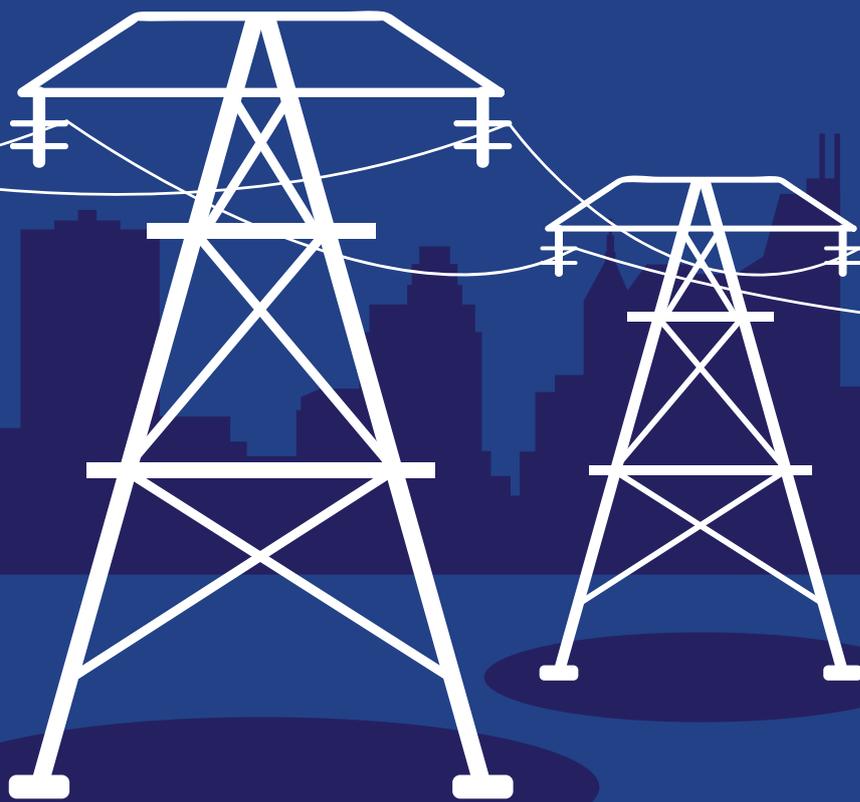


**FRIEDRICH
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**DISCUSSION PAPER
ON JUST ENERGY
TRANSITION IN
KENYA**





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Discussion Paper on Just Energy Transition in Kenya

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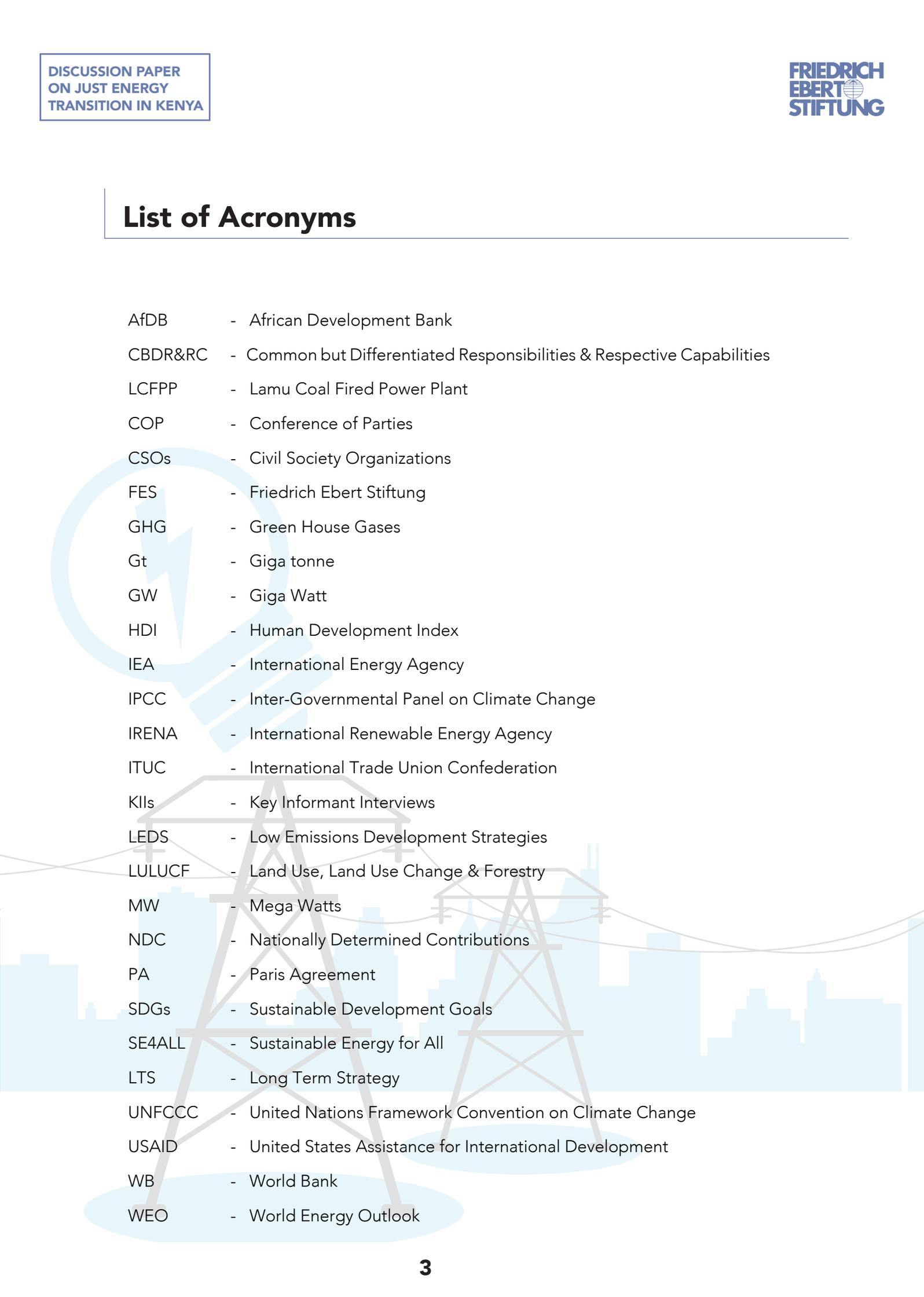
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List of Acronyms



AfDB	- African Development Bank
CBDR&RC	- Common but Differentiated Responsibilities & Respective Capabilities
LCFPP	- Lamu Coal Fired Power Plant
COP	- Conference of Parties
CSOs	- Civil Society Organizations
FES	- Friedrich Ebert Stiftung
GHG	- Green House Gases
Gt	- Giga tonne
GW	- Giga Watt
HDI	- Human Development Index
IEA	- International Energy Agency
IPCC	- Inter-Governmental Panel on Climate Change
IRENA	- International Renewable Energy Agency
ITUC	- International Trade Union Confederation
KIIs	- Key Informant Interviews
LEDS	- Low Emissions Development Strategies
LULUCF	- Land Use, Land Use Change & Forestry
MW	- Mega Watts
NDC	- Nationally Determined Contributions
PA	- Paris Agreement
SDGs	- Sustainable Development Goals
SE4ALL	- Sustainable Energy for All
LTS	- Long Term Strategy
UNFCCC	- United Nations Framework Convention on Climate Change
USAID	- United States Assistance for International Development
WB	- World Bank
WEO	- World Energy Outlook

Executive Summary

In the recent fifth assessment report of the United Nations (UN) Inter-Governmental Panel on Climate Change (IPCC), scientists indicated that the emission of greenhouse gas (GHG) must peak, plateau and begin to decline by 2020 if Kenya wants to achieve the 2015 ambitions of the Paris Agreement of keeping the global temperatures to a level well below 2°C, and to a further 1.5 °C. The energy sector plays a significant role in the GHG emissions. Thus, limiting warming to the desired levels requires deep and long-lasting changes in energy and industrial greenhouse gas emissions. Credible climate efforts will thus need to ensure that the sector is fully decarbonized to achieve net zero emissions. Resultantly, the international community has significantly increased its investment in the Renewable Energy (RE) sector over the last decade or so. Kenya has been touted as one of the most progressive in the region as far as development of RE policies and attracting investment in the sector is concerned. As a result, renewables currently account for a major portion of the country's generation mix. With the global attention to fast track climate mitigation efforts especially through divestment from fossil fuels to RE sector, the issue of a just transition has come to the core of international policy debate, driven mainly by trade unions and civil society organizations (CSOs) from across the globe. However, the just transition concept has not yet received the due attention that it ought to have received by now, both in existing renewable energy policies as well as strategies, arguably due to the 'abstract' nature of how this call for justice could practically be implemented.

This discussion paper thus seeks to understand how far Kenya has achieved a just transition in its energy sector. To achieve this, the paper builds on the works of Thomas H. Manuela M. & Joachim F. (PhD) as captured in their paper titled 'Guiding Principles & Lessons Learnt for a Just Energy Transition in the Global South'. The paper adopts five (of the eight) principles and 14 (of the 27) indicators based on consideration of context and measurability of the used principles & indicators (in the context of Kenya). Discussions were held with select Key Informants (KIs) drawn from the government, development partners, CSOs and private sector amongst others aimed at gathering opinions on the country's performance against the selected principles and indicators. A perception-based score of between 0 (very poor); 1 (poor) 2 (Medium); 3 (good) and 4 (very good) was used against each of the indicators, with an average for all indicators under every principle used to provide the final ranking for each principle. An average score for the five principles was used to provide an overall ranking for the country's performance for the just energy transition.

The findings reveal a rather mixed outcome on the part of the country. Although as compared to her peers, Kenya has put in place policies and strategies for achieving 100% RE access by the year 2030, but, there continues to be a serious level of disparity between what is on paper, and what is being implemented on the ground - an explicit explanation for the below average score of 2.4 that was arrived at. More specifically, whilst the country scores high on the climate energy principle (3), there is a general medium score across most of the other principles i.e NDC-SDG alignment (2); Decent work & vulnerability focus principle as well as due participation principle. However, there is an extreme case of a (poor) scoring of 1.5 on the good governance principle.

The paper is organized into six chapters. Chapter one is basically the introduction and background, while chapter two focuses on unpacking what the concept of just energy transition is all about. Chapter three delves into deeper scrutiny and scoring of the country's RE sector and transition against the select five principles and 14 indicators, while chapter four provides a deeper analysis of the country's renewable energy policies and legislations with the principal aim of understanding potential policy gaps that could be facilitating a 'blind-eye' to justice issues during project design and execution, as well as opportunities for safeguarding and ring-fencing justice concerns in the transition process. Chapter five applies the lenses of political economy analysis in the country's RE investment to ask the critical questions of who influences what investments decisions that are made, and thus stands to benefit from them. Chapter six then provides a conclusion, as well as a raft of policy recommendations aimed at guaranteeing a just energy transition.

More specifically, based on the findings and the arguments presented in this paper, we provide a number of recommendations which include;

- Sensitize & create awareness on the just energy transition
- Invest in decentralised energy for productive use
- Need for consistency between policy & practice
- Increase level of skills development and technology transfer for job creations in the RE sector

1. Introduction & Background

2015 was a crucial year for global action on climate change and development, with the passing of the United Nations Framework Convention on Climate Change's (UNFCCC) post-Kyoto deal on climate change, as well as the signing onto of the post-2015 sustainable development goals (SDGs)¹. Whereas the former was more focused on dealing with the climate crisis, the SDGs on the other hand comprehensively dealt with various development (and related) issues, part of which included climate change (SDG Goal #13) as well as access to affordable, reliable and sustainable energy for all by the year 2030 (SDG Goal #7).

In the most recent fifth assessment report of the United Nations (UN) Intergovernmental Panel on Climate Change (IPCC), scientists indicated that the emission of greenhouse gas (GHG) must peak, plateau and begin to decline by 2020 if we have to achieve the ambitions of the Paris Agreement of keeping the global temperatures to a level well below 2°C, and to a further 1.5 °C as was pushed by most of the African governments and Civil Society Organizations (CSOs) – Kenya included. Although all the economic sectors have substantive contributions to the emission of GHGs, the energy sector plays a significant role. As such, limiting warming to the desired levels requires deep and long-lasting changes in energy and industrial greenhouse gas emissions. Indeed, as argued out in the report – 'Better Energy, Greater Prosperity' which was commissioned by the Energy Transitions Commission, - a multi-stakeholder group with energy experts from science, politics, think tanks and business, current 36Gt global carbon emissions by the energy sector would have to be cut to 20 Gt by 2040² if the Paris ambitions are to be met. As such, credible climate efforts will need to ensure that this sector is fully decarbonized to achieve net zero emissions. Seizing the opportunity in the green energy pathway, the international community has significantly increased its investment in the Renewable Energy (RE) sector over the last decade or so. For example - in 2017 alone, global investment in the (RE) sector increased by 2% to reach an all-time high of \$279.8 billion as compared to investments in the same sector in the preceding year. As a result, an astounding capacity of 157GW of renewable electricity were built during this year alone as compared to 143GW in 2016. This growth in RE generation and installation far out-paced the 70GW of net fossil fuel generating capacity that was added the same year (2017)³ although fossil

¹ UN SDG available on <https://sustainabledevelopment.un.org/resourcelibrary>

² Better Energy, Greater Prosperity – Achievable Pathways to Low Carbon Energy Systems. By Energy Transition Commission, April 2017.

³ Global Trends in Renewable Energy Investment 2018. Frankfurt School FS-UNEP Collaborating Centre for Climate & Sustainable Energy Finance

fuels still met 72% of the global rise in energy demands during the same year⁴. Also, important to note is the fact that, this newest intensification in the RE capital outlays took place in a background of further falls in the prices of solar and wind, hitherto making it possible to cheaply acquire megawatts of RE equipment than ever before. The drop in the cost of RE technologies is expected to grow, an aspect that will continue to encourage the adoption of sustainable energy, and ultimately, reduction of GHG emission more successful.

Kenya has not been left behind in the development of the RE sector. Indeed, the country has been touted as one of the most progressive in the region, in terms of developing and adopting progressive policies and legislations that have instilled investor confidence, thereby resulting in significant growth to outlay in generation of renewables, as well as transmission and distribution. As a result, renewables currently account for a major portion of the country's generation mix. For example, by end of 2017, more than 80% of electricity was supplied from sources that are environmentally clean - primarily hydro and geothermal power plants. Equally, the country has also aggressively pursued electricity connections, reaching a total access rate of 73% by end of the same year as compared to 25% in 2011⁵. Despite the criticism that have faced it, the last mile connectivity project, whose 1st phase was implemented between 2015 & 2017 by the Government of Kenya (GoK) with the financial support from the World Bank (WB) & the African Development Bank (AfDB) is certainly credited with the incredible increase in rural connectivity.

With the global attention to fast track climate mitigation efforts especially through divestment from fossil fuels and aggressive investment in the RE sector, issues of just transition remain at the core of international policy debate, driven mainly by trade unions and civil society organizations (CSOs) from across the globe. However, as this paper will argue out in the subsequent chapters, the concept of just transition has still not yet received the considerable attention that it ought to have received by now, both in the existing renewable energy policies and strategies, as well as across policy making circles and in project design and development. Arguably, this has been due to the 'abstract' nature of how the call for justice could practically be implemented during both project design as well as at the implementation stage. Resultantly, a significant number of renewable energy projects, both in Kenya, as well as in other different parts of the world still lack this component. The lack of critical justice dimensions has led to negative impact on the implementation of these projects, including total resistance from host communities for either knowingly or inoffensively 'overlooking' justice-related considerations such as fair acquisition of community land, sometimes resulting in total closure of the affected projects. As such, deliberate

⁴ Global energy and CO2 Status Report, 2017. International Energy Agency (IEA), March 2018.

⁵ Kenya – Power Africa Fact Sheet. Retrieved from https://www.usaid.gov/sites/default/files/documents/1860/KenyaPACFSDEC2017_FINAL.508.pdf

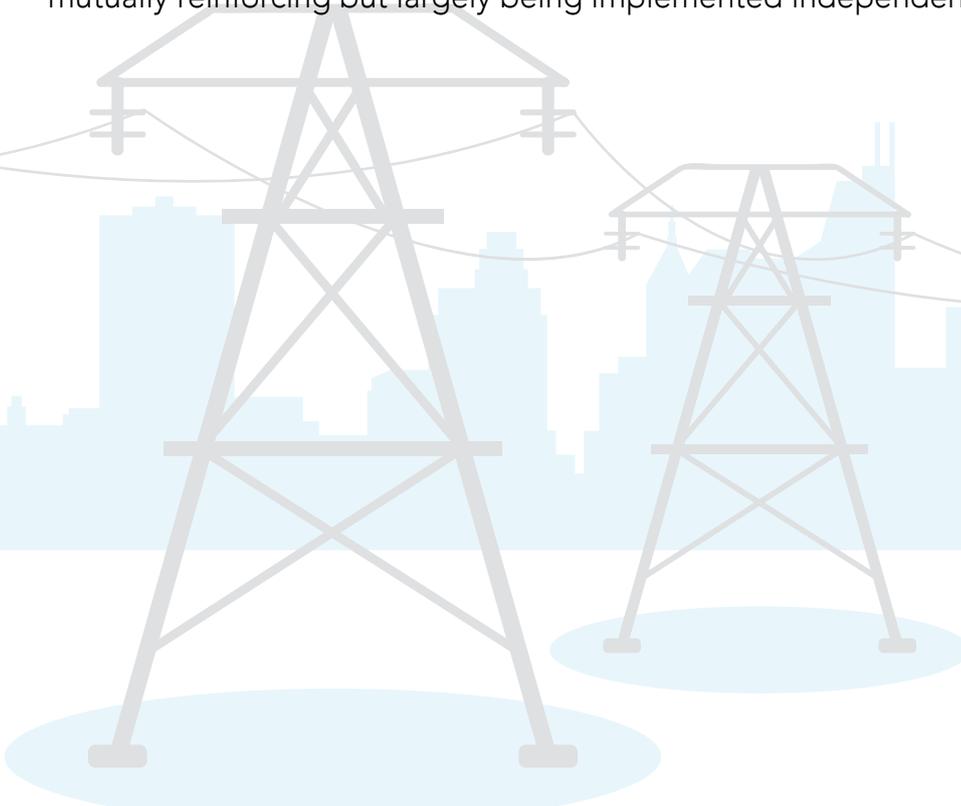
efforts will therefore need to be adopted to safeguard issues of justice across the energy value chain, right from policy formulation to project design and implementation, if the concept of just transition is to go beyond the rhetoric of international climate change negotiations. This paper therefore sought to unpack Kenya's energy sector, with the main aim of unravelling how well (or lack of it thereof), the concept of justice has been, or is being considered and implemented within the context of energy transition in the country's energy sector.

To better handle the topic and tackle the abstract nature of just energy transition, this paper builds on the work of Thomas H., Manuela M., and Dr. Joachim F. (PhD) titled 'Guiding Principles & Lessons Learnt for a Just Energy Transition in the Global South', commissioned by Friedrich Ebert Stiftung (FES) and Bread for the World in 2017. In their study, the authors enumerate eight key principles each with several indicators that should be used during evaluation and scoring exercise of just transition in a country's renewable energy sector. However, since no 'one-size-fits-all' for all the principles as well as indicators across different countries due to specific national circumstances and context, this paper considered a select number of both principles as well as indicators that could apply in the case of Kenya. Scoring and evaluation of the same are clearly articulated in chapter four. Political economy analysis approach was further used to better understand the potential 'hidden-hand' behind the investment decisions in the sector, and more importantly, who benefits from those investments. Overall, and as clear discussion of these issues will be articulated later on in this paper, despite Kenya scoring highly and even being used as a benchmark for renewable energy policy formulation and investment in the region against her peers, a lot still needs to be done to ensure that no one is left behind, and the orchestration of injustices at the expense of renewable energy transition and energy investment is thwarted right from the onset. It is our hope therefore that this paper will spur an objective policy discourse amongst policy makers, CSO players, development partners, investors as well as project developers on how best to safeguard justice concerns in energy transition to ensure a win-win situation for all i.e for the environment and ultimate mitigation to climate change, affected communities, and investors amongst other stakeholders.

To 'focus' the discussion in the right direction, this paper sought to respond to a number of questions that included the following:

- i. What is just energy transition and what does it entail?
- ii. How can just energy transition be achieved?
- iii. Is Kenya delivering the energy transition in a just manner?
- iv. What should Kenya do to deliver just energy transitional pathways?

To respond to these questions, this paper is organized into six chapters. Chapter one is basically the introduction and background, aimed at setting the scene and introducing the readers to the discussion. To secure everyone's appreciation of the concept of just energy transition right from the onset, chapter two focuses on unpacking what the concept is all about, as well as what it's not. Chapter three then delves into deeper scrutiny and scoring of the country's RE sector and transition against the select five principles and 14 indicators. A general reflection of justice issues, particularly the gaps in the country's energy transition are represented in this chapter. Chapter four then provides a deeper analysis of the country's renewable energy policies and legislations with the principal aim of understanding potential policy gaps that could be facilitating a 'blind-eye' to justice issues during project design and execution, as well as opportunities for safeguarding and ring-fencing justice concerns in the transition process. Chapter five applies the lenses of political economy analysis in the country's RE investment to ask the critical questions of who influences what investments decisions that are made in the energy sector, and thus stands to benefit from the policy and investment decisions currently being undertaken in the country. Chapter six then provides a conclusion, as well as a raft of policy recommendations aimed at guaranteeing a just energy transition based on the findings and arguments presented in this paper. Here, we propose an outline of how a just energy transition can be achieved in Kenya, and suggest a way forward based on the careful need to navigate between the two seemingly competing agendas, i.e economic development ambitions as articulated in vision 2030 and in the big four agenda on the one hand, and the protection of the environment and reduction of greenhouse gas emissions on the other hand - aspects that should be viewed as mutually reinforcing but largely being implemented independently.



2. Just Energy Transition – A Conceptual Understanding

The concept of just transition, which has over the years been viewed as an exclusive arena of the trade union movements dates to the clamour by the North American trade union movements for alternative plans to support employees who lost their occupations following the introduction of environmental protection policies in the 1970's and 80s. Over time, the trade union movements consistently sustained the push, including during the Rio +20's celebrations for sustainable development when the just transition agenda was successfully recognized on the policy table, and thereafter, to the floor of the international climate change negotiations under the auspices of the United Nations Framework Convention on Climate Change (UNFCCC). These efforts, particularly by the International Trade Union Confederation (ITUC) finally paid off when the concept was anchored in the preamble section of the 2015 Paris Agreement, ultimately ensuring recognition for the legitimate concerns, rights and interests of workers and their communities, which are exposed to restructuring and job losses in the transition process from a greenhouse gas-intense to a low-carbon economy.

So, what exactly is just energy transition? As further discussions on this paper will unravel, the concept of a just transition covers a wide-ranging community of justice, with differing claims, extending from workers whose livelihoods either have been, or, are being threatened by ambitious climate actions; to poor communities that are vulnerable to the negative impacts of climate change; to under-served rural communities that do not have access to energy sources. Other communities that claim justice in the transition process also include environmental protection groups who argue that just transition is actually justice to mother earth; as well as children and youth rights groups who will argue that climate change and by a large extent energy transition agenda is an issue of inter-generational justice. This argument is in complete consensus with T. Hirsch et al., position in their report – 'towards a more conceptual clarity on justice in the energy transition', where they conclude that narratives and perceptions of what is just or not in the energy transition agenda is purely dependent on the claimants or rights holders. Importantly though, none of these claims can be wished away by policy makers or project developers as they contain significant legitimate concerns and interests.

A deeper look at the different claimants of justice shows that for example, trade unionists will primarily focus their transitional justice arguments around the employees that have lost their sources of livelihoods (or are threatened by ambitious climate actions, whether in terms of jobs or access to cheap and affordable energy and will ultimately argue that their rights must equally be protected. On the other hand,

climate vulnerable communities, particularly communities from developing and Least Developed Countries who are on the frontline of negative climate impacts will base their arguments on the urgent need to take action to reverse negative climate change and its impacts thus protecting them from potential threat to their lives and livelihoods, as well as build their resilience to adopt to the negative impacts of climate change. Indeed, the UNFCCC's principle of Common but Differentiated Responsibilities and Respective Capabilities (CBDR&RC) finds its true place in this case where social movements representing vulnerable communities have insisted on the place of the industrialised countries 'paying' for their industrial mistakes. Closely linked to this argument is the environmental protection groups which, on their part, will argue that lack of urgent action to reverse global warming and stop climate change will indeed have been injustice on the part of mother earth. So, to take urgent action to address global climate crisis, including though clean energy provisioning is justice to mother earth. Further, children and youth movements will place their claim on inter-generational justice, arguing that lack of care for mother earth on the one hand, as well as loss of livelihoods for their parents (who will lose their employment due to climate actions) will compromise their very future and existence. While all these groups have legitimate interests and concerns for a just energy transition, it is also important to recognize the interconnectedness of these justice claims. For example, keeping global warming well below 2 °C and even to a further 1.5 °C (justice to mother earth) is a critical imperative to bringing justice to the billions of people who are vulnerable to the negative impacts of climate change (climate vulnerable groups), and so is true for justice to future generations. But these justices have an impact on other categories of justice i.e workers who will lose their jobs. But as Eric A.G puts it⁶, there are no jobs on a dead planet. So, we must provide justice to mother earth, for her to secure all the other forms of justices that we so much need. Managing to delicately navigate these concerns from a just perspective will thus remain the top most agenda in the global transition process.

As such, it is indeed possible that putting all these perspectives into consideration while developing energy policies, as well as designing and executing energy programmes can be an uphill task for policy makers and project developers. But that forms the very essence of reflecting on this concept, as well as deliberately coming up with practical ways and steps of integrating the different aspects of justice into policies, strategies and plans. Consultation and participation of different groups during policy development as well as project design and execution would further help achieve these ambitions. These considerations will form the backbone of the discussions in the following chapter which will seek to peel off Kenya's energy sector against the five principles to better understand how the country notches along the justice scorecard.

⁶ No jobs on a dead planet": A just transition to the new economy. October 25, 2017. By Eric A. Gordon

3. Kenya's Just Transition Score-Card

As described under background and introductory section, this discussion paper builds on the works of Thomas H. et al in their paper titled Guiding Principles & Lessons Learnt for a Just Energy Transition in the Global South. However, instead of adopting all the eight principles and their 27 indicators, consideration of context issues was undertaken and as a result, five out of the eight listed principles and 13 indicators were made use of in this paper. Further, a few others were re-organized and moved from the principles under which they were originally considered and placed under other more appropriately related principles. For example, indicator #4 on 'access to energy according to most recent World Energy Outlook (WEO) of International Energy Agency (IEA)' which was originally under the 3rd Principle (decent Work and Vulnerability Focus Principle) was moved to the 2nd principle - 'NDC-SDG alignment principle'. This movement and reorganization was done for purposes of aligning the indicators with the country's context description, as well as for logical flow of the discussions. To get the perspective of different key stakeholders on the just energy transition debate, discussions were conducted with select Key Informants (KIs) drawn from the government, development partners, CSOs and private sector amongst others. Key Informants were requested to provide their opinions on the country's overall performance as well as rank the country's performance against each of the selected principles informed by their respective indicators. A score of between 0 (very poor); 1 (poor) 2 (Medium); 3 (good) and 4 (very good) was used against each of the indicators. An average score for all the indicators under every principle was used to provide the final rank for each principle. Then, an average score for the five principles was used to provide an overall score for the country's performance for the just energy transition. The discussions below represent reflections against each principle based on both KIs submissions as well as secondary data analysis. A scoring matrix for these principles and indicators forms annex 1 of this paper.

However, it is equally important to start the analysis first by appreciating the fact that throughout the discussions with these different stakeholders, it was evident that the understanding of just transition in the RE sector is vaguely understood, which would perhaps explain why its integration in the policy development and implementation is still largely inexistent.

3.1. *Climate Dimension*

3.1.1. **Climate Ambition Principles:** this principle seeks to analyse and evaluate the ambitious attempt by the country to achieve a net zero emission by 2050 as described in the Nationally Determined Contributions (NDCs) and the Long-Term-Strategy (LTS) for Green House Gas Emissions thus contributing to realisation of the 1.5/2 °C temperature goal. The indicators that are used for the consideration include:

- i. Impact of country's NDC/LTS on its GHG emission trend,
- ii. The country's share of global GHG emissions and per capita GHG emissions,
- iii. Availability, quality and level of ambition of a Renewable Energy roadmap

Assessment and ranking:

Indeed, Kenya is a signatory to the 2015 Paris Agreement on Climate Change, and amongst the first countries to deposit its instruments of ratification of the Nationally Determined Contributions (NDCs) with the UNFCCC. The country seeks to pursue an ambitious mitigation contribution towards the agreement by abating her GHG emissions by 30% by 2030 relative to the Business As Usual (BAU) scenario of 143 MtCO₂eq, and in tandem with the SDG agenda⁷.

Additionally, even before the passing of the Paris Agreement, the country was amongst the first ones in the region to develop and adopt the National Climate Change Action Plan (NCCAP), thus showing its commitments and proposed measures to take action to deal with both the negative impacts of climate change, as well as mitigation efforts aimed at cutting its national contributions to the emissions of GHGs. Whereas these are commendable steps in the right direction, several ongoing initiatives put the country's climate efforts to jeopardy, thus putting into question the true commitment to honour her international climate change commitments as articulated in its NDCs. Additionally, a closer look at the country's energy policy vis-à-vis its Least Cost Power Development Plan (LCPDP) indicate some level of contradiction. While the LCPDP paints the picture of the country's ambition to keep to its NDCs commitments, Figure 1 (on page 13) shows the possibility of a near 50-50 between generation from fossil fuels and RE by the year 2037 as captured in the countries energy policy.

⁷ Analysis of Intended Nationally Determined Contributions (INDCs) June 2016. Prepared for the United States Agency for International Development (USAID) Resources to Advance LEDS Implementation (RALI) Program by ICF International

Although there are discussions by the developer to cut its capacity by half following the push by the CSOs, if implemented, the 1,050 megawatts size Lamu Coal Fired Power Plant (CFPP) will reverse all the climate gains and ambitions that Kenya has so far realized by investing in sustainable energy projects including Geothermal and Hydro. Put into perspective, Kenya's NDCs aim to Reduce GHG emissions by 30% from Business as Usual (BAU) levels (143 MtCO₂eq) by 2030. However, in real terms, if implemented, this project alone will produce 8.8 million tonnes annually of CO₂ equivalent⁸ which is by far more than both the NDCs' technical reduction potential for GHG emissions as well as the commitment targets for 2030.

Further, as argued out by Dr. John Musingi (PhD)⁹ in his submission as to why the Lamu Coal Fired Power Plant (LCFPP) should not be implemented, Environmental Impact Assessment (EIA) are required to provide various options based on analyses of any proposed project. For purposes of the objectives of this paper, the discussion considered four options from LCFPP project's IEA, namely Project option, Energy option, product quality and technology option.

For **project option**, Socio-Economic Analysis (SEA) are usually evaluated to decide whether the planned project is necessary. Usually, three different choices are provided for, based on the findings of the SEA, including zero option, avoidance option or Business as Usual (BAU) option. If SEA finds that negative impacts cannot be entirely mitigated to a bare minimum, then IEA should recommend for the abandonment of the project which should have been the sake for LCFPP.

Under the '**energy type option**', a cost-benefit analysis is usually undertaken. In this case, renewability of the proposed project option ought to have been reflected on the EIA if the GoK was keen to achieve its NDC commitments. More specifically, the area of Lamu is rich in sunlight across the year, as well as plenty of community land that the government could consider for laying a solar farm.

For **product quality** option, it is important to note that there are several qualities of coal, all of which provide different calorific value during combustion, and also differ in flue gas emissions. Additionally, the quality of coal can also be improved by washing. However, the available project document does not indicate any plan to wash the coal in-order to improve its calorific value, as well as reduce flue gases.

⁸ Why the Lamu coal plant doesn't make sense. Kenya has better energy options. May 31, 2017 10.49am EDT

⁹ Why the Coal Fired Power Plant (CFPP) should not be allowed in Lamu. By Dr. J. Musingi, PhD (Senior Lecturer and Programme Coordinator Environmental Planning & Management, Department of Geography & Environmental Studies, University of Nairobi. NEMA Registered EIA & EA Lead Expert.

On **technology options**, it is known that using more advanced, pressurised coal heating system technology i.e 'ultra-critical pulverized coal fired boiler technology' would provide better emission results than the current design of 'super-critical pulverized coal fired boiler technology'. In fact, when faced with the challenging question of why the bank is financing coal, the AfDB president Dr. Adesina has on many occasions argued in favour of clean coal technology. Whereas the discussion of whether clean coal technology indeed is clean to the environment still exists, atleast on this project, there is no indication of investing in the more advanced coal technology. Even worse, for the project to be implemented, it will require clearing of an 80Ha forest. Clearing such a massive forest which act as carbon sinks to put up a project with an annual carbon footprint of 80 million tonnes of CO₂ equivalent is contradictory on the part of reduction of country's emissions.

The exploration of oil in Turkana county also adds onto the country's contribution to GHG emissions. Oil is a significant resource that has been used by many of the developed and middle-income countries to power their economies, and certainly, Kenya sees this as such opportunity to meet its development needs. The discovered oil potential is projected at one billion barrels¹⁰ which will add even further to the country's GHG emissions and thus, further from achieving its NDCs. As such, the country is in a catch-22 situation. On the one hand, the country has a global commitment to honour its climate ambitions while on the other hand, the country seeks to achieve its development ambitions. Thus, expecting the country to overcome the temptation for oil exploration will be a toll order, despite its obvious negative contribution to climate change. Practical approaches for re-investing a portion of the revenues back to environmental reclamation efforts such as tree planting (as carbon sinks) will therefore be important.

In a nutshell, both the 2015 global climate deal as well as the SDGs emphasize the inevitability of a shift toward a sustainable, net zero-carbon future for all. Being responsible for contributing a significant proportion of the carbon emissions, the energy sector must then be at the centre of such an extensive shift. The critical question in this discussion then is neither whether we need this transition, nor whether it will happen, but rather whether we will achieve it fast enough to meet the 1.5 °C temperature goal set by the Paris Agreement. As a result of these considerations, this principle was given a score of 3 on a scale of 4.

¹⁰ Kenya may have a lot more oil than it previously thought. By Lily Kuo, May 11th 2016. Retrieved on 13th Sep. 2018 from <https://qz.com/africa/681250/kenya-may-have-a-lot-more-oil-than-it-previously-thought/>

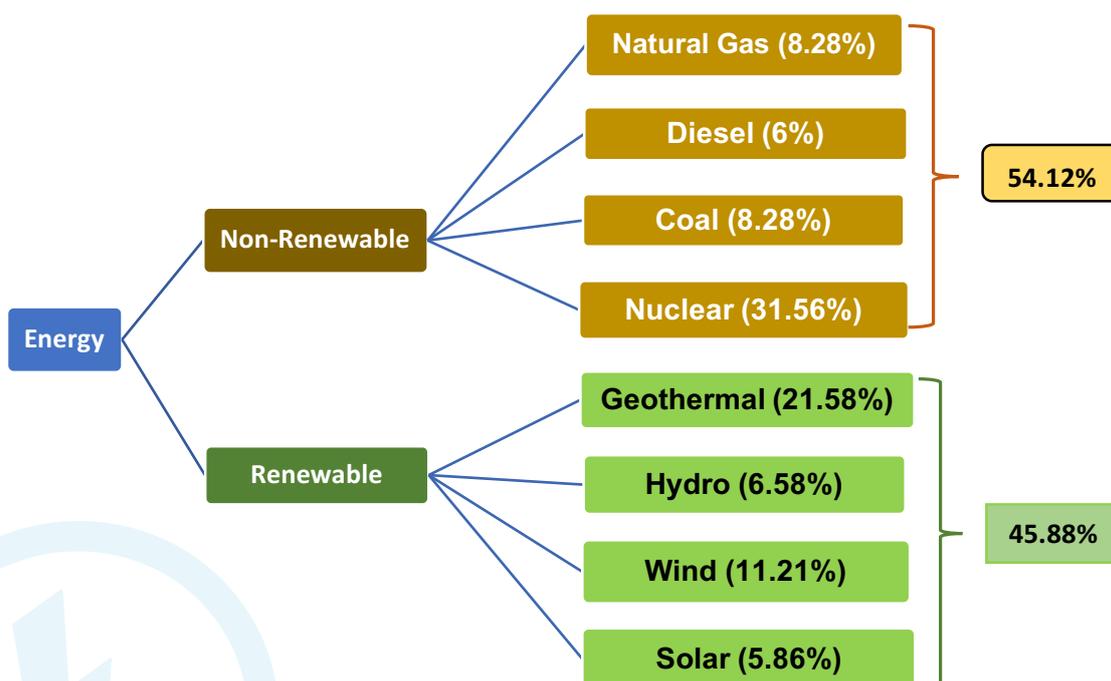


Figure 1: Proportion of Non-RE in Kenya's Energy mix by 2037

3.1.2 **NDC-SDG Alignment Principle:** The NDC-guided energy transition is closely aligned with the implementation of the SDGs, aiming to achieve sustainable development co-benefits. In addition, access to energy for all, particularly for the under-served rural communities who are far from the national grid are also considered in here. Four indicators are used to evaluate and score the country's performance towards just transition. These include:

- i. Assessment of the level of alignment of the NDC with the SDG implementation plan
- ii. Actual level of SDG implementation, in particular with regard to SDG 1 (poverty reduction), SDG 7 (access to affordable and sustainable energy), & SDG 8 (decent work)
- iii. The country's ranking in the Human Development Index (HDI) and the specific HDI country profile
- iv. Access to energy according to most recent WEO of IEA

Assessment and ranking:

In 2016, ICF International undertook an analysis of all the NDCs, including Kenya's, and prepared a summary analysis for the United States Agency for International Development (USAID)'s Resources to

Advance LEDS Implementation (RALI) Program. The outcome of the analysis indicated that by and large, Kenya's NDCs are well aligned with the SDGs agenda, as well as implementation plan. More specifically, the country's NDCs lists priority mitigation actions, which include expansion in RE production, promotion of energy efficiency, clean transportation, as well as achieving 10% tree cover. On the adaptation front, the NDCs covers 17 import actions spread across 17 different Medium-Term Planning sectors. The single largest challenge remains moving from policies and strategies to real action that will translate into results. An integrated approach that seeks to link energy access to the ambitious efforts to reduce poverty by providing access to decentralised energy systems (in the under-served rural parts of the country) for productive use would go a long way in achieving both SDG one & seven. In practical terms, providing decentralised energy systems linked to promotion of resilience for the climate vulnerable communities for enhanced agricultural productivity through reduction in over-reliance on rain fed agriculture would provide dual forms of transitional justices i.e justice to mother earth for avoidance in the use of the otherwise alternative diesel powered generators in agricultural irrigation, as well as justice to climate vulnerable communities affected by the negative impacts of climate change which they had minimal or no role at all to play in its contribution. Further, such an approach to investment in the energy transition would have a positive impact on the country's Human Development Index (HDI) which, as at 2017, stood at 0.590, ranking 142 globally¹¹.

On the energy front though, it is generally recognized that Kenya's power sector is one of solid performance with a steady growth trajectory. As part of the strategy to realize Vision 2030, GoK undertook tremendous reforms in the sector aimed at increasing efficiency while improving performance to enhance access to reliable energy for both domestic as well as commercial/industrial use. Resultantly, installed capacity stood at 2,341MW by end of March 2017 (a significant growth from 1,800MW in 2014¹²) with close to 90% of the total energy generated from renewable sources (hydro – 40.1%; Geothermal – 49.19; %; Wind – 0.38%)¹³. Additionally, since 2013, the country has aggressively promoted access to energy through the Rural Electrification

¹¹ Human Development Indices and Indicators: 2018 Statistical Updates. Briefing note for countries on the 2018 statistical update, UNDP, Kenya.

¹² https://www.expogr.com/kenyaenergy/market_info.php

¹³ Ministry of Energy, Kenya. <http://energy.go.ke/energy-matrix/>

Programme's (REP) Last Mile Connectivity (LMC), reaching an access rate of 73% by 2017 up from a low of 25% in 2011. However, whereas these current access efforts are commendable and highly welcome, far flung rural areas with sparsely populated communities may not get their justice (justice to equal access to energy) unless innovative decentralised energy programmes such as the Kenya Off-Grid Solar Access Programme (KOSAP) are fully supported and effectively implemented. In its current model, the large-scale energy projects such as geothermal, wind and large solar farms being pursued by the government ends up feeding to the national grid which only benefits those close to the national grid and those within the radius of 600 metres from the installed transformer. Even worse, without due consideration of the economic ability for the poor communities to pay for the power, connections alone will not provide a lasting solution to energy access. This is particularly the case considering the existing principle of cost recovery for electricity connection and service provision.

However, as argued out in the previous principle (climate ambition principle), GoK's support for the implementation of the 1,050MW LCFPP is not in line with the NDC-SGD principle. With an annual emission potential of 80 million of CO₂, the project will undo all the achievements, as well as make the country to back-track on its climate change commitments. Kenya has huge untapped RE potential that the country could tap into instead of exploring energy sources that will lead to the country in a state of carbon lock. As table 1 below indicates, the country's geothermal potential is estimated at 10,000MW, with installed capacity of 700MW only as of 2018, which, although small relative to the overall potential, has made the country home to the world's single largest geothermal power plant (Olkaria IV's 280MW power plant) and 9th largest geothermal producer globally¹⁴. In terms of wind, Kenya's potential is estimated at about 3,000MW, with generation currently standing at 25MW only. However, once completed, the 310MW Lake Turkana Wind Power plant will be the single largest wind plant in Africa, and single largest private investment in Kenya's history valued at \$690m. On its part, combined hydro power potential both from large as well as small, mini, micro and pico-hydro stand at 9,000MW with exploited capacity standing at 821MW only. However, despite the fact that hydro

¹⁴ Kenya ranks ninth globally in geothermal power. By CGTN Africa, June 6, 2018. Retrieved on 13th Sep. 2018. <https://africa.cgtn.com/2018/06/06/kenya-ranks-ninth-globally-in-geothermal-power/>

power is environmentally clean, its reliability in the wake of climate crisis cannot be entirely relied upon, a fact that has informed the country's quest for diversification of energy sources. Other estimated potentials for solar as well as bio-energy sources are reflected on the table below.

As a result of these considerations, this principle was given a score of 2 on a scale of 4.

Table 1: Renewable Energy Potential in Kenya

#		RE Source	Total Estimated Potential	Tapped Potential (as of 2017)
1	a	Large Hydro	~6,000MW	~821MW
	b	small, mini, micro and pico hydros	~3,000MW	
2		Geothermal	~10,000MW	~652MW
3		Wind	~3,000MW	~25MW
4		Solar	~4-6kWh/m ²	~4MW
5		Bio-energy	~200MW in the short term and ~1,200MW in the long-term	None

3.2. Social Economic Dimension

3.2.1. **Decent Work and Vulnerability Focus Principle:** under this principle, the NDC and the Long-Term Strategy (LTS) - guided energy transition seeks to create decent work in sustainable infrastructure development; reflects commitments to support those who are losing jobs; and is focused specifically on those who are most vulnerable to climate risks and those who may lose their jobs due to the energy transition. Under this principle, the following indicators are used to score justice related concerns as pertains to decent work and a focus on the vulnerable groupings. These include:

- i. Job gains and losses related to the energy transition according to International Energy Agency (IEA) and/or IRENA calculations
- ii. Availability and quality of programs for re-skilling workers who have lost their jobs in the fossil energy sector or related industries and services as well as skills building for country's population to be market ready for the emerging RE sector

Assessment & Ranking:

A global transition towards a low-carbon and sustainable economy entails both positive and negative impacts on employment. The positive aspect is that indeed, RE has demonstrated effective job creation over the time, proving the critiques of the transition wrong as the expansion of greener products, services, and infrastructure has translated into higher labour demand across many sectors of the economy, leading to creation of direct and in-direct green jobs¹⁵ along the entire value chain. This includes both in the manufacturing and distribution of equipment as well as in services like project management, installation, operation, and maintenance amongst others. For example, research has confirmed that energy created through solar photovoltaic cells or biomass plants have a higher number of jobs created per unit of energy produced than energy produced through conventional sources¹⁶. Resultantly, whereas the de-commissioning of coal fired power plants following ambitious climate actions in previously coal-reliant economies has led to significant losses and/or re-allocation of jobs, growth in RE has fuelled new jobs, producing beneficiaries of green economy both in the developed as well as developing countries. A good example is China which although has been experiencing loss of jobs in the fossil fuel (coal) sector, the country has on the other hand continued to lead globally in RE employment, with 3.64 million jobs created in 2016¹⁷ alone. In real terms, the Chinese RE job market grew by 3.4% in 2016, primarily due to strong gains in the solar PV sector.

On their part, developing countries that embrace investment in RE sub-sector have also recorded growth in green jobs created in the sector, ranging from both highly skilled as well as semi-skilled in sectors such as geothermal and wind. Other jobs have also been created in light opportunities such as distribution of pico solar amongst other. Whereas there are conflicting figures from different sources on the exact number of job opportunities created in Kenya's RE segment, statistics from the International Renewable Energy Agency (IRENA) indicate that across the

¹⁵ A decent and green job is one that reduces the environmental impacts of enterprises and economic sectors to sustainable levels, while providing decent work and living conditions to all those involved in production, and ensures workers' rights are respected.

¹⁶ Green jobs & Renewable Energy: Low Carbon, High Employment. By the International Labour Organization (ILO)

¹⁷ Renewable Energy & jobs, Annual Review 2017.

different RE technologies, over two million job opportunities have been created across the entire energy value chain. These range from highly technical opportunities to the lowest. However, as has been noticed, whereas jobs created across the green energy sector in the country have continued to grow, perhaps due to the complexity of the technologies involved, not most of the highly technical jobs have benefited local expertise, leading to skills transfer.

Suffice to say, whereas GoK, in partnership with development partners has been supporting local youth to pursue energy related science degrees from foreign universities, the urgent need for massive capacity building across the energy technical value chain, as well as technology transfer to the global south is needed if true just energy transition is to be experienced in the employment sector. Taking advantage of the Technical & Vocational Education & Training (TVET) that is spearheaded by the Ministry of Education would help a great deal in building the much-needed skills amongst the youth to ensure that they are market ready. As a result of these considerations, this principle was given a score of 2 on a scale of 4.

3.3. *Political Dimension*

3.3.1. **Due Participation Principle:** - this principle seeks to understand the level of multi-stakeholder participation and consultation in the build up to and development of the NDC/LTS process, including planning, implementation and evaluation. Dialogue on justice issues should be included in the transition process. Two indicators are used in the evaluation of justice concerns in the transition process. These include;

- i. Planned stakeholder participation in NDC and RE-related consultation process (if, how, who, when, for what purpose)
- ii. Estimation of the proportion of the population that has heard about the country's NDC as well as RE and energy related policies and projects

Assessment & Ranking:

Public participation is well safeguarded within the Constitution of Kenya (CoK), 2010. As a result, policy processes and planning require active involvement and inclusive consultation of the citizenry before they can be adopted and/or implemented. By and large, GoK has in most cases ensured adherence to this, by organizing consultation of the public

during policy and legislative development, both in the climate change, as well as in the energy sector. For example, in the process leading to the development of the Nationally Determined Contributions (NDCs) as well as consolidation of both the 1st and the 2nd generation National Climate Change Action Plan (NCCAP) and the National Climate Change Response Strategy (NCCRS), the government, through the ministry of environment & Forestry must be commended for its wide consultation with different stakeholders including the Civil Society Organizations (CSOs). Even more, although energy policy development in Kenya had previously been highly centralised and seen as a preserve of the political elites, lately, this has become more consultative, allowing a greater voice for stakeholders involved in the energy sector, including both larger and smaller investors.

However, as a result of public sensitization and empowerment on the constitutional requirements for public participation, public interest groups and communities have on numerous occasions petitioned the government on implementation of various projects deemed to have been undertaken without due participation, particularly of the affected communities. Just like the serious community resistance that faced the exploration of oil in Turkana, investment in the 60.8MW Kinangop Wind Park Project in Nyandarua County, and the 1,050MW LCFPP as well as exploration of coal in the Mui Basin also saw equal protests from the local communities. Sadly, the courts did not take the responsibility of setting clear requirements for involving the community in the energy projects, stating instead that it wasn't possible to develop an arithmetic formula for categorically determining when a court can conclude there was adequate public participation¹⁸. The down side of increased public and community resistance is that it presents additional obstacles to projects, particularly where local participation in planning and local benefit-sharing is limited or is widely perceived to be limited¹⁹. As such, it is only prudent to ensure that in as much as the court ruling indicated that it was not possible to determine when adequate public participation was conducted, ensuring that such participation is properly conducted right from the on-set would result in a win-win situation for both the affected communities, as well as the investors. These, as well as other

¹⁸ Energy 2018|Kenya, By Gli - Global legal insights – Energy, Laws & Legislations

¹⁹ Energy pathways for achieving Kenya's Nationally determined contribution to global efforts to mitigate climate change. A Discussion Brief by Stockholm Environment Institute (SEI)

different examples point to the gaps that have existed in this area and thus, need to safeguard it if just transition is to be realized. Positive initiatives such as the recent efforts by USAID's Power Africa approach to develop a guide to community engagement strategy for power project are hoped to assist developers in working with the community to ensure full support for projects and avoid the costly delays in project development while promoting responsible investment²⁰.

As a result of these considerations, this principle was given a score of 2.3 on a scale of 4.

3.3.2 Good Governance Principle: - Transparency and accountability, including an adequate cost-benefit-analysis of energy transition measures, should be ensured in the NDC/LTS implementation process. Two indicators are used in this principle namely:

- i. General situation in the country regarding good governance and corruption according to the Transparency International Corruption Perceptions Index
- ii. Analysis of transparency and accountability measures as mentioned in the NDC/LTS, including cost-benefit analyses, if undertaken

Consideration of governance principle in Kenya's energy sector brings with it mixed outcomes. More broadly, whereas the country was ranked 143 out of 180 countries according to the 2017's Transparency International global corruption perception index²¹ with different corruption scandals across the spectrum, there has been significant levels of transparency in the energy sector, albeit with its challenges as well. For example, in an effort to encourage more private investors in the sector, the Ministry of Energy has ensured that the Feed-in-Tariffs for different categories of the Renewable Energy are in the public domain for the sake of negotiations of Power Purchase Agreements (PPAs) with the Independent Power Producers (IPPs). Additionally, GoK has ensured competitive bidding in the procurement of different energy projects, an aspect that is certainly commendable. Resultantly, this has had positive impacts in terms of instilling investor confidence and ensuring more private sector participation in the RE sector in the country as compared to other countries in the region.

²⁰ Guide to community engagement for power projects in Kenya. By USAID's Power Africa, 2018.

²¹ Corruption Perception Index, 2017 by Transparency International. Retrieved from https://www.transparency.org/news/feature/corruption_perceptions_index_2017 on 13th Sep. 2018

However, as previously mentioned, GoK and project developers have on different occasions been accused of leaving out the public, including local communities during discussion on critical issues related to implementation of various RE projects. For example, as revealed by Dr. Msafiri in his submission to the parliamentary committee on energy in his opposition for the implementation of the LCFPP, deliberate measures such as holding public hearing meetings on Fridays afternoon in a Muslim community (Lamu) were taken to lock out stakeholders to participate in the hearing during the EIA assessment. This, amongst other actions were interpreted to mean choreographed attempts meant to hinder participation of the community members and other stakeholders during community consultations for the EIA development. Additionally, while there is commendation on the part of the GoK for seeking to promote transparency in the procurement and negotiations of PPAs, long procedures and inconsistency in approval of the same (PPAs), as well as lack of clear off-grid regulatory framework have been cited as potential areas of conflict, and thus lack of transparency. Additionally, whilst competitive bidding has been experienced in most of the energy projects, a few cases of single sourcing and direct contract negotiations has also been experienced in various other projects such as the Lake Turkana Wind Power Plant (LTWP) making it impossible to compare the cost-benefit and hence, value for money²², perhaps offering explanation for why the project faced numerous construction and completion bottle-necks. Thus, putting in place strict guidelines and regulatory framework in the sector, as well as ensuring adherence to these guidelines will provide the much-needed confidence, as well as improvement of transparency, thus promoting even greater access to clean and sustainable energy for all. As a result of these considerations, this principle was given a score of 2 on a scale of 4.

²² Neoliberal energy transitions in the South: Kenyan experiences. Peter Newell a, Jon Phillips. *Geoforum* 74 (2016) 39–48

4. Energy Policy in Kenya

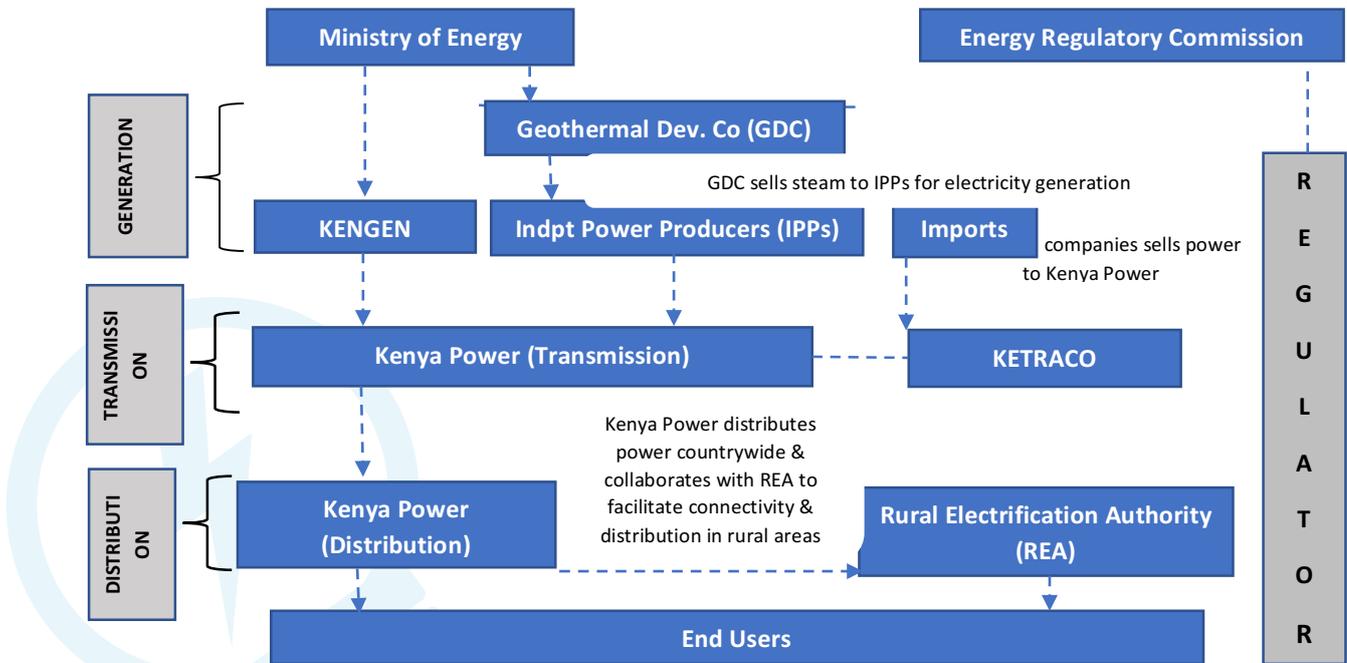
Kenya's energy sector has continued to experience institutional, policy and regulatory reforms aimed at increasing efficiency and effectiveness. In 2007, unbundling of the different responsibilities that used to be undertaken by a few sector players was carried out, resulting into separation of function between generation, transmission, distribution and supply. This was aimed at reducing monopoly that was mainly enjoyed by the then Kenya Power & Lighting Company (KPLC) currently known as Kenya Power; as well as encourage the entrance of private electricity generating companies i.e the Independent Power Producers (IPPs) with the aim of encouraging competition and improvement of service delivery. Additionally, the Energy Regulatory Commission (ERC) – an independent regulatory authority charged with the responsibility of regulating the sector was also established in 2007 followed by creation of a platform for redress mechanisms. The figure below presents a clear flow of the functions, right from policy formulation - currently the function of the Ministries of Energy & Petroleum and the Kenya Nuclear Electricity Board (KNEB); Dispute resolution – provided by the Energy Tribunal; Generation - undertaken by KenGen, Geothermal Development Corporation (DGC) as well as the Independent Power Producers (IPP); Transmission – provided by Kenya Power (for voltage below 132kV) and Kenya Electricity Transmission Co. Ltd (KETRACO) (for any voltage above 132kV); and finally Distribution – undertaken by Rural Electrification Authority (REA), Kenya Power and private DISCOs.

The key policies and legislations that guide the country's energy sector include Sessional Paper No.4 of 2004 (The energy policy document), the Least Cost Power Development Plan (LCPDP) and the Rural Electrification Master Plan. Others include the Energy Act of 2006, and the Feed-in Tariff (FiT) policy which was introduced in 2008 and revised in 2010 to promote renewable energy solutions. Discussions are currently at an advanced stage to replace the FiT policy with the auction-based system in efforts to drive down electricity tariffs²³. Additionally, the Energy Act of 2006 will soon be replaced if the parliament passes the Energy Bill, 2017. If passed, the new law will end the monopoly of Kenya power by opening up the supply and distribution of electricity to other interested private sector players, as well as increase transparency in the sector²⁴.

²³ Kenya Considering auction system to replace Feed-in-Tariffs. By Alexander Richter, April 2018

²⁴ Kenya Power Monopoly to end if energy bill is passed. The Star Newspaper (online), Feb., 16 2018. By Victor Amadala. Retrieved on 13th Sep. 2018 from https://www.the-star.co.ke/news/2018/02/16/kenya-power-monopoly-to-end-if-energy-bill-is-passed_c1715568

Figure 1: Government Institutions and their Roles in the Energy Sector



Source: Energy Sector Opportunities in Kenya, Business Sweden, 2016



5. Political Economy of Energy Investment in Kenya

Kenya's vision 2030 spells out the country's ambition for economic as well as socio-development. At the same time, existing national policies in the energy, environment and climate change articulates a clear national dream on how to deliver the development in a more environmentally sustainable manner – at least on paper. As such, the task that remains now is that of enabling a just transition to a lower carbon economy which simultaneously delivers economic development and climate resilience. However, reflections on determinants of the terms of transition as well as beneficiaries of such transitions brings with it the relevant political questions on the role of institutions, actors and interests groups as they ultimately determine victors and losers from energy pathways as well as how trade-offs amongst opposing policy objectives are resolved.

A number of players currently perform different roles in Kenya's energy sector. These include the government, the private sector, development partners as well as the CSOs. On its part, GoK has different institutions mandated to play various function in the energy sector, with those that have electricity function sitting under the mother Ministry of Energy. Critical institutions under the electricity sub-sector include the Kenya Power – a state corporation that plays the role of the off-taker, buying power from all generators for onward transmission, distribution and supply to consumers. Kenya Power is a listed company on the Nairobi Stock Exchange with the ownership structure being 50.1% by the National Social Security Fund (NSSF) and Government of Kenya while private shareholders own 49.9%. The Kenya Electricity Generating Company (KenGen) is the main player in electricity generation, with a current installed capacity of 1,232MW, accounting for 77% of the installed capacity from various electricity generation sources. Just like Kenya Power, KenGen is also listed at the Nairobi Stock Exchange with the government as the majority shareholder, also through the National Social Security Fund (NSSF) and the Treasury at 73%²⁵ as of June 2016, with the remaining shareholding of less than 30% enjoyed by private investors. KenGen accounts for about 77% of the installed capacity from various power generation sources.

On the other hand, it is a well-known fact that Kenya's government has a history of a good relationship with the private sector actors, with the power sector mainly

²⁵ <https://www.standardmedia.co.ke/business/article/2000225505/state-ups-its-stake-in-kengen-to-74pc>

influenced by market requirements. Even more, the legislative setting for external investors is fairly well established for both off-grid and micro-grid projects, an aspect that has significantly helped minimize regulatory risk. As at 2017, there were 14 Independent power producers (IPPs) in Kenya with a 30% combined installed capacity of 695.6MW spread out across 15 plants, including 3 small-scale hydro plants, 1 geothermal plant, 1 Biomass plant and 10 fuel oil plants²⁶ as shown in table 2 below. As a result, it would be correct to imagine that these different players, including development financiers play a significant role in push and pull during decision making of any decisions that affect the sector, whether directly or in-directly. Also, important to note is the fact that at present, there are few efforts in the Kenyan energy sector to cater for unprofitable consumers in the current model despite the development of new financial models to collect from poorer consumers at the 'bottom of the pyramid'.

Additionally, donors and international businesses are key actors working to shape the domestic politics of energy choices according to their mandates, which often include the promotion of lower carbon energy. Though they differ in terms of support for particular energy sources and technologies, there is a high degree of alignment among donors and between government and donors on the desirability and necessity of market-based approaches to tackling the countries energy challenges²⁷. Further, business actors play a critical role to the pursuit of Climate Compatible Development (CCD), particularly in shaping regulations that support or hinder CCD. For example, the Kenyan Renewable Energy Association (KEREAA) lobbied successfully for the zero-tariff policy, alongside the big importers and manufacturers of solar and groups such as the Solar Technicians Association. However, on the other hand, private sector players ought to be managed closely, especially during contract negotiations with the government of Kenya. Transparency and scrutiny of the contracts should be guaranteed if private sector players are to benefit the public. For example, perhaps if transparency was upheld during the negotiations of the contract with the Spanish firm (Isolux Corsan) that later went bankrupt before completion of the construction of the 428-kilometre line between Loiyangilani and Suswa to evacuate power from Lake Turkana Wind firm, mitigation clauses would have been included to cushion the tax payer in the event of pull out from the project when the firm was declared insolvent. As a result, Kenyan tax payers lost KES. 2.5 billion in the deal after the contractor filed for insolvency in Madrid²⁸.

²⁶ https://www.expogr.com/kenyaenergy/market_info.php

²⁷ Peter N. & Jon P. Neoliberal Energy Transitions in the South: Kenyan experiences. Volume 74, Aug. 2016

²⁸ Taxpayer set to lose Sh.2.5bn on stalled job. By Edwin Mutai, Daily Nation, Fri March 23rd 2018

Table 2: Independent Power Producers (IPPs) in Kenya, June 2017

#	Company	Country of Origin	Technology	Capacity (MW)	PPA (Years)	COD	
1	Iberafrica Power Company	South Africa	MSD/HFO (75.2%)	56.0	7+15	2004*	
				52.5	25	2009	
2	Tsavo Power Company Ltd	USA		74	20	2001	
3	Rabai Power	Luxembourg		90	20	2010	
4	Thika Power	Lebanon		87	20	2014	
5	Gulf Power	Kenya		80.3	20	2014	
6	Triumph	Kenya		83	20	2015	
7	Orpower 4 Inc.	USA		Geothermal (20%)	13	20	2000
					35	20	2009
			36		20	2013	
			26		20	2014	
			29		20	2016	
8	Mumias Sugar Company Ltd	Kenya	Cogeneration (3.7%)		26	10	2010
9	Biojule, Regen-Terem, Imenti Tea, Gikira	Kenya	Small RE (1.1%)		7.814		
Total Installed Capacity (MW)					695.6MW		

Source: *Utilities Policy 52 (2018) 37–49*²⁹

Notes: *15-year PPA starting in 2004. MSD/HFO = medium-speed diesel/heavy fuel oil; PPA = power purchase agreement; COD = commercial operation date.

²⁹ Kenya's lessons from two decades of experience with independent power Producers. Eberhard, K. Gratwick, & L. Kariuki (2018)

6. Conclusions & Recommendations

6.1. Conclusions:

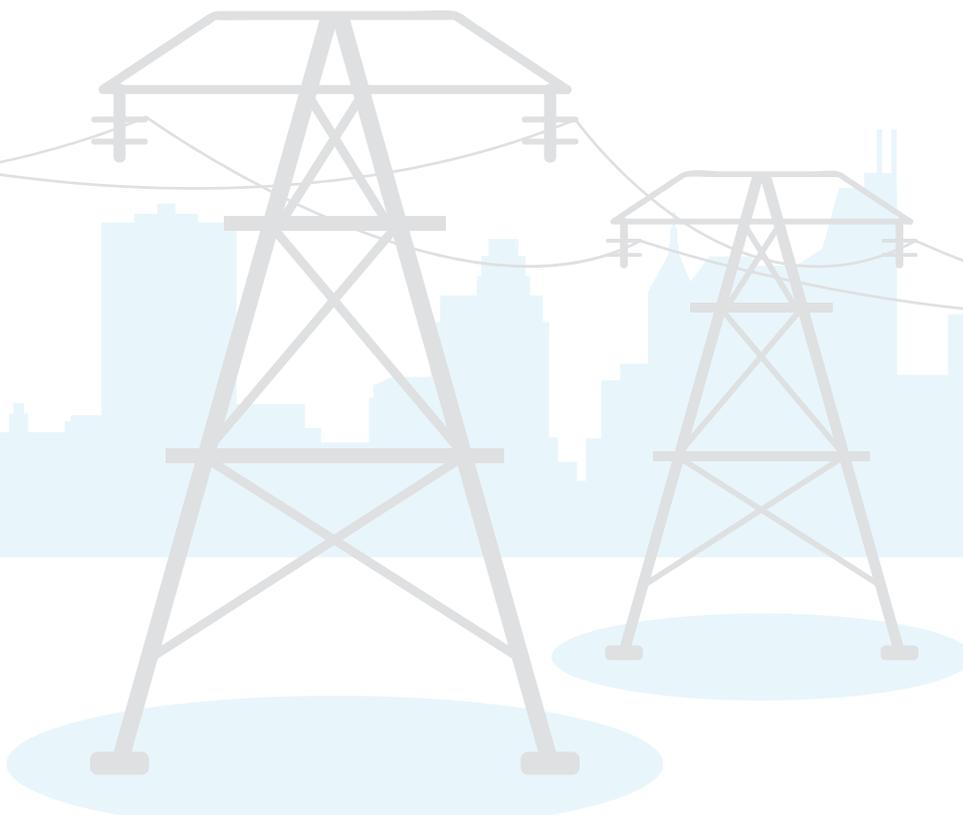
The final assessment and scoring of Kenya's energy transition from this exercise present a rather mixed outcome of the country's achievement of the just energy transition. Overall, as compared to her peers in the region, Kenya has put in place very good policies and strategies for achievement of 100% Renewable Energy access by the year 2030. However, to a large extent, there continues to be a serious level of disparity between what is on paper, and what is being implemented on the ground, an explicit explanation for the below average score of 2.4 that was arrived at out of the development of this discussion paper. Whilst the country scores high on the climate energy principle (3), there is a general medium score across most of the other principles i.e NDC-SDG alignment (2); Decent work & vulnerability focus principle as well as due participation principle. However, there is an extreme case of a (poor) scoring of 1.5 on the good governance principle.

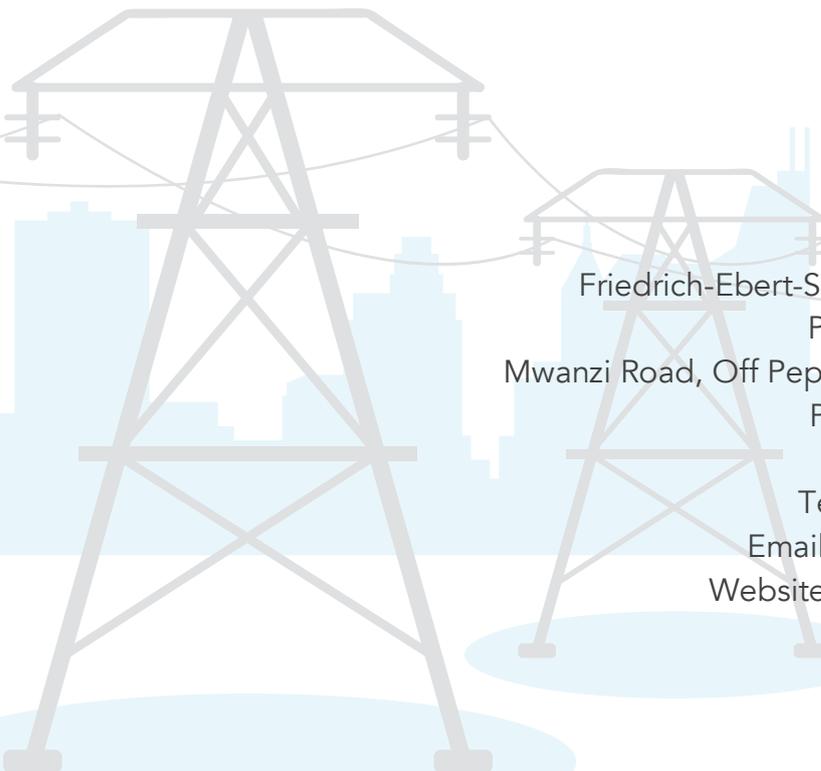
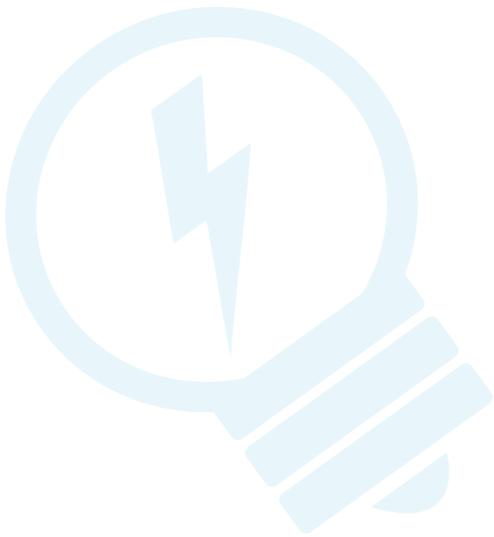
Private sector continues to play a key role in the country's energy sector and transition at large. Political economy analysis of the country's energy transition reveals a 'significant level of influence by the private sector that has been able to capture public institutions and resources through political elites who seek to serve their private interests and patronage. This partly explains the lack of adherence to some of the key just transition principles, including contradiction between policy rhetoric and actions as seen through the investment in coal project, depicting a classical case of 'he who pays the piper calls the tune'. Realization of just energy transition in Kenya will thus seek to align its ambitions against important principles, as well as ensuring that such a transition is socially inclusive and just, leaving no one behind.

6.2. Recommendations:

- Sensitize & create awareness on the just energy transition – there exists a general lack of awareness on what is, and what entails just energy transition across the spectrum. Lack of such awareness creates a challenge when it comes to tracking its implementation as envisioned in the international policy discourse. Sensitizing policy makers, development partners as well as project developers on the concept and how to ensure its implementation during project design will be key. At the same time, mobilizing, organizing, and sensitizing the communities and general public on this concept, as well as accompanying them to demand for justice related issues during implementation of energy projects will be vital to realization of the just transition ambitions. More specifically, there will be need for public participation during initial project consultations in areas where energy projects are being set-up in order to help avoid a repeat of what has been experienced so far in projects like the LCFPP, the Kinangop Wind project or even the case of Oil exploration in Turkana.
- Invest in decentralised energy for productive use – while the current efforts by the GoK to achieve 100% energy access are commendable, caution must be taken to ensure that it's not a case of connecting communities for the sake of it. Communities' ability to pay for pay for the service will need to be put into consideration. Creating local demand through provision of decentralised RE systems will not only help reach the target ambitions but will at the same time contribute to fighting poverty amongst the poor, thus achieving both climate and poverty reduction ambitions.
- Need for consistency between policy & practice – there is a significant level of disparity between the country's energy policies against strategies and actions being implemented on the ground. This is largely explained by the country's dilemma between its climate commitments as captured on the NDCs (amongst other national policies), as well as its poverty reduction and economic development ambitions as articulated on Vision 2030 and the Big four agenda. However, it is still possible to achieve low-carbon and climate resilient development by pursuing clean energy development pathway. Implementation of the LCFPP and well as the LNG will have a significant level of negative impact on the country's overall climate ambitions and as such, their implementation should be re-visited but instead pursue other climate friendly energy pathways. Additionally, there is need to increase the level of transparency in energy project negotiations for scrutiny by the public to avoid a repeat of similar cases where energy projects have been completely halted by the community. Political influence will need to be dealt with.

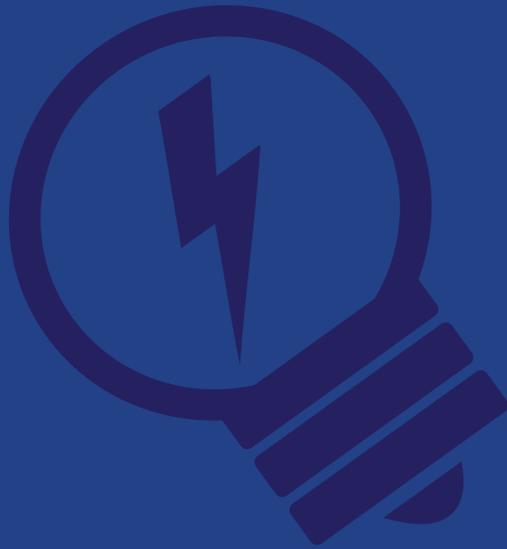
- Increase level of skills development and technology transfer for job creations in the RE sector – the RE transition has led to the creation of significant green/decent job opportunities, both in the highly as well as semi-skilled areas. However, due to technology gap, not many of the local populations benefit from the highly skilled opportunities that have come with the new opportunities, thus leading to skills importation. For the energy transition to be just in the employment sector, continuous efforts to build the necessary skills, both in skilled as well as semi-skilled areas so as to help meet the emerging job-skill requirements of a greening economy will be paramount. Most importantly, the government, through the Ministry of Education’s Technical & Vocational Education and Training (TVET) programme should ensure proper integration of training programmes that respond to the emerging market demands in the evolving RE industry.





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