the Constitution.<sup>2</sup>

The judgement recognises the lack of access to electricity as a breach of the duty of organs of State to protect and promote the rights contained in the Bill of Rights in s 7(2). Specifically, it is a breach of: the right to human dignity in s 10(5), the right to life in s 11, the right to freedom and security of the person in s 12, the right to an environment that is not harmful to health and

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<sup>1</sup> *Leon Joseph and others versus City of Johannesburg and others* CCT 43/09 [2009] ZACC 30 <<https://www.saflii.org/za/cases/ZACC/2009/30.pdf>>.

<sup>2</sup> *South African Local Government Association versus National Energy Regulator of South Africa and others* (GDP) (unreported case numbers 005779/2023; 003615/2023; 022464/2023) [2023] ZAGDPHC (1 December 2023) <<https://www.actionsa.org.za/wp-content/uploads/2023/12/JUDGMENT-OF-UDM-OTHERS-v-ESKOM-OTHERS-DA-v-NERSA-OTHERS-AND-SALGA-v-NERSA-OTHERS.pdf>>.

wellbeing in s 24(a), the right to healthcare services in s 27(1)(a), the right to access of sufficient food and water in s 27(1)(b) and the right to basic education in s 29(1)(a). It was ordered that sufficient supply or generation of electricity needed to be provided to public health establishments, public schools and the South African Police Service and Police Stations.

The breaches were found to be caused by not opening the energy sector in the 1990s through implementation of the Independent Power Producer procurement programme, delays in building Medupi and Kusile power stations, running power stations without proper maintenance, not having sufficient revenue and failing to take steps to protect Eskom from criminal activity; corruption and state capture.

The IRP2023 in its current form does not address the above issues and thus without addressing the above, will lead to the continued violations of Constitutional rights.

### **2.2.2 White Paper on Energy Policy**

The IRP2023 impermissibly and incorrectly elevates energy security as the “main purpose” of national government policy. This is clear from paragraph 1.2 where it is stated:

*The main purpose of the IRP is to ensure security of electricity supply necessary by balancing supply with demand, while considering the environment and total costs of supply.*

However, the *White Paper on Energy Policy, 1998* (White Paper) - which still stands as the only energy policy formulated in the democratic era - identified energy security as one of **five** key policy objectives.<sup>3</sup> According to the *White Paper*, the policy objectives “that form the foundation for South Africa’s new energy policy” are:

- ***Increasing access to affordable energy services.*** The *White Paper* very explicitly held that the “Government will promote access to affordable energy services for disadvantaged households, small businesses, small farms and community services.” This includes creating the development of new and renewable sources of energy.

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<sup>3</sup> See para. 3.2.2.5 of the *White Paper on the Energy Policy of the Republic of South Africa, 1998*.

- ***Improving energy governance.*** Energy governance is about transparency of energy policies. In terms of creating this transparency, the *White Paper* speaks to setting up databases, information and statistics on energy and suitable renewable energy. Further to create institutional capacity for implementation of energy efficiency programmes.
- ***Stimulating economic development.*** Notable here is that the *White Paper* stipulated that Government policy is “to remove distortions and encourage energy prices to be as cost-reflective as possible. To this end, prices would “increasingly include quantifiable externalities.” This policy position is particularly relevant to the choice of coal or nuclear energy, both of which carry serious environmental and social externalities.
- ***Managing energy-related environmental and health impacts.*** The *White Paper* stated that the “Government will promote access to basic energy services for poor households, in order to ameliorate the negative health impacts arising from the use of certain fuels.” It also promised to “work towards” broad national targets for reducing energy-related emissions that are harmful to the environment and to human health. It also committed the Government to ensuring a balance between exploiting fossil fuels and maintaining acceptable environmental requirements.
- ***Securing supply through diversity.*** The *White Paper* commits the Government to pursuing energy security, but by increasing opportunities for energy trade particularly within the Southern African region, and by encouraging a diversity of supply sources and primary energy carriers.

The *White Paper* includes commitment from the government to be more transparent in policy formulation, to build confidence in the policy formation process, to establish accountability in the processes, to have policy that is clear and understandable for all and to integrate various government policy processes.

It is therefore clear that the draft IRP2023, which by law is only supposed to “give effect to national policy”, seriously misrepresents national policy.

### **2.2.3 Electricity Regulation Act 4 of 2006**

The Electricity Regulation Act establishes a national regulatory framework for the electricity supply industry. The objects of this Act in s 2 give effect to some of the policy objectives set out in the *White Paper*.

The President proclamation powers relating to generation capacity to the Minister of Electricity in terms of s 34(1) and 34(2) of the Electricity Regulation Act which were previously held by the MMRE.

### **2.2.4 National Energy Act 34 of 2008**

The National Energy Act as outlined above, stands as the correct legislative authority for integrated energy planning in South Africa. Contrary to the singular focus on energy security in IRP2023, this Act requires the executive to consider and give effect to a range of policy objectives. The twelve objectives of the Act include ensuring uninterrupted energy supply and providing for optimal supply and demand in accordance with a *balanced* consideration of “security of supply, economics, consumer protection and sustainable development.” It also requires the executive to promote diversity of energy supply and facilitate effective energy demand management. Most importantly, the Act’s objectives include facilitating energy access to improve the quality of life of the people of the Republic of South Africa.

Section 5(1) of the Act directs the Minister responsible for energy to adopt measures that provide for *universal access* to appropriate forms of energy or energy services for all the people of the Republic at affordable prices. Universal enabling access is thus a key component of national government policy to which the IRP should be giving effect.

The IRP2023 does not mention or consider promoting energy access for all, which is an objective of the *White Paper*. Further it fails to commit to the Sustainable Development Goal (SDG) 7 which is to ensure access to affordable, reliable, sustainable and modern energy for all. South Africa has committed itself to the achievement of the goals in the Sustainable Development Goals in 2015.

## 2.2.5 Electricity Pricing Policy, 2022

In terms of pricing for electricity tariffs, the 2022 Electricity Pricing Policy advises that for a customer, the tariff must be affordable in that prices should be based on the least-life cycle cost options and exclude inefficiencies.<sup>4</sup>

## 2.2.6 National Environmental Management Act 107 of 1998<sup>5</sup>

The National Environmental Management Act 107 of 1998 (NEMA) is the framework legislation for all matters pertaining to the environment. It stems from s 24 of the Constitution which states:

*Everyone has a right:-*

- (a) to an environment that is not harmful to their health or wellbeing; 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.*

Since providing energy draws on natural resources (such as coal, uranium and water), and also on other natural resources and the environment (air quality, water availability and quality, biodiversity), the principles and procedures set out in the NEMA are of central importance and form part of the policy and legislative framework for integrated energy planning in South Africa. The relevance of NEMA is also confirmed by the National Energy Act which directs the Minister responsible for energy to consider, amongst others, the environment, sustainable development, and environmental health in the process of undertaking integrated energy planning.

The NEMA supports integrated energy planning for present and future generations through its definition of “sustainable development” which requires “the integration of social, economic and environmental factors into planning, implementation and decision making so as to ensure that

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<sup>4</sup> Electricity Pricing Policy GN 1747 of GG 45899 , 10/02/2022; 3  
<[https://www.gov.za/sites/default/files/gcis\\_document/202203/45899gon1747.pdf](https://www.gov.za/sites/default/files/gcis_document/202203/45899gon1747.pdf)>.

<sup>5</sup> National Environmental Management Act GN 1540 of GG 19519; 1  
<[https://www.gov.za/sites/default/files/gcis\\_document/201409/a107-98.pdf](https://www.gov.za/sites/default/files/gcis_document/201409/a107-98.pdf)> 10.

development serves present and future generations”. Section 2(3) of the NEMA underscores that development “must be socially, environmentally and economically sustainable.”

Section 2 of the NEMA is significant because it sets out principles that apply throughout the Republic to the actions of all organs of state that may significantly affect the environment. This clearly includes actions such as operating coal-fired and nuclear power stations. The NEMA principles must also serve as a reference point when any organ of state takes any decision in terms of NEMA itself “or any statutory provision concerning the protection of the environment”. As s 6 of the National Energy Act is also concerned with environmental protection and sustainable development, we submit that the NEMA principles apply to the process of integrated energy planning, which should be a process the country is embarking on forthwith, given the imminent entry into force of that section.

The following principles are flagged as particularly pertinent to integrated energy planning:

- ***Use of resources:***
  - Section 2(4)(a) Sustainable development requires the consideration of all relevant factors including (v): 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. (vi): that the development, use and exploitation of renewable resources and the ecosystems of which they are part of do not exceed the level beyond which their integrity is jeopardised.
  - Section 24(i) The social, economic, and environmental impacts of activities, including disadvantages and benefits, must be considered, assessed and evaluated and decisions must be appropriate in light of such consideration and assessment.
- ***Avoidance of waste and pollution:***
  - Section 2(4)(a) Sustainable development requires the consideration of all relevant factors including (iv) 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.
  - Section 2(4)(a) Sustainable development requires the consideration of all relevant factors including (vii) 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.

- Section 24(p): the costs of remedying pollution, environmental degradation and consequent adverse health effects and of preventing, controlling or minimising further pollution, environmental damage or adverse health effects must be paid for by those responsible for harming the environment.
- ***Distributive justice:***
  - Section 24(d): Equitable access to environmental resources, benefits and services to meet basic human needs and ensure human well-being must be pursued and special measures may be taken to ensure access thereto by categories of persons disadvantaged by unfair discrimination.
- ***Public participation:***
  - Section 24(f): The participation of all interested and affected parties in environmental governance must be promoted, and all people must have the opportunity to develop the understanding, skills, and capacity necessary for achieving equitable and effective participation, and participation by vulnerable and disadvantaged persons must be ensured.
  - Section 24(g): Decisions must take into account the interests, needs and values of all interests and affected parties, and this includes recognising all forms of knowledge, including traditional and ordinary knowledge.
  - Section 24(k): Decisions must be taken in an open and transparent manner, and access to information must be provided in accordance with the law.

## **2.2.7 Just Transition Framework, Climate Change Commission**

In June 2020, the Presidential Climate Commission released a report titled “A Framework for a Just Transition in South Africa” (Just Transition Framework).<sup>6</sup> The Presidential Climate Commission was created by President Cyril Ramaphosa “to oversee and facilitate a just transition to a low-emissions and climate resilient economy”.<sup>7</sup> The Just Transition Framework is to set a foundation for the government of a unified national policy statement which guides the just transition.

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<sup>6</sup> Presidential Climate Commission “ Framework for a Just Transition” (June 2022) available at <[https://pccommissionflo.imgix.net/uploads/images/22\\_PAPER\\_Framework-for-a-Just-Transition\\_revised\\_242.pdf](https://pccommissionflo.imgix.net/uploads/images/22_PAPER_Framework-for-a-Just-Transition_revised_242.pdf)> (Accessed on 19 March 2024).

<sup>7</sup> Ibid 4.

The Just Transition Framework was done through consultation with various stakeholders, research, policies and international best practice guidelines. During consultations two main points were highlighted: **urgency for a just and equitable transition** and supporting the Just Transition Framework.<sup>8</sup> The Just Transition Framework defines a just transition as:

*A just transition aims to achieve a quality of life for all South Africans, in the context of increasing the ability to adapt to the adverse impacts of climate, fostering climate resilience, and reaching net-zero greenhouse gas emissions by 2050, in line with the best available science. A just transition contributes to the goals of decent work for all, social inclusion and eradication of poverty. **A just transition puts people at the centre of decision making**, especially those most impacted, the poor, women, people with disabilities, and the youth - empowering and equipping them for new opportunities of the future. A just transition builds the resilience of the economy and people through affordable, decentralised, **diversely owned renewable energy systems**, conservation of natural resources, equitable access of water resources, an environment that is not harmful to one's health and well-being; and sustainable, equitable, inclusive land-use for all, especially for the most vulnerable<sup>9</sup>.*

South Africa is already reeling from climate change impacts, which underscores the urgency of a transition to clean energy sources. The impacts of climate change cause water shortages, food insecurity, and loss and damage to public infrastructure and facilities. Fossil fuel energy sources exacerbate climate change and impact the health of poorer communities. The transition to clean energy not only impacts environmental issues but has impacts on economic and social issues, the competitiveness of the South African economy and the livelihoods of people in South Africa.

The Just Transition Framework acknowledges and affirms the Bill of Rights and NEMA principles. Both the National Climate Change Response White Paper and the National Development Plan are highlighted as policies to achieve a just transition in South Africa in 2011 and 2012 respectively. In 2022 the Draft Climate Change Act was published with the just transition seen as the way to respond to climate change.

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<sup>8</sup> Note 6 above 4.

<sup>9</sup> Note 6 above 7.



The Just Transition Framework holds that three main principles should guide the just transition: distributive justice, restorative justice and procedural justice. Inclusive in distributive justice is having national economic and social policies that speak **to who will benefit and who will be burdened**. Under restorative justice the importance is redress of past harms that includes supporting the constitutional right to a healthy environment through highlighting the health and environmental damage caused by coal and other fossil fuels, shifting away from fossil fuels and having a decentralised, net-zero emissions economy. Procedural justice is of importance for active participation in just transition policy-making processes.

Four value chains are identified as being at risk: the coal value chain, the auto value chain, agriculture, and tourism. Most importantly it is noted that the job losses in the coal value chain can be offset by the domestic renewable energy manufacturing market. These benefits are highlighted in the Draft South African Renewable Energy Masterplan (SAREM). The SAREM is linked with IRPs in that any increase in renewable energy targets, increases projected jobs and GDP growth. In respect of the auto value chain, it is important that South Africa keeps up with global transition to have a role to play in the international markets. Steps have been taken in policy with the draft Auto Green Paper on the Advancement of New Energy Vehicles and the EV industrialisation strategy. Under tourism, it is noted that responsible tourism can reduce greenhouse gases as well as conserve energy and water.

The Just Transition Framework fleshes out South Africa's national energy policy by identifying a phased approach to investment in renewable energy, as follows:

- 2021 - 2025 high demand and financing of renewable energy and technology creates new employment and livelihoods.
- 2025 - 2030 investment in new transmission lines and technology for storage and power generation leading to more reliable and cheaper electricity which will boost the economy, job creation and market for e-vehicles.
- 2030 onwards will see a more affordable and reliable electricity system. Renewable energy production will create cheaper electricity which is dependable and will create jobs in manufacturing and maintenance. Markets and economies will open up in electric vehicles, hydrogen and minerals needed for the energy transition.

For the above to happen there will need to be political support, acceleration of renewable energy for local manufacturing and an updated IRP that supports this. Notably the IRP2023 does not take into consideration the above timeline.

With financing, it is expected that US\$250 billion will be needed to transform the energy system. Examples of this kind of funding are the Just Energy Transition Partnership. Climate finance is dealt with by the Presidential Climate Finance Task Team. A just energy transition needs “partners to agree around the pace of decarbonisation, the scaling up of low carbon energy and the value chains that support it, the upgrading of the energy grid and the mobilisation of climate finance, at scale, to enable a just transition.”<sup>10</sup> Throughout the IRP2023 no mention is made of financing or the Just Energy Transition Investment Plan. Financing of any source of energy is not mentioned.

## **2.2.8 Climate Change Bill**

The Climate Change Bill (Climate Change Bill) was introduced in February of 2022, which was followed by a period of public participation. On 24 October 2023, the Bill was passed by the National Assembly and sent to the National Council of Provinces for agreement. It is now under consideration by the National Council of Provinces. The most important aspects of the revised Bill for purposes of this submission are stated below. Once enacted, this important legislation will form a significant building block of South African national energy policy.

The primary purpose of the Climate Change Bill is to develop and implement an effective national climate change response, including developing a long-term just transition to a low-carbon and climate resilient economy and society for South Africa considering sustainable development. The preamble recognises the constitutional right to a healthy environment and further states that the Republic has a role to play in the global effort to reduce greenhouse gas emissions. The Bill defines a just transition as:

*[A] shift towards a low-carbon, climate-resilient economy and society and ecologically sustainable economies and societies which contribute toward the creation of decent work for all, social inclusion and the eradication of poverty.<sup>11</sup>*

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<sup>10</sup> Note 6 above 25.

<sup>11</sup> Climate Change Bill [B 9B-2022] <[https://static.pmg.org.za/B9B-2022\\_Climate\\_Change.pdf](https://static.pmg.org.za/B9B-2022_Climate_Change.pdf)> 5.

The Bill binds all organs of state. In terms of s 6 should there exist any conflict with other legislation, the Bill, once an Act, will prevail.

The objectives of the Bill include providing a coordinated and integrated response to climate change in accordance with the principles of cooperative governance, contributing to lowering greenhouse gases globally, ensuring a just transition to a low carbon economy and society, and giving effect to South Africa's international commitments and obligations regarding climate change.

Like the Just Transition Framework, the Bill affirms the NEMA principles. It also affirms the principles of inclusive decision-making (including the special needs and circumstances of people particularly vulnerable groups), science-based decision-making (that climate change mitigation and adaptation responses are based on scientific knowledge and that decisions be based on the best available science); and accountability (those responsible for the adverse effects of climate must pay for the cost of responding).

The following provisions of the Bill are especially pertinent to the draft IRP2023:

- Section 7 states that an organ of state either affected by climate change or involved in sustainable development must align its policies, laws, measures, programs, and decisions to ensure that the risks of climate change impacts and vulnerabilities are considered and to give effect to the principles and objects of the Climate Change Act. As the foregoing outline of legislation confirms, the DMRE is an organ of state affected by climate change and involved in sustainable development. Further, The DMRE is listed as being a department which was consulted on the Bill.
- Section 19 The Minister responsible for energy must provide an assessment of functions under the relevant Minister's control which identify and map risks and vulnerabilities, areas, ecosystems, and communities impacted by climate change and the required adaptation responses.
- Section 22 The Ministers responsible for energy must implement the sectoral emissions targets set by the Minister in terms of the Climate Change Act and do this through planning instruments, policies, and programmes. When sectoral emissions targets are determined; socio-economic impacts and best available science, evidence and information must be considered.

- Section 37 The Minister of Environmental Affairs will make regulations for effective monitoring, evaluation, and assessment of progress in climate change mitigation and adaptation which includes the DMRE.
- Schedule 1: Functions relevant to the development of Sectoral Emissions targets which include energy and Schedule 2: National Departments and State-Owned Entities responsible for certain functions required to develop a Sector Adaptation Strategy and Plan includes energy.

### **2.2.9 Summary of legal framework and application to the IRP2023**

We submit that the Constitution, and the foregoing policies and laws frame and constitute South Africa's national energy policy to which an IRP should be giving effect. All policy and law in South Africa must be in line with the Constitution including the Bill of Rights which include the right to life, the right to dignity, the right to a healthy environment, the obligations of government to provide municipal services that includes electricity, and ensuring that breaches of Constitutional rights do not take place due to lack of access to affordable, sustainable, equitable and environmentally sustainable electricity. The *White Paper* forms the foundation's policy objectives for energy policy which are increasing access to affordable energy services, improving energy governance, stimulating economic development, managing energy-related environmental and health impacts and securing supply through diversity. The IRP2023 only focuses on the one objective of security of supply and excludes the other four objectives.

Universal access to energy, diversification of energy sources and energy efficiency are objectives set out in the Electricity Regulation Act and the National Energy Act. Affordability of electricity based on the least-life cycle costs and energy efficiency are set for tariffs in the Electricity Pricing Policy. NEMA directs the Minister of Energy to consider the environment, sustainable development, and environmental health in the process of undertaking integrated energy planning. A raft of NEMA principles apply to integrated energy planning, covering use of resources, avoidance of waste and pollution, distributive justice, and public participation. The Just Transition Framework affirms these principles and foregrounds distributive justice, restorative justice, and procedural justice in the just energy transition.

The Climate Change Bill gives effect to South Africa's international obligations under the Paris Agreement and its enactment is imminent. The objective of the Climate Change Bill is to have a

coordinated and integrated response to climate change in accordance with principles of cooperative governance to lower greenhouse gases and ensure a just transition. The Climate Change Act will be binding on all organs of state including the DMRE which will need to align all policies, laws, programmes, and decisions to the Climate Change Act's objectives and provide policies and measures to achieve sectoral emission targets. The IRP2023 fails to mention this important legislation. Further the principles outlined above should have been considered and applied in the energy mixes proposed for South Africa in the future, specifically considering international obligations and achieving a just transition.

Adopting an Energy Justice Framework<sup>12</sup> contributes to more representative and impartial energy decision-making, thereby considering three key elements of justice, recognition of those affected by energy injustices, a fair distribution in society of costs and benefits derived from energy services and a fair administrative process.<sup>13</sup>

Practically, addressing this issue entails recognizing and comprehending existing social inequalities, as discussed in the thematic challenges below. It also involves understanding the distributional effects of maintaining substantial fossil fuel-based technologies and infrastructure outlined in the current IRP2023. It is crucial to confront the thematic challenges highlighted below, through reference to the Energy Justice Framework, to ensure the adoption of measures that foster justice and equity.

### **2.2.10 Previous IRPs**

While previous IRPs flag the importance of energy security, they exhibit better alignment with national policy as enshrined in the Constitution and relevant policy and legislation.

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<sup>12</sup> The Energy Justice framework suggests different principles to analyse energy systems, such as availability (people deserve sufficient energy resources of high quality), affordability (access to affordable energy services, especially for the poor), transparency and accountability (access to high-quality information about energy and the environment, and fair, transparent and accountable forms of energy decision-making), intragenerational and intergenerational equity (fairly access to energy services for present and future generations), responsibility (protect the natural environment and reduce energy-related environmental threats), due process (respect human rights in the production and use of energy), sustainability (energy resources should not be depleted too quickly), resistance (opposition to energy injustices) and intersectionality (recognition of new modern identities in society and links with different forms of injustices, economic, environmental etc.).

<sup>13</sup> B K Sovacool, R J Heffron, D McCauley and A Goldthau 'Energy decisions reframed as justice and ethical concerns' (2016) 1(5) *Nature Energy* 1(5) 1-6.

In the IRP2010, integrated resource plan is defined as “the co-ordinated schedule for generation expansion and demand-side intervention programmes, taking into consideration multiple criteria to meet electricity demand”<sup>14</sup>. It is advised that the proposal confirms the revised balanced scenario in that it ensures energy security of supply and is a major step in building local industry and fulfilling commitments to mitigate climate change. The adjusted IRP2010, after consultations, has a balance between objectives including economic growth, job creation, security of supply and sustainable development. It also considered the affordability of electricity. It included more solar PV and renewables due to increasing competitiveness and bringing forward the ending of coal new builds. Net metering for all consumers and their own generation of energy was endorsed. There is a need identified for further research for the next IRP into solar PV technologies, smart metering, underground coal gasification, carbon capture and storage, decommissioning and waste management as well as research into the technology options of small hydro; regional hydro; biomass; storage; energy efficiency and off-grid activities.

The IRP2019’s stated purpose was “to balance supply and demand on a least-cost basis”. For example, in the introduction it is stated that “the IRP is an electricity infrastructure development plan based on least-cost electricity supply and demand balance, considering security of supply and the environment (minimise negative emissions and water usage)”. The introduction also referenced the National Development Plan which had already emphasised the linkage between attaining electricity and attaining a decent standard of living. Further it foresees an energy sector which provides reliable and efficient energy that is socially equitable through expanded access to energy and that is environmentally sustainable.

Through all IRPs, the purpose of seeking a least cost energy mix is mentioned. Least cost energy speaks to the economics of energy through estimating costs and benefits; however, it falls short of trying to understand who will benefit and who will suffer for the chosen energy mix.<sup>15</sup> Therefore the IRP2023 only focusing on security of supply is inconsistent with the previous IRP2010 and IRP2019 as well as previous energy-related policy and law.

### 2.3 ENERGY JUSTICE VS. ENERGY SECURITY

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<sup>14</sup> Integrated Resources Plan for Electricity 2010-2030 Revision 2 Final Report (25 March 2011) <[https://www.energy.gov.za/irp/irp%20files/irp2010\\_2030\\_final\\_report\\_20110325.pdf](https://www.energy.gov.za/irp/irp%20files/irp2010_2030_final_report_20110325.pdf)> 5.

<sup>15</sup> B Sovacool & M H Dworkin ‘Energy justice: Conceptual insights and practical applications’ (2015) *Applied Energy* 142 435 – 444 437.

The draft IRP2023 claims that South Africa’s approach to energy security “is in line with international trends and developments” (para. 1.3); i.e. that energy security will be attained by pursuing a diversified energy mix. While it may be correct about the means (a diversified energy mix), **it incorrectly elevates energy security as the primary objective of energy policy. This is not in line with international trends and developments.**

International energy scholars Raphael Heffron and Kim Talus have recently outlined the evolution of energy policy, law and jurisprudence across multiple jurisdictions.<sup>16</sup> They identify five evolutionary stages (safety, security, economics, infrastructure, and finally, justice) based on the key issues that energy policies and laws sought to address. After initial concerns around the safety of energy installations, energy security predominated in the aftermath of World War II, when energy resources were linked to the maintenance of peace and security on a global scale. Since then, the principal drivers of energy law and policy shifted to efficiency (economics - through increased competition, market liberalisation) and incentivising public sector investment in, amongst others, transmission infrastructure. The current and most recent driver of energy policy and laws is **energy justice** as countries across the globe recognise the need for the **sustainable use** of all energy sources and **improving justice throughout the energy life cycle for each energy source.**

An energy justice lens **puts distributive, procedural, recognition, and restorative justice principles at the heart of all energy policy decision-making.**<sup>17</sup> This clearly resonates with the Just Transition Framework outlined above. According to one of the mainstream ways of thinking about energy justice, these principles are:<sup>18</sup>

Principle	Description
Availability	People deserve sufficient energy resources of high quality
Accessibility	All people, including the poor, should be able to purchase sufficient energy to secure universal enabling access <sup>19</sup>

<sup>16</sup> R Heffron & K Talus ‘The evolution of energy law and energy jurisprudence: Insights for energy analysts and researchers’ (2016) 19 *Energy Research and Social Science* 1-10.

<sup>17</sup> K Jenkins. *et al* “Energy justice: A conceptual review” (2016) *Energy Research and Social Science* 11 174–182.

<sup>18</sup> Note 15 above.

<sup>19</sup> See T Ledger & M Rampedi *Hungry for Electricity* (PARI, 2022); Monyei, C. *et al* ‘Examining energy sufficiency and energy mobility in the global south through the energy justice framework’ (2018) *Energy Policy* 119 68–76.

Due process	Countries should respect due process and human rights in their production and use of energy
Transparency and accountability	All people should have access to high quality information about energy and the environment, and fair, transparent, and accountable forms of energy decision-making
Sustainability	Energy resources should not be depleted too quickly
Intragenerational equity	All people have a right fairly to access energy services
Intergenerational equity	Future generations have a right to enjoy a good life undisturbed by the damage our energy systems inflict on the world today
Responsibility (cosmopolitanism)	All nations have a responsibility to protect the natural environment and minimize energy-related threats

If the South African government wishes to claim that its policy aligns with international developments and trends, then these principles of energy justice should form the basis of national policy. Many of these principles are already either explicitly stated, or implicit, in the instruments of national energy policy outlined above. Ideally, though, the DMRE should develop a new White Paper or incorporate energy justice into the Integrated Energy Plan (IEP) it should be stewarding under national law.

It is worth emphasising that as a policy driver, energy justice expands the spatial and temporal scope of what energy policymakers should be concerned about. There is a strong emphasis on distributive and procedural justice within a nation state, but responsibility doesn't end there. Policymakers must also consider their cosmopolitan responsibility to other nation states (this includes the need to shift to low-carbon sources of energy to prevent dangerous anthropogenic climate change, and the need to consider the transboundary effects of energy decisions) as well as future generations. They also have a responsibility to consider the **entire energy value chain**, which means that **energy waste** should also be a key focus area of policymaking.

The IRP2023 fails to engage with the principles of energy justice and roots its planning in security of supply solely.

2.4 TRANSNATIONAL ENERGY JUSTICE AND ENERGY VALUE CHAINS

Energy justice incorporates a concern with energy value chains and transnational energy justice. Transnational energy justice recognises that energy decisions have transboundary impacts and



that energy injustices arise along the entire chain of energy supply and demand. Scholars have used the term “chains of energy injustice” or “embodied energy injustices” to describe the hidden and distant energy injustices (upstream or downstream) arising from the extraction, processing, transportation, and disposal of energy sources.<sup>20</sup>

South Africa is part of the community of nations that have committed to address the anthropogenic effects of climate change. Through the release of greenhouse gas emissions (GHGs), its energy decisions impact people in other nation states. It is also situated within the regional context of southern Africa. Closer to home, South Africa should be considering how its energy decisions affect the citizens of other southern African countries. In turn, integrated energy planning should be taking into account how energy decisions align with the integrated energy planning of its neighbours and how their decision-making could affect South Africans.

In terms of the IRP2023, South Africa intends to import hydro from Mozambique through the Cahora-Basa and Mpanda Nkuwa project and the Grand Inga Project in the Democratic Republic of Congo (s 1.3.5). This is considering there being very little energy trade between these countries and lack of infrastructure. For gas imports, Mozambique and Namibia are cited as an opportunity (s 1.3.3).

If the DMRE was undertaking a proper process of Integrated Energy Planning as required by the National Energy Act, it would need to account for how the supply, transformation, transport, storage of and demand for energy squares with international commitments.<sup>21</sup> International commitments include treaty obligations, such as South Africa’s obligations under the 2015 Paris Agreement, and obligations under customary law such as the well-recognized principle to prevent transboundary harm.

The Mpanda Nkuwa project and the Grand Inga project have both been delayed due to issues around negative impacts to communities and the environment.<sup>22</sup> For communities, there is

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<sup>20</sup> Noel Healy, Jennie C. Stephens & Stephanie A. Malin ‘Embodied energy injustices: Unveiling and politicizing the transboundary harms of fossil fuel extractivism and fossil fuel supply chains’ (2019) 48 *Energy Research and Social Science* 219-234.

<sup>21</sup> Section 6(2)(h), National Energy Act, 2008.

<sup>22</sup> African Business ‘Scepticism over Grand Inga dam revival’ <<https://african.business/2023/07/energy-resources/scepticism-over-grand-inga-dam-revival>>; Business Day ‘DRC hydropower scheme will be an ‘indefensible cost’ for South African’ <<https://www.businesslive.co.za/bd/national/2019-07-10-drc->

displacement with community members losing their homes as well as downstream impacts for communities who lose a source of water which impacts their livelihoods. The environmental impacts include impacts to water, inclusive of source of water for communities, release of greenhouse gases and destruction of the environment for the project.

In terms of gas projects in Mozambique and Namibia, two notable controversial gas sites have resulted negative impacts on communities and the environment. The gas projects in Mozambique based in Cabo Delgado have resulted in violent conflicts, dispossession, increased poverty levels and fears of damage to the environment.<sup>23</sup> South Africa however has continued to provide funding to these projects even though it is aware of the human and environmental damage that occurred and will continue to happen.<sup>24</sup> Namibia's Okavanga ecosystem is being threatened by the exploration for gas by ReconAfrica. Vital waterways to over a million people are being threatened and the existence of the world's largest elephant is at stake and other endangered wildlife.<sup>25</sup>

In terms of the IRP2023 s 1.3.3 co-operation and partnerships are being pursued to exploit natural gas in the SADC region. Less is stated on hydro beyond entering an agreement with the Democratic Republic of Congo. The above framework and principles of energy justice equally apply to the energy sources South Africa imports. South Africa's demand for hydro and gas is linked to the harm faced by people and the environment in these countries. These issues and how to ensure energy is imported that is clean and in line with the Constitutional and legal framework of South Africa is not considered or addressed in the IRP2023.

## 2.5 SPECIFIC ENERGY CARRIERS

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[hydropower-scheme-will-be-an-indefensible-cost-for-south-africans/](#)>; N Schere 'Democratic Republic of Congo Inga hydroelectric power project at risk of becoming another 'white elephants' [https://odg.cat/wp-content/uploads/2021/10/congo-infrastructure-Inga\\_damm.pdf](https://odg.cat/wp-content/uploads/2021/10/congo-infrastructure-Inga_damm.pdf); Climate Home News 'World Bank backs mega dam threatening to displace thousands in Mozambique' <<https://www.climatechangenews.com/2023/03/06/world-bank-backs-mega-dam-threatening-to-displace-thousands-in-mozambique/>>; International Rivers 'An analysis of the Mphanda Nkuwa Dam Project Against the World Commission on Dam Guidelines' <<https://archive.internationalrivers.org/resources/an-analysis-of-the-mphanda-nkuwa-dam-project-against-the-world-commission-on-dams>>.

<sup>23</sup> Al Jazeera 'Mozambique okays resumption of \$20bn Cabo Delgado gas project' (26 April 2023) <<https://www.aljazeera.com/news/2023/4/26/mozambique-okays-resumption-of-20bn-cabo-delgado-gas-project>>.

<sup>24</sup> Say Nogas in Mozambique 'Beggary thy neighbour: South African Public Financing of Mozambique Fossil Gas Project' (13 February 2024) <<https://stopmozgas.org/article/za-public-financing-mz-gas/>>.

<sup>25</sup> M Mwenda 'ReconAfrica drilling in wildlife reserve, raising environmental concerns' (8 August 2023) Lifegate Daily <<https://www.lifegate.com/reconafrika-drilling-wildlife-environmental-concerns>>.

## 2.5.1 IRP comparison

Comparison of new energy mixes until 2030 proposed by successive IRPs:

	IRP2010 <sup>26</sup>	IRP2019	IRP2023
Coal	6 250	6732	1440
Nuclear	9 600		
Import hydro	2 609	2500	
Gas - CCGT	2 370	8 100 (gas/diesel)	7 220
Peak - OCGT	3 910		
Wind	8 400	9 462	4468
CSP - concentrated solar-thermal power	1 000	300	100
Solar PV	8 400	6 484	3615
BESS			4103

(The above figures are taken from IRP2010, IRP2019 and IRP2023, however due to lack of clarity it is hard to decipher the correct data sets)

The IRP2023 proposed energy mix until 2030 is the first horizon. In terms of the second horizon, five different scenarios are compared. There is not sufficient information to comment on the scenarios or how the results were created. The overall observation in s 6.2 advises that renewable and clean energy technologies will result in decarbonisation but will not provide security of supply and carry the highest cost. In the IRP2019 and IRP2010, renewable energy is cited as the most cost competitive and affordable. It is advised in the IRP2023 that Small Scale Embedded Generation (SSEG) installations will rise because of loadshedding and high electricity prices. There has been removal of licensing requirements for the development of power generation by consumers (embedded generation). It has been questioned whether small-scale embedded generation has properly been considered in the IRP2023 with a recommendation that further IRPs

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<sup>26</sup> Note 14 above 16.

recognise the rapid changes in the energy sector.<sup>27</sup> It is unclear how renewable energy is with the highest costs, without it being provided how these costs are calculated or a breakdown. Further, it is unclear how security of supply will not be provided by renewable energy or in the inverse continued coal and nuclear will supply energy security, as at present South Africa has lack of supply for the demand with a majority of coal power, including nuclear.

## 2.5.2 Coal

The energy modelling undertaken for the IRP should be based on energy justice. This would include the cost of the harm caused to the environment and people. The human cost of poor air quality contributed to by coal power has been confirmed in the matter of the *Trustees for the time being of Groundwork Trust and another versus the Minister of Environmental Affairs and others*<sup>28</sup>. The judgement has been appealed by the Minister of Forestry, Fisheries and Environment in relation to the interpretation of s 20 of the National Environmental Management: Air Quality Act.

The judgement ordered that the constitutional environmental rights of the residents in the Highveld Priority Area has been breached due to poor air quality and that the Minister of Environmental Affairs has a duty to prescribe regulations under s 20 of the National Environmental Management: Air Quality Act. The Highveld Priority Area has twelve of Eskom's coal-fired power stations, Sasol's coal-to-liquid fuels refinery is also supplied by numerous coal mining operations.

The IRP2023 in s 1.3.1 emphasises the significant role coal plays in electricity generation and the need to invest in more efficient and cleaner coal technologies. It fails to mention the environmental and human health impacts felt by communities and indigenous people. In s 3.5 of the IRP2023, the only concern raised is in terms of the result of loss of baseload generation from coal power plants which fail to meet the air quality regulations under the National Environmental Management Act: Air Quality in terms of meeting the minimum emissions. Further it leans on the false solution of carbon capture utilisation and storage.<sup>29</sup> This is not in line with the legal framework as stated above or the principles of energy justice.

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<sup>27</sup> T Smith 'Small-scale embedded generation at municipalities, undercounted and growing' (15 February 2024) *ESI Africa* <https://www.esi-africa.com/industry-sectors/generation/small-scale-embedded-generation-at-municipalities-undercounted-and-growing/>.

<sup>28</sup> *Groundwork Trust and another versus the Minister of Environmental Affairs and others* (39724/2019) [2022] ZAGPPHC 208 (18 March 2022) <<https://www.saflii.org/za/cases/ZAGPPHC/2022/208.pdf>>.

<sup>29</sup> Earthjustice 'Carbon Capture: The Fossil Fuel Industry's False Climate Solution' (19 September 2023) <<https://earthjustice.org/article/carbon-capture-the-fossil-fuel-industrys-false-climate-solution>>.

### 2.5.3 Gas

In s 1.3.3 gas is stated as providing flexibility to complement renewable energy. The estimation for gas usage in Horizon 2 is substantially higher in that: pathway 1 states that emissions will increase from 2042 as gas utilisation is increased with a high demand around the year 2041, pathways 2 and 3 indicate that gas will only be allowed until 2033 and nuclear becomes available, and pathway 5 includes additional gas. Only pathway 4, which is delaying the shutdown of coal power stations has no mention of a gas but in the detailed technical results indicates that gas will be used later on from the periods 2041 - 2025 in high amounts.

Gas estimates in the five pathways

Pathway	Gas CCGT	Gas SCGT
1: Reference	23 829	9570
2: Renewable energy	0	0
3: Renewable energy and nuclear	9 546	0
4: Delayed shutdown	17 165	9 342
5: Renewable energy and coal	19 626	6 399

In terms of the Meridian Economics report titled “Hot Air about Gas” it is recommended that power generation from gas needs to be small and not of a large-scale nature. It can be used as peaking or stand by capacity.<sup>30</sup>

Further the supply chain of gas in its entirety needs to be considered when looking at the environmental impacts, impacts to communities and indigenous people and contribution to climate change.<sup>31</sup> Fracking or hydraulic fracturing techniques have been described as “an environmental

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<sup>30</sup> Meridian Economics ‘Hot Air about Gas’ (June 2022) <<https://meridianeconomics.co.za/wp-content/uploads/2022/06/Hot-Air-About-Gas.pdf>>.

<sup>31</sup> Centre for Environmental Rights ‘Why Gas is Dirty and Dangerous’ <<https://cer.org.za/wp-content/uploads/2022/10/Natural-Gas-factsheet.pdf>>.

injustice, with injuries not borne equally at all”<sup>32</sup>. This statement was made in the Compendium of Scientific, Medical and Media Findings Demonstrating Risks and Harms of Fracking in April 2022 and the full report outlines these impacts. Another big issue of gas is methane leaks which are found to be 80% times more potent than CO<sub>2</sub>.<sup>33</sup>

#### **2.5.4 Nuclear**

The IRP2023 pushes for nuclear energy in the energy mix. It is cited as an important clean energy source which can contribute to electricity security in s 1.3.2. Section 3.4 supports the extension of the Koeberg licence as it expires in 2024. There is also mention of the potential of Small Modular Reactors (SMRs). In terms of horizon 2, nuclear energy is included in pathway 3 at 14 500 MW by 2050 (pathway 2 seems to incorrectly cite 14 500 MW in Figure 14). As Natural Justice we strongly oppose nuclear energy. The reasons are detailed in our submission to the Nuclear Regulator Amendment Bill.<sup>34</sup> We raise the following concerns: nuclear energy will not create energy security and access, nuclear energy is expensive, there are few or no job opportunities for local communities, nuclear energy poses significant environmental and safety concerns, nuclear energy hinders renewable energy deployment, risks and concerns with unfettered powers and control of the Minister over nuclear energy, South Africa’s lack of rehabilitation with mines and the Bill limiting liability for harm from nuclear power.

#### **2.5.5 Renewable energy**

Section 1.3.4 mentions renewable energy in terms of horizon 1. It states that solar PV, wind and concentrated solar power with storage are an opportunity to diversify the electricity mix. Under horizon 1, renewable energy is considered, and the foreseen emerging plan is shown in Table 2 of the IRP2023. Renewable energy mixes are mentioned in pathway two and three. Pathway 2 is predominantly renewable energy with an amount of 34 500MW for CSP, 18 000 MW for solar PV,

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<sup>32</sup> Concerned Health Professionals of NY ‘Compendium of Scientific, Medical, and Media Findings Demonstrating Risks and Harms of Fracking and Associated Gas and Oil Infrastructure’ (April 2022) Eighth Edition <<https://concernedhealthny.org/wp-content/uploads/2022/04/CHPNY-Compendium-8-FINAL.pdf>>.

<sup>33</sup> Rocky Mountain Institute ‘Reality Check: Natural Gas’s True Climate Risk’ (13 July 2023) <<https://rmi.org/reality-check-natural-gas-true-climate-risk/>>.

<sup>34</sup> Natural Justice ‘Submission: Nuclear Regulator Amendment Bill, South Africa’ <<https://naturaljustice.org/publication/submission-nuclear-regulator-amendment-bill-south-africa/>>.

97 093 MW for wind and 19 761 for BESS (there are incorrect balances of 9 546 for gas CCGT and 14 500 for nuclear in Figure 14).

IRP2010 states a mix of 1000 MW CSP, IRP2019 states a mix of 300 MW CSP and IRP2023 states 100MW. It is irregular that pathway 2 now includes 34 500MW of CSP. For CSP to be effective it needs a high level of storage to be stable with solar PV being cheaper.<sup>35</sup> It seems the renewable energy mix is skewed for the most expensive outcome to confirm the reports findings. With more information this decision for high CSP could be considered and commented on. Further, lowering environmental and impacts to communities will result in lower human cost in the form of health impacts, damage to the environment and better air quality. These costs have not been factored in.

In the UDM Judgment, the Minister of Energy stated that installation of solar plus battery storage was a more cost-effective solution than the diesel generators being used as back up energy.<sup>36</sup> However constraints to renewable energy were importing solar equipment and shortage of skilled solar installation tradesmen.<sup>37</sup>

## 2.6 FINANCING OF JUST ENERGY TRANSITIONS

The first climate finance deal received by South Africa is in terms of the Just Energy Transition Partnership entered into during COP26 with a pledge of \$8.5 billion by the United States, the United Kingdom, France, Germany, and the European Union. The project's aim is to assist South Africa in a just energy transition from coal. Presently South Africa holds a position in the top 15 highest carbon emitters in the world.<sup>38</sup>

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<sup>35</sup> K Thoubboron 'Concentrated solar power (CSP): What we need to know' (28 February 2024) *Energysage* <<https://www.energysage.com/about-clean-energy/solar/contentrated-solar-power-overview/>>; M Gupta 'Explained: A Comprehensive Comparison of Photovoltaic (PV) and Concentrated Solar Power (CSP) Technologies in terms of Efficiency, Cost and Environmental Footprint' (29 December 2023) *Solarquarter* <<https://solarquarter.com/2023/12/29/explained-a-comprehensive-comparison-of-photovoltaic-pv-and-concentrated-solar-power-csp-technologies-in-terms-of-efficiency-cost-and-environmental-footprint/>>; A B Awan, M Zubair, R P Praveen, A R Bhatti 'Design and comparative analysis of photovoltaic and parabolic through based CSP plants' (2019, Volume 183) *Solar Energy* 551-565 <<https://www.sciencedirect.com/science/article/abs/pii/S0038092X19302658>>.

<sup>36</sup> Note 2 above 30.

<sup>37</sup> Note 2 above 31.

<sup>38</sup> Statista 'Carbon dioxide (CO<sub>2</sub>) emissions from fossil fuel and industrial purposes in South Africa from 1970 to 2022' <<https://www.statista.com/statistics/486073/co2-emissions-south-africa-fossil-fuel-and-industrial->

Life After Coal has made demands in terms of the implementation and utilisation of these funds advising that: there must be rehabilitation of coal mines, new gas related projects must not be funded, communities and coal mine workers must benefit in some way from the just transition.

## 2.7 ENERGY DEMOCRACY AND COMMUNITY OWNED ENERGY

Renewable energy is being championed as a potentially significant new source of jobs and rural growth in Organizations for Economic Co-operation and Development (hereafter OECD) countries, and a means of addressing environmental and energy security concerns. In most countries, governments have invested large amounts of public money to support renewable energy development and are requiring significant quantities of it to be sold by energy providers. But what are the economic impacts of these policies and investments? Can renewable energy really help to develop rural economies? Within the context of South Africa, the dramatic increase in load shedding in 2022 and 2023 has seen households and businesses increasingly turn to embedded or so called “behind the meter” generation, mainly in the form of installations of solar panels, inverters, and batteries. This has however resulted in the underprivileged communities being impacted in an unequal manner, as they unable to afford alternative power sources such as generators and solar panels, thereby further deepening energy inequality.

While renewable energy represents an opportunity for stimulating economic growth in hosting/rural communities, it requires a complex and flexible policy framework and a long-term strategy. How then can lower income and poor communities’ access renewable energy for universal enabling access? According to Ledger and Rampedi, giving every household in South Africa 350kWh per month translates into around 37.8 million MWh of free electricity provision per year.<sup>39</sup> They further maintain that additional electricity that needs to be generated to ensure universal enabling access needs to be met by bringing new generation capacity online as quickly as possible.<sup>40</sup>

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purposes/#:~:text=South%20Africa%20generated%20405%20million,emitters%20of%20carbon%20dioxide%20worldwide>.

<sup>39</sup> T Ledger and M Rampedi ‘Hungry for Electricity’ (2022) *Public Affairs Research Institute* <<https://pari.org.za/energy-and-society>>.

<sup>40</sup> See note above.



Renewable energy deployment can provide hosting communities with several social and economic benefits which include:

- New revenue sources. Renewable energy has the potential to increase the tax base for improving service provision in rural communities. It can also generate extra income for landowners and land-based activities. For example, farmers integrating renewable energy production into their practices have not only diversified their revenue streams but have also experienced substantial increases and stabilisation in income sources.<sup>41</sup>
- Affordable energy. Renewable energy provides remote rural regions with the opportunity to produce their own energy (electricity and heat in particular), rather than importing conventional energy from outside. Being able to generate reliable and cheap energy, can trigger economic development. It is with this reason that community owned Renewable Energy initiatives represent a suitable option worth exploring and investing in within South Africa as they hold significant promise for addressing South Africa's socio-economic disparities as well addressing the challenges of energy security, climate change mitigation and job creation, particularly in rural areas grappling with energy poverty. Access to community owned renewable energy must be framed within the ambit of rights set out in South Africa's Constitution, the NEMA principles and the principles set out in s 3 of the Climate Change Bill. The Bill in its current version, concretizes a wide transformative approach.

Below, we illustrate the above scenario by examining mini grids, which are based on place-based approaches to rural development that take advantage of local conditions and opportunities to enhance rural competitiveness and socioeconomic potential.

### **2.6.1 Mini grids**

Mini Grids, otherwise known as micro-grids, are small electricity distribution networks that generate power independently from centralised grids (ie Eskom's grids) via renewable energy either through solar or wind infrastructure. They typically range in size from around 1kW-1 MW and provide electricity to a localised group of customers.<sup>42</sup> Globally, small-scale, off-grid electricity distribution networks, known as 'mini grids', play an important role in expanding access to

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<sup>41</sup> Public Governance and Territorial Development Directorate: 'Linking Renewable Energy to Rural Development' <<https://www.oecd.org/regional/regional-policy/Renewable-rural-energy-summary.pdf>>.

<sup>42</sup> Africa Enterprise Challenge Fund, 2020.

electricity in remote and rural areas. It is estimated that mini grids could potentially account for 40% of future global connections and might bridge the gap to ensure universal access to electricity by 2030.

The potential in this instance is for mini grids to not only supply communities with electricity, but also produce surplus energy which could then be used for stimulating local economic activity, where owners have the potential to trade surplus electricity amongst themselves or with third parties, such as local businesses. If the rural village or settlement becomes linked to the municipality or Eskom grid later, any surplus electricity can be sold back to the grid.

Mini grids offer transformational access to reliable electricity that can enable local development by adding distributed energy resources at the community level.<sup>43</sup> By interconnecting power lines, the State can improve service for underserved customers while improving finances for Eskom (the distribution company) and reducing collection uncertainty while growing the mini grid market. At the same time, this modality can allow mini grids to share existing distribution infrastructure in the undergrid areas which can lower the mini grid's upfront capital cost to improve customer affordability.<sup>44</sup>

Rural and peri-urban communities are the most compelling locations to implement mini grid projects. They reflect the right community size (fitting with the 1 MW mini grid capacity limit) in areas where it is challenging for the distribution company (Eskom) to provide reliable electricity service, and there is greater likelihood of mini grid economic viability because of expensive alternative options.<sup>45</sup> It is crucial to acknowledge that, given Eskom's capital constraints and the climate change and just energy transition imperative to retire its coal fired power fleet, the likelihood of Eskom's distribution capacity receiving sufficient enhancement for improved electricity generation services in the near future, appears challenging. Mini grids however, can serve rural and peri-urban customers, while their mandate to install meters and improve infrastructure reliability support a long term service model even beyond the lifetime of the mini grid project.

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<sup>43</sup> S Graber, O Adesua, C Agbaegbu, I Malo, and J Sherwood.

'Electrifying the Underserved: Collaborative Business Models for Developing Minigrids Under the Grid' (October 2019) *Rocky Mountain Institute* <<http://www.rmi.org/insight/undergrid-business-models/>>.

<sup>44</sup> See note above at page 7-8.

<sup>45</sup> See note 20 at pages 7-8.

Often, when we talk about renewable energy, actors/stakeholders tend to focus on the environmental and energy security concerns overlooking the potential for local economic gains. However, these economic benefits are crucial for the long-term sustainability of renewable energy. To make the proposed modalities of energy generation to work with a climate friendly energy mix, there needs a well-thought-out plan that considers the trade-offs in policies and finds ways for different factors to work together. A policy approach that seeks to coordinate various sectoral policies affecting a specific area, is more likely to achieve a coherent, multi sector policy outcomes than a broad policy approach that relies on economy wide policies that are “spatially blind”, though not always spatially neutral.

The IRP2023 does not consider mini grids properly.

## 2.7 PROMOTION AND RESPECT FOR RIGHTS OF COMMUNITIES AND INDIGENOUS PEOPLE IN CHOICE OF ENERGY

Transitions must avoid implementing policies that make things worse for marginalised communities, including indigenous peoples. Addressing existing poverty, injustice and inequality must be at the core of governmental solutions. This includes understanding that some individuals and groups—such as women and youth—are already marginalised or have lower capacities to absorb new climate related shocks, and therefore any strategy or policy position should protect or buffer these groups by ensuring adequate social protection measures are in place.

### **2.7.1 Land rights**

Rural communities rely heavily on the land they inhabit for essential natural resources that serve as the foundation for sustaining their livelihoods.<sup>46</sup> However, factors like climate change, historical land tenure policies, and post-apartheid changes have led to pervasive land degradation and insecure land tenure in many rural areas, making it difficult for these communities to build resilience against the climate crisis. Regarding the concept of land rights as it relates to land tenure implications of energy development, they are generally classified into two categories: formally defined rights established by law and officially documented, and informal or “customary”

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<sup>46</sup> K Gashu and Y Muchie 2018 ‘Rethink the interlink between land degradation and livelihood of rural communities in Chilga district, Northwest Ethiopia’ (2018) 42(17) *Journal of Ecology and Environment* 1-11.

rights recognized and upheld socially, albeit not necessarily formally endorsed by the law or documented in any official capacity.

In devising strategies to mitigate and address the anticipated adverse effects on tenure rights of communities and local indigenous peoples, it is imperative for both the government and the private sector to prioritise the development of a comprehensive approach aimed at enhancing broader energy access and efficiency at an equitable price point. To achieve this, energy infrastructure projects must adhere to the following principles:

- Identification and acknowledgement of all forms of land rights, encompassing both formal and customary rights.
- Assessment of potential negative impacts that the proposed energy infrastructure procurement strategy may have on land rights.
- Modification of the energy procurement strategy's implementation approach to mitigate any potential harm. This could entail offering monetary or non-monetary benefits to local communities, regardless of the type of land tenure they hold. In short, energy and any land-based projects are more likely to avoid resistance if all stakeholders-investors, local communities and government benefit.

Given the above, the government and the private sector should encourage and ideally mandate a robust element of community consultation in the design of community benefit-sharing arrangements in order to ensure land tenure rights, whether formal or informal, benefit from some form of benefit sharing agreement. Within this process, the government should provide specific guidance or binding regulation regarding the priorities that should drive community benefit-sharing arrangements. Government policy must ensure that benefit-sharing arrangements are not used as a shortcut to secure a social licence to operate without addressing a project's negative impacts.

In the context of community benefit funds, governments should consider codifying, ideally in the law, or in investor-state contracts as a stop-gap measure, key principles to be respected when developers and communities agree on the establishment of a fund. These principles may also be incorporated into the community development agreement. Governments should ensure that communities receive adequate training and support to manage such funds transparently and responsibly. One key aspect involves equipping governmental bodies nationally, provincially, and locally with a thorough understanding of the specific geographical areas within their jurisdictions

where solar plants or wind farms can be strategically placed to facilitate not only the generation of clean energy, but also the restoration of ecosystems. This understanding should extend to identifying regions where agricultural land has been adversely affected by monoculture practices, leading to soil degradation and reduced fertility.

Moreover, the government should actively explore the potential of agrisolar projects, which integrate solar energy generation with agricultural activities. An example of this is the Saratoga Fruit Estate which has had installed 314.69 Kw of solar and 400 Kwh of storage with the Sun Exchange Programme.<sup>47</sup> The Sun Exchange achieves funding of its projects through institutions who provide the funding so the customer only pays an affordable monthly bill.<sup>48</sup> These projects can serve as a platform for fostering constructive dialogues and consultations between various stakeholders, including representatives from the solar industry, smallholder farmers, and landowners or communities holding informal or customary based land rights. Through such engagements, governments can gather valuable insights and perspectives to inform the development of a comprehensive policy framework tailored to the unique intersection of agriculture, environment, energy, and climate concerns within the country.

In crafting this policy framework, it is essential to ensure alignment with existing national policies related to agriculture, environmental conservation, energy production, and climate change mitigation. By integrating agrisolar projects into broader policy initiatives, governments can maximise the socio-economic and environmental benefits while minimising potential conflicts and trade-offs.

### **2.7.2 Environmental rights**

To accelerate the development of renewable energy projects, including power generation and grid infrastructure, government must adopt a robust and unified policy approach within the IRP that considers the rights, expectations, and viewpoints of communities affected by these projects. Effective policy frameworks must navigate two distinct imperatives simultaneously. Firstly, they must establish streamlined processes to garner community endorsement for projects, thus averting potential delays or disruptions caused by local opposition. Secondly, they must

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<sup>47</sup> Sun Exchange 'Completed Solar Projects' <https://sunexchange.com/projects/>.

<sup>48</sup> Sun Exchange 'Services' <https://sunexchange.com/services/>.

guarantee the protection of community members' rights and address any adverse impacts on their livelihoods through appropriate mitigation measures or remedies.

The government therefore has a crucial role in ensuring that social benefit sharing and transformative processes such as the adoption and implementation of renewable energy projects, strengthen commitments to a "just energy transition" by delivering significant environmental benefits that are accessible and advantageous to local communities and indigenous peoples.

### **2.7.3 Biodiversity**

Forests are resources of global importance, providing habitat for biodiversity. Globally, forest endowment provides habitat for 80%, 75%, and 68% of amphibian, bird, and mammal species, respectively.<sup>49</sup> The preservation of biodiversity is hence primarily reliant on the manner in which the forests are consumed and exploited globally. A major threat to the forests is deforestation, which is in part caused by the reliance on forest resources for energy.<sup>50</sup> Many people worldwide, including South Africa, use wood fuel because they lack modern energy and because it is the cheapest form of energy. Considering the heavy reliance on forest wood for energy in Africa, and South Africa, energy justice remains key in protecting and conserving the forest and by virtue biodiversity.

There needs to be investments in clean energy or there will be a resulting effect of communities turning to traditional biomass, charcoal and coal to gain access to energy.<sup>51</sup> This will negatively impact biodiversity and deforestation. To reduce the reliance on traditional biomass, access to clean fuels and technologies for cooking needs to rise about 2.7 times between now and 2030.<sup>52</sup>

### **2.7.4 Water rights**

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<sup>49</sup> A O Acheampong and EEO Opoku 'Energy justice, democracy and deforestation' (Volume 341, 2023) *Journal of Environmental Management* <<https://www.sciencedirect.com/science/article/pii/S0301479723008009>>.

<sup>50</sup> International Energy Agency World Energy Outlook 2022. International Energy Agency, Paris (2022).

<sup>51</sup> See note above.

<sup>52</sup> Note 39 above.

In itself, a transition away from coal and to renewables can contribute to the achievement of clean energy (SDG 7), can reduce freshwater and marine pollution from, e.g. open mining (SDGs 6 and 14) and halt biodiversity loss (SDG 15). Equality and justice should be analysed throughout the entire energy system from decisions on infrastructure siting, to how energy is produced, generated and transmitted to different beneficiaries.<sup>53</sup> This way of looking at energy systems and infrastructures represents an opportunity to overcome the disconnection between energy policy and decision making with society, and therefore to reconcile energy decisions with international, national and local needs and priorities.<sup>54</sup>

Applying the Energy Justice Framework and its principles to the assessment of fossil fuel-based energy system or electrification projects, such as coal, gas and hydropower, in relation to water rights can provide insights into various dimensions of equity, accountability, sustainability, and human rights. This will contribute to more representative and impartial energy decision-making, thereby taking into account three key elements of justice, recognition of those affected by energy injustices, a fair distribution in society of costs and benefits derived from energy services and a fair administrative process. Below is how each principle of the framework could be applied:

1. **Availability:** This principle involves examining the availability of water resources impacted by fossil fuel-based energy systems. It will require assessing whether communities have access to enough clean and safe water for various purposes, including drinking, agriculture, and sanitation. Additionally, it entails considering the impact of energy extraction and production activities on local water sources, ensuring communities and ecosystems have adequate access to water despite the demands of energy operations. Furthermore, the redistribution of water rights attached to retired coal-fired power stations should be a matter of central policy concern.
2. **Affordability:** This principle involves the IRP evaluating the affordability of energy services in the context of water rights, which entails analysing the cost of energy production and distribution relative to household incomes, particularly for marginalised communities. It also involves considering the financial burden placed on communities by water related challenges, such as pollution or scarcity, resulting from fossil fuel-based energy systems.

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<sup>53</sup> R J Heffron and D McCauley 2017 'The concept of energy justice across the disciplines' (2017) 105 *Energy policy*.658-667.

<sup>54</sup> G Bridge, B Özkaynak and E Turhan 'Energy infrastructure and the fate of the nation: Introduction to special issue (2018) 41 *Energy research & social science* 1-11.

Ensuring equitable access to affordable energy services while safeguarding water resources is essential for addressing energy poverty and promoting equity.

3. **Transparency and Accountability:** This principle emphasises the importance of transparent and accountable decision-making processes in energy development of the IRP process, and water resource management. It also entails evaluating the fairness and inclusivity of decision-making processes concerning water rights and energy projects, ensuring that the voices of affected communities are heard and respected.
4. **Intragenerational and intergenerational Equity:** Considering intergenerational and intergenerational equity involves ensuring equitable access to water resources and energy services for both current and future generations. This requires the IRP to evaluate the distributional impacts of fossil fuel-based energy systems on water rights, particular among vulnerable populations and future generations who may bear the long-term consequences of energy-related water pollution or depletion.
5. **Responsibility:** Assessing responsibility in energy production within the scope of the IRP, entails examining the environmental impacts of fossil fuel extraction, combustion, and waste disposal on water quality and ecosystems. It involves holding energy stakeholders being held accountable for mitigating and addressing water related risks, such as contamination or habitat destruction, associated with fossil fuel-based energy systems. Additionally, it requires promoting the prioritisation of the protection of water resources and the rights of communities and indigenous peoples who depend on them.
6. **Due Process:** Ensuring due process in energy production involves respecting human rights, including the right to water, throughout the energy lifecycle. This entails evaluating the extent to which energy projects adhere to legal frameworks, regulations, and international standards that protect water rights and ensure social and environmental justice.
7. **Sustainability:** Assessing the sustainability of fossil fuel-based energy systems requires the IRP process to consider the long-term impacts on water resources, ecosystems and communities. It involves evaluating the depletion of water resources, the resilience of ecosystems to water related stressors, and the potential for transitioning to renewable



energy sources that minimise water consumption and pollution. Promoting the rapid adoption of renewable energy through the facilitation of a just transition, prioritises water conservation, ecosystem integrity, and community wellbeing which is crucial for addressing climate change and advancing environmental sustainability.

8. Intersectionality: Considering intersectionality within the IRP development process involves recognizing the interconnectedness of water rights with other forms of injustice, such as economic inequality, environmental degradation, and social discrimination. This approach of adopting an intersectional perspective involves analysing how factors such as race, gender, ethnicity, and socio-economic status intersect with water access and energy development, shaping patterns of privilege and marginalisation. Addressing the intersectional dimensions of energy justice and water rights within the formulation of the IRP, requires adopting inclusive and intersectional approaches that account for the diverse experiences and vulnerabilities of marginalised communities and indigenous peoples.

### **2.7.5 Cultural practices and livelihoods**

Culture and cultural practices play significant roles in influencing the management of the environment and its sustainability. Through cultural practices, values and worldviews local communities and indigenous peoples often modify their interactions with the ecosystems that surround them.

In the face of climate induced threats to cultural practices and livelihood development, safeguarding cultural practices that are integrated into livelihoods becomes an integral component of human rights enabling individuals to connect with their cultural communities, actively engage in cultural life, and access the knowledge necessary for climate action and the exercise of other rights and responsibilities. Leveraging cultural heritage and associated practices can promote sustainable consumption patterns by way of livelihood development, emphasise intergenerational equity, and advocate for holistic nature-culture approaches.

When it comes to reducing emissions through the demand-side energy measures, protecting, and supporting traditional knowledge within the IRPs strategy to roll out renewable energy production facilitates community-led transitions to sustainable energy resources. Additionally, accommodating renewable energy projects near heritage sites while effectively managing

conflicts between energy development and heritage conservation supports the transition to a green energy sector.

Therefore, the IRP2023 should aim to preserve cultural heritage practices associated with livelihood approaches and integrate them within the planning process to safeguard important cultural sites and practices that may be impacted by energy development activities. This may include considering measures to mitigate or minimise negative impacts on cultural heritage, practices associated to livelihood approaches.

### **2.7.6 Gender lens**

Energy poverty, a term with various definitions, essentially refers to the inability to access vital energy services required for maintaining a decent standard of living. This means having to depend on archaic energy sources like biomass, human or animal muscle power, kerosene, candles and batteries.<sup>55</sup> Despite mixed research outcomes, there is clear evidence that women, particularly in certain countries and situations such as in our context here in South Africa, face disproportionate hurdles in acquiring modern energy when compared to men. Moreover, families led by women are often at a disadvantage in energy accessibility compared to those led by men. Yet what is unmistakable is the undue hardship that energy poverty imposes on women due to traditionally gendered roles related to energy management- a harsh reality that is especially pronounced in urban poor and rural communities in South Africa.

In economically disadvantaged communities lacking energy access, women disproportionately spend hours daily collecting lower quality energy-based resources such as biomass, coal, firewood, paraffin, gas and candles for their cooking, lighting and heating needs. These tasks often require long walks, increasing their vulnerability to harassment and gender-based violence. There is also the imposition of significant indirect economic costs that restricts women's opportunities for education, work, health, and a decent standard of living. Furthermore, burning biomass/kerosene or coal indoors leads to harmful indoor air pollution and the possibilities of fires breaking out, adversely affecting women's health and safety.

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<sup>55</sup> R Rewald, 'Energy and Women and Girls: Analyzing the Needs, Uses, and Impacts of Energy on Women and Girls in the Developing World' (2017) Oxfam Research Backgrounder Series <<https://s3.amazonaws.com/oxfam-us/www/static/media/files/energy-women-girls.pdf>>.

Therefore, the rapid adoption and development of renewable energy technology and infrastructure can play a significant role in advancing women's rights in these peri urban, rural or informal areas. The development of mini-grids and off-grid renewable energy (including biogas digesters) for example can accelerate progress towards increasing energy access and improving the reliability of existing systems. In turn, this can contribute to ensuring higher quality public services in areas such as education and healthcare, which are crucial for supporting women.<sup>56</sup>

The Presidential Climate Commission confirms in its Just Energy Transition Framework the importance of a gender transition within the transition in South Africa.<sup>57</sup>

### **PART 3: CONCLUSION AND RECOMMENDATIONS**

The IRP2023 lacks the foundations to be an energy planning document for South Africa until 2030 or further. For energy planning there needs to be considerations of the current legal framework, international commitments, energy justice and respect for rights of communities and indigenous people.

Natural Justice recommends that:

- The IRP2023 is redrafted considering the current legal framework cited above, energy justice and rights of communities and indigenous people.
- The DMRE must urgently proceed with developing an Integrated Energy Plan which will then speak to a new draft of the IRP.
- That energy planning is people centred.
- In terms of the Energy Justice Framework:
  - Energy modelling should be based on an Energy Justice Framework which considers the full life cycle of the chosen energy, human and environmental costs.
  - The Energy Justice Framework's different principles should be used to analyse energy systems, such as availability (people deserve sufficient energy resources of high quality), affordability (access to affordable energy services, especially for the poor), transparency and accountability (access to high-quality information about energy and the environment, and fair, transparent and accountable forms of

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<sup>56</sup> ActionAid 'Who Cares for the Future: Finance Gender Responsive Public Services' (April 2020) <<https://actionaid.org/sites/default/files/publications/final%20who%20cares%20report.pdf>>.

<sup>57</sup> Note 6 above 5.

energy decision-making), intragenerational and intergenerational equity (fairly access to energy services for present and future generations), responsibility (protect the natural environment and reduce energy-related environmental threats), due process (respect human rights in the production and use of energy), sustainability (energy resources should not be depleted too quickly), resistance (opposition to energy injustices) and intersectionality (recognition of new modern identities in society and links with different forms of injustices, economic, environmental etc.)

- The Energy Justice Framework should be adopted in energy planning and decision making considering the three key elements of justice: recognition of those affected by energy injustices, a fair distribution in society of costs and benefits derived from energy services and a fair administrative process.
- That in energy planning there is consideration of community owned energy, community benefit sharing and mini grids.

We welcome a bilateral with the DMRE as well as providing oral submissions on the above.

Please contact:

- Jacqueline Rukanda, Programme Manager: Affirming Rights for Natural Justice, [jacqueline@naturaljustice.org](mailto:jacqueline@naturaljustice.org)
- Lauren Nel, JETA Coordinator for Natural Justice, [lauren@naturaljustice.org](mailto:lauren@naturaljustice.org)