



Note

The role of NDCs in fulfilling energy related SDGs in Sub-Saharan Africa

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Summary

This note explores how nationally-determined contributions (NDC) can help African countries advance SDGs in the area of sustainable energy. It shows the great need for sustainable development outcomes in Sub-Saharan Africa leveraged through climate action, and that technological solutions are available. Indeed, costs are declining and renewable energy technologies are becoming increasingly affordable. The challenge of leveraging the desired SDG outcomes now depends on the incentives and policy design. Policies and measures will need to be inclusive and managed in ways that the desired beneficiaries will be able to access and use these technologies to reap developmental benefits.

Introduction

How can Sub-Saharan African countries develop while remaining low carbon?

Many countries in Sub-Saharan Africa contribute little to the world emissions burden. The use of energy in the region is low compared to global levels (AFREC 2018). Yet demand for energy within the electricity and transportation sectors is ever growing. Southern African societies are facing major infrastructural challenges, which require far reaching investment decisions. Electrification of remote rural areas, as well as growing cities and transport will require energy policy decisions that will attract significant investment into the energy and transport sectors, which may lead to job creation and economic growth. The future development pathways of countries in the region remain uncertain. Many countries are still looking into the option of developing fossil fuel power plants, despite the dramatic decrease in costs of renewable energy.

Energy policy choices have the potential to lock small electricity sectors into high emissions pathways and crowd out investment in the renewable energy sector. Consequently, these decisions will shape the possibility of meeting the climate target of the Paris Agreement on Climate Change, as well as the Sustainable Development Goals (SDG).

The overall question is to understand how the Nationally Determined Contributions (NDCs) can contribute to fulfilling energy related SDGs in Sub-Saharan Africa. This question relates to the contributions of Sub-Sahara African countries to the global climate change and

development agendas under the Paris Agreement on Climate Change and the UN Agenda 2030. The implementation of these agendas, however, depends on the success of domestic policies and action. Hence, it is necessary to understand how can African nations contribute to advancing socio-economic development and meeting their growing energy demands without settling on to traditionally fossil fueled development pathways.

Infrastructural investment choices in the energy sector have critical impacts on the multidimensional aspects of human development and livelihoods. The implications include a number of SDGs: energy access, climate action, economic growth, job creation resulting in poverty reduction, gender equality, water, health and wellbeing.

Large investment in centralized coal or nuclear power plants may increase the benefits of access to grid based electricity, but may fail to produce significant environmental and social co-benefits, potential job creation and gender empowerment that can arise from the benefits of smaller scale, decentralized renewable energy programs.

Renewable energy technologies come with the benefit of low emissions and low cost compared to alternatives in nuclear and coal technology (Service 2019). Renewable energy technologies can be used in flexible ways and can be adapted to the needs of different users: small or large scale, centralized and grid connected or off-grid.

Renewable energy technologies can contribute significantly to solving developmental challenges, if these technologies are deployed accordingly. Success and failure in producing these co-benefits largely depend on the inclusive design of incentive systems, political will and

power relations between political actors, which favor technological change for sustainable energy. Success in diffusion and acceptance rely on taking the users along in choosing, designing and operating technologies for their own purposes.

This brief is structured as follows: the following section introduces the energy related SDGs and the potential linkages to NDCs via national policies and actions. Section three explains current dynamics in climate change, energy and socio-economic development in Southern Africa. Section four presents the analysis of three case studies in South Africa, Tanzania and Kenya, which show parallel and disconnected processes between NDC related climate policy and energy infrastructure planning. Section 5 offers recommendations and conclusions.

Connecting the dots: relationships between NDC and energy related SDG

The energy related SDGs and the NDCs, as main domestic means of implementation of the Paris Agreement on Climate Change, echo Sub-Saharan Africa's climate and developmental challenges at the international level. SDG 7 aims to ensure access to affordable, reliable, sustainable and modern energy for all, which relates critically to SDG 13: to take urgent action to combat climate change given the carbon footprints of the various energy technology choices.

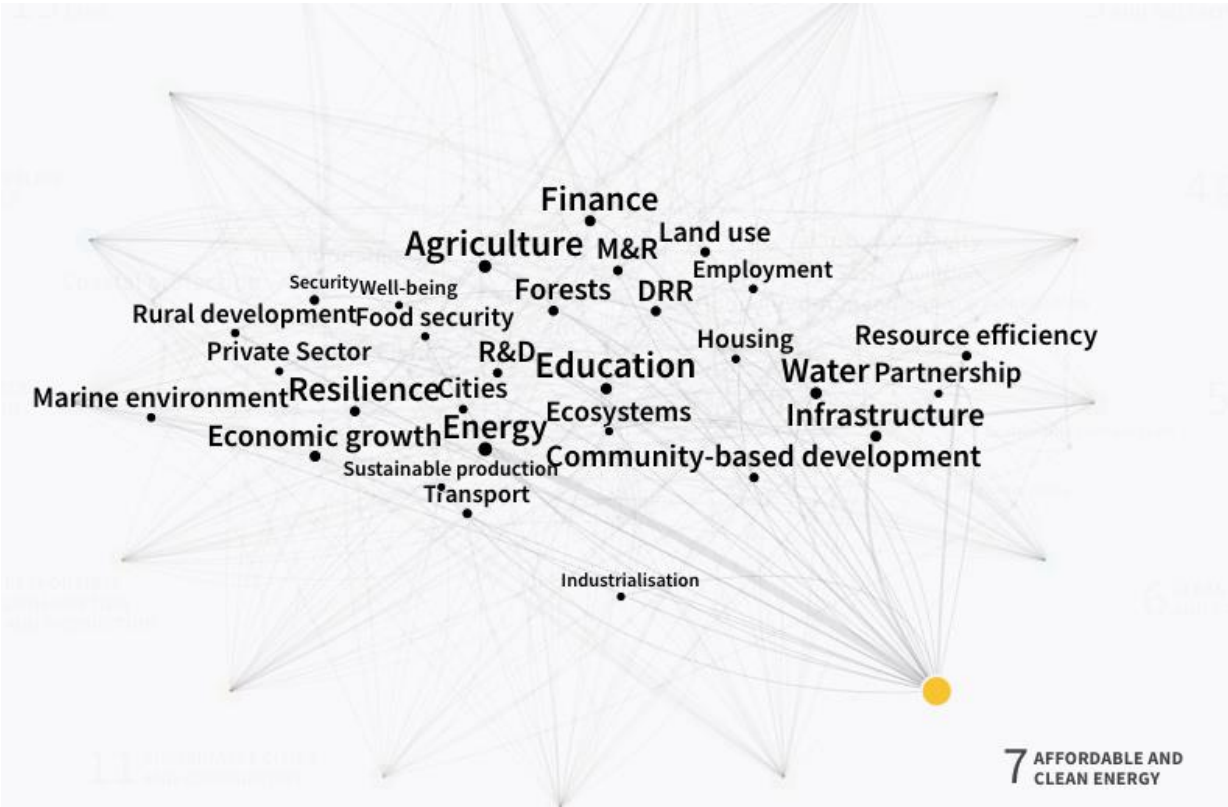
Major investments in energy infrastructure will trigger impacts on industries, employment, economic growth and ultimately poverty and peace. For example, power plants can be imported and build with predominantly foreign

labor and only generate temporary low skilled local jobs. In contrast to this option stand approaches that aim at creating knowledge intensive local economies. Governments heavily invest in skills development, vocational training and R&D, create local industries through localization requirements, where applicable, with the aim of localizing knowledge intensive jobs and reaping innovation rents.

Another example relates to the ownership models of electricity infrastructure, once technologies have sufficiently matured and cannot successfully be localized any more. Energy technologies can be owned either by the state and operate via private or state-owned utilities. Alternatively, there are models of community ownership and small scale generation which channel the benefits directly into communities. The benefit of technological change in the energy sector can then relate to SDG 9 (industry, innovation and infrastructure), SDG 8 (decent work and economic growth), which translates into SDG 10, (reduced inequalities), SDG 1 (no poverty) and SDG 16 (peace, justice and strong institutions).

Centralized energy options accumulate jobs and income in traditional industries and polarize income pathways. Renewable energy production can be owned and operated by communities, the state or the private sector, with the jobs and income flowing to different beneficiaries (community members versus local or multi-national shareholders, or a combination of both). The domestic policy mix determines whether industries can create jobs and opportunities locally, reducing social inequalities and empowering the poor and marginalized.

Graph 1: Synergies between energy related SDGs in 39 African NDCs



Source: GDI, NDC-SDG Database 2019

The illustration above shows many connections between issues raised in the NDCs of African countries that relate to SDG 7 for affordable and clean energy.

The range of influence between the NDCs and SDG into the reality of policy and practice may be limited as success and failure of the implementation of NDCs, which is largely dependant on the implementation of domestic policies, processes and actions. NDCs may not reflect their political weight in domestic decision-making processes to the extent that they have gained in the international climate change agenda. These imbalances relate to a well-established problem in the international relations theory (“The Two Level Game”). Putnam (1988) conceptualises two parallel negotiation processes, which require coordination by the negotiators who need to

align the concern of societal actors and coalitions in the domestic negotiations with the processes at international level. International agreements and their successful implementation require acceptance from domestic interest groups to provide some other form of government support. International agreements and domestic policy can overlap in win-win situations, when prospective gains and interests co-incide in both negotiations.

NDCs have dominated the global climate change agenda since the successful negotiation of the Paris Agreement. The concept has been less visible in the local public debates on climate change. In many Southern African countries, the first INDCs were largely associated with building onto the global climate and development agendas dominated by international development and environmental

organizations.

Open networks of international organizations and NGOs who promote the international climate and development arenas often operate parallel to closed policy communities with decision-making powers over significant investment decisions in the energy sector. Technical work frequently falls into sub-contracts of external consultants, in the absence of local capabilities. This dynamic has created an agency problem, contributing to the imbalance of political weight between the NDCs and national development plans in the domestic and the international policy arenas.

These structural problems require urgent solutions. Societies need to articulate implementable, national climate and developmental priorities for future NDCs.

Hence, NDCs require closer integration with domestic policies, actions and processes to make any contribution to the SDGs. There is still a lot of uncertainty in regards to the implementation of the NDCs, which requires translating submitted contributions into concrete policies, programs, and projects.

The historically grown inequalities and respective political sensitivities around the NDCs from an African and developing country perspective need to be kept in mind when linking the global climate and development agendas to national actions. Why should Sub-Saharan African nations not have the right to build coal plants to satisfy their growing electricity demands?

This question relates to national sovereignty and highly sensitive, in and outside the climate negotiations. As a result, the Paris Agreement

remains vague on the contributions of least and less developed countries, especially when it comes to future emissions and mitigation. The vagueness of the Paris Agreement leaves room for own interpretation of what exactly is expected from an NDC and what can be used strategically to leverage specific domestic interests from the international community.

Another result from the unspoken matters in the Paris Agreement is that NDCs are currently not a priority on the agenda of the Africa Group in the negotiations. There are different agendas and interests between the Northern African Arab Group, the LDCs and, emissions intensive African economies like South Africa, Nigeria and Ethiopia. The position of the Africa Group in the negotiation processes of the NDC has been mainly to ensure that adaptation and disaster risk reduction play a role as well as access to finance for technology in both mitigation and adaptation.

In sum, there is a gap in the current architecture of the Paris Agreement and the Agenda 2030. This gap can only be closed through sufficient political will and capital, which translates into careful coordination between domestic climate action and local development agendas that reflects both the NDC submissions and SDG strategies.

Southern African dynamics in socio-economic development, energy access and climate change

Sub-Saharan Africa occupies the top ranks in the UN's poverty statistics. The region shows the lowest rates of energy access and is among the most vulnerable to climate change. Given these

multiple challenges, Sub-Saharan Africa deserves a lot of support for sustainable development. This section provides a brief overview of the challenges for sustainable development in Sub-Saharan Africa, by addressing poverty, inequality, energy supply and access and, climate vulnerability.

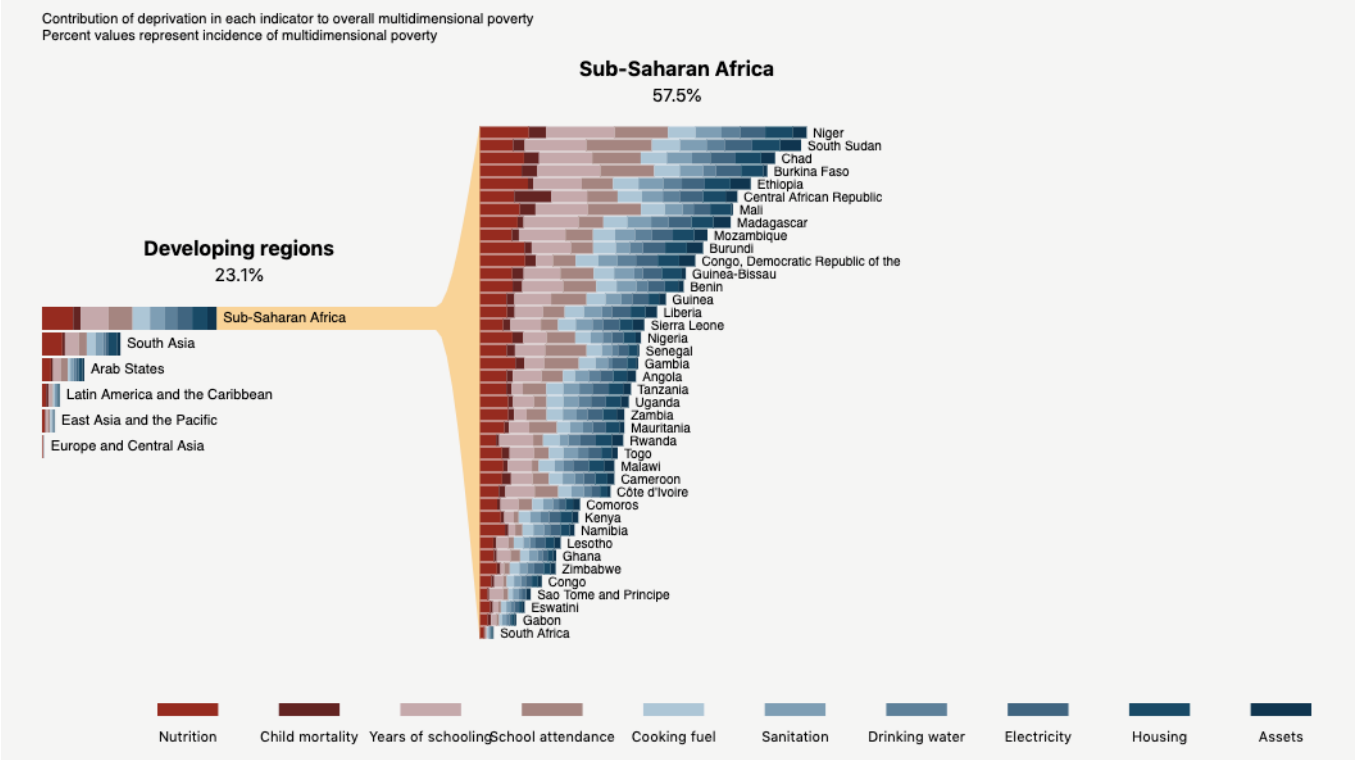
Multidimensional Poverty in Sub-Saharan Africa

The UN’s multidimensional poverty index (MPI) measures poverty beyond income taking access to assets, sanitation, housing, education, health services, electricity and cooking fuels,

nutrition and child mortality into account. The MPI is able to partially reflect the multidimensional challenges of the SDG.

The global MPI covers 101 countries and finds that in 2019, 23.1% of the world’s population lives in conditions that count as multi-dimensionally poor. Sub-Saharan Africa shows the highest occurrence globally, with 57.5% of the population living in poverty. However, there are extreme variations across the continent, with 6% of multi-dimensionally poor people in South Africa and more than 90% in South Sudan and Niger.

Graph 2: Multidimensional Poverty in Sub-Saharan Africa



Source: Human Development Indicators, MPI 2019

Access to energy is measured by access to electricity and cooking fuel in the multi-dimensional poverty index. Energy access is an essential component in human development, as it improves educational and sanitary living

conditions, health and, economic activity through the use of modern communication technology.

Rich in resources, poor in access: Africa's dilemma in supplying reliable energy

The African continent is endowed with significant resources in fossil fuel and renewable energy. Its people, however, continue to suffer from a severe deficit in energy access. Africa's energy resources often remain underutilized, exported in crude forms or wasted. As a result, the available supply is dominated by biomass, with the exception of a few countries (Energy Commission Africa, 2019).

Technological advancement and a decline in prices of renewable energy technology provide the chance to leapfrog towards sustainable energy technologies. Renewable and sustainable energy technologies have proven to show co-benefits in job creation and income generation (CSIR 2019).

600 million people in Africa still have no access to power, representing 48% of the continent's nearly 1.2 billion populations according to data from the International Energy Agency (2017).

Electrification efforts in sub-Saharan Africa in the past have been neck-and-neck with the fast growing population in the region. Electrification measures have only started to outpace population growth for the first time in 2014. Several countries in sub-Saharan Africa, including Ethiopia, Gabon, Ghana, and Kenya, are likely to reach universal electricity access by 2030 according to the World Energy Outlook (IEA 2018). Other countries in the region fail to keep at pace with the population growth resulting in low electrification rates predominantly in the rural areas.

Half the population of all developing countries, 2.7 billion people, still rely primarily on biomass, coal and kerosene as their main household cooking fuel, which can cause serious health problems. The IEA indicates that estimates of premature deaths from indoor pollution outweigh the number of deaths caused by HIV/AIDS and malaria combined (IEA 2018). The implications of these challenges are specifically damaging for female livelihoods. The amount of time and physical labor that goes into managing and operating solid cooking fuels comes at a cost from the ability to pursue other economic activities, besides the negative health impacts, including for unborn life (IEA 2018).

Many of these challenges can be resolved, as research has shown in the case of women empowerment through rural electrification and more specifically renewable energy (see for example Winther et al 2018). The successful uptake of renewable energy technologies, however, depends largely on social acceptance shaped by cultural values, incentives, political and economic factors (Ockwell et al. 2018).

Trading off climate and developmental co-benefits: the scope of NDCs for SDG in current energy and economic development planning

This paper argues that renewable energy technologies can unlock significant SDG outcomes, depending on their implementation, incentive and social acceptance. This section provides a closer look into three Southern African societies who have successfully started to roll out renewable energy policies over the past year. At the same time, all four countries

plan on expanding on coal fired electricity infrastructure. This section analyses how these parallel processes play out in the NDC and potentially the SDGs' implementation and success.

While renewable energy investments in Southern Africa are growing, coal and other fossil fuel investments are also on the rise.

Currently, 31 power plants are operating on the continent, with 27 in Sub-Saharan Africa. The bulk of these plants cluster in coal rich South Africa, which comes with its own particular characteristics of a highly energy intensive economy. Five new plants are currently under construction, and an additional 38 in a pre-construction phase.

Table 1: Current coal plant dynamics in Sub-Saharan Africa.

Country	Preconstruction*	Construction	Shelved	Operating	Cancelled 2010-2019
Zimbabwe	3	1	4	2	3
South Africa	5	2	5	19	9
Tanzania	4	0	3	0	2
Botswana	4	1	4	1	4
Malawi	3	0	1	0	1
Mozambique	5	0	4	0	2
Nigeria	1	0	2	0	3
Kenya	2	0	1	0	2
Zambia	3	0	1	2	1
Ghana	0	0	1	0	0
Ivory Coast	1	0	0	0	0
Madagascar	1	0	0	1	0
Swaziland	1	0	2	0	2
Niger	1	0	1	0	0
Democratic Republic of Congo	1	0	0	0	0
Senegal	0	0	1	2	2
TOTAL	35	4	30	27	31

Source: own compilation based on Global Coal Plant Tracker

* Pre-construction includes the planning and licensing phase. Shelved refers to projects with no communicated progress in two years.

The following section disentangles the energy, climate and development futures in three countries in Sub-Saharan Africa, against their national development plans and NDCs: South Africa, Kenya and Tanzania. All three countries have been pursuing plans to build new coal infrastructure, while they are successfully

building renewable energy. How does this reflect in the NDCs and SDGs?

South Africa: Clean energy for Southern Africa's coal giant?

South Africa is a special case in Southern Africa.

It is the second largest economy in Sub-Saharan Africa, competing for first place with Nigeria. It has the largest installed national electricity capacity of ~ 45 GW, which largely relies on coal (90%). An aging nuclear plant, Africa's only commercial power plant adds 5% to the system. Renewable energy, mainly large scale solar PV and wind, which adds another 5% capacity.

South Africa's economy stands out for its high energy intensity. South Africa's per capita emissions are equivalent to those of Germany and other industrialized countries, while its GDP falls into the category of a higher middle income country. South Africa's wealth is very unequally distributed and places the economy on the top rank of the world's most unequal societies. Energy intensive industries consume half of the electricity and accumulate income, while half of the population lives below the national poverty lines. Energy access is a minor problem, compared to other countries in the region, as 95% of the population has access to the national grid.

The government has made attempts to diversify its electricity sector over the past decade. The main policy change occurred at the time South Africa hosted the UN Climate Change Conference COP 17 in 2011 in Durban. The Renewable Energy Independent Power Producer Procurement Program (REIPPPP) was launched in 2012 shortly after the COP and invited industries to submit competitive bids for specific quantities of installed capacity. Competitive bidding worked well in bringing down the cost of renewable energy. Soon wind energy reached price parity with coal generated electricity. The bids won by mainly international industries were assessed by 70% for their prices and 30% for their compliance with socio-

economic development (SED) criteria. These criteria include community development and local content requirements. The community development criteria were inspired by the mining industries and foresaw payments to community trusts for local development processes for communities in the proximity of 50km of renewable energy plants. Local content requirements incentivized the gradual local manufacturing of certain components (such as towers in wind energy, assembly in solar photovoltaic industries to incentivize local job creation and skills development).

The implementation of the socio-economic development requirements came with learning both in policy, industries and communities, but has after all led to growing industries, creating jobs and generating additional funding for community projects. The program has been regarded as a success in the South African NDC and counts as one of the main investments in climate change mitigation. The NDC refers to a potential expansion of the renewable energy program, which is currently under consideration with the South African Economic Development and Labor Council.

The South African NDC states that the government "as part of a Renewable Energy Independent Power Producer Procurement Program (REI4P) has approved 79 renewable energy IPP projects, total 5243MW, with private investment totaling ZAR 192 billion (approx. US\$ 16 billion). Another 6300 MW are under consideration. Investment in public transport infrastructure was US\$ 500 million in 2012, and is expected to continue growing at 5% per year. South Africa established a South African Green Fund, which allocated US\$ 110 million in the 2011 to 2013 budgets to support catalytic and

demonstration green economy initiatives. Resources for the Fund will have to be increased in future to enable and support the scaling up of viable and successful initiatives, including contributions from domestic, private sector and international sources.” (UNFCCC SA, page 9).

The analysis of the cost for decarbonizing the economy add up to:

1. Estimated incremental cost to expand REI4P in next ten years: US\$3 billion per year.
2. Decarbonized electricity by 2050 - estimated total of US\$349 billion from 2010.
3. CCS: 23 Mt CO₂ from the coal-to-liquid plant - US\$0.45 billion.
4. Electric vehicles - US\$513 billion from 2010 till 2050.
5. Hybrid electric vehicles: 20% by 2030 - US\$488 billion (UNFCCC, SA, p.9)

The NDC addresses the cost of “decarbonized electricity by 2050 and the incremental cost to expand the renewable energy program”, while the renewable energy program has been attracting investment, created jobs and added to the security in electricity supply. The NDC does not specify the sources for financing the de-carbonization of electricity.

At the same time, the government is significantly subsidizing the economically unsustainable business model of a state-owned enterprise Eskom. Eskom has accumulated debt of US\$ 29 billion. The government has committed to an US\$ 8 billion bailout over the next three years. The utility is currently building

two new coal plants, while two more were recommended for construction. Eskom has actively been delaying the implementation of the Renewable Energy program by refusing to sign off power purchase agreements. The program has been put on halt for two years under the Zuma administration, because of a looming nuclear deal. Despite its proven co-benefits in job creation (CSIR 2019), the mining unions have developed a narrative of renewable energy harming the economy and local jobs, which has been challenging the social acceptance of renewable energy in the country.

Eskom’s financial crisis has led to an impetus for privatization, including selling off its coal plants and creating avenues for embedded generation. Attempts to restructure the monopolistic structure of Eskom’s coal centered business model have been ongoing for years.

The implementation of the South African NDC is highly compromised, because of the dominating coalitions of political actors opposing progress towards a clean and sustainable energy transitions. This is despite the progressive communication in the NDC, and potential positive SDG outcomes in terms of emissions reductions, energy security, job creation and poverty reduction. A vision towards carbon neutrality by 2050 is still outstanding.

In sum, the South African case demonstrates a significant implementation gap between communications in the national and global development priorities and the NDC. Despite renewable energy policies being in place, coal infrastructure continues to be sustained and expanded without showing a commitment to the de-carbonization plans outlined in the NDC.

Tanzania: Scaling up Renewables and Coal

Tanzania's economy is highly dependent on agriculture and natural resources which have been affected by climate variations in flooding and drought. The changing rainfall patterns have challenged the security of energy supply in Tanzania, as it largely relies on hydro power to meet its electricity needs. As a result the government identified these challenges in the Tanzania development plan 2025 with the aim to diversify its energy resources including increases in the use of renewable energy and domestic coal. The government has since put in place a feed-in tariff as part of a reform of electricity rules in 2010, as well as the Scaling up Renewable Energy Program for Tanzania (SREP Tanzania).

Energy access in Tanzania is a major challenge: 67% of the population of Tanzania lives without access to electricity. Petroleum derived products provide 9% of the total energy consumption, which are imported and subject to significant price variations. The majority of the population (about 90%) uses traditional biomass for cooking and other activities. Renewable energy technologies can potentially increase energy access especially in rural areas where the majority of Tanzanians live, according to the Ministry of Energy (2013).

Rural livelihoods are particularly vulnerable to climate change shocks such as droughts, floods, rising sea levels and increase in water-borne diseases. About 60% of the country is affected by prolonged droughts, dwindling water sources, floods, degradation of rangelands, shrinking agricultural land, seawater intrusion (especially in Zanzibar), increased humidity,

animal and plant diseases and incidences of human disease including malaria. Electricity access rate have been increased from 20% in 2014 to 32.7% in 2019. The installed capacity is relatively small with 1.5 GW (Hydro 568MW, Thermal 925 MW, other RE 82.4MW).

The Tanzanian government has developed a national climate change strategy in 2012, which addresses its major adaptation challenges and identifies a number of mitigation actions in the energy sector, including the promotion of off-grid renewable energy, "clean coal" and energy efficiency in industries. Research by the London School of Economics found that climate change policy have taken a back seat in Tanzania's political agenda since 2015, for the benefit of rapid industrialisation and infrastructure development. The complexity of managing low carbon industrial trajectories require coordination between peers and levels of government, scientific and policy information and, capacity and resources which seem to be limited in the case of Tanzania (Nachami 2018).

At the same time, the Tanzanian government has made significant effort to develop "clean coal" infrastructure, which would at least double the existing electricity supply infrastructure, if all planned units went ahead. Currently, eight plants are in planning, according to different sources (namely Magamba, Ngaka, Maturi, Mbeya, Mchuchuma). Some of the plants have not reported progress in two years and are presumably shelved.

Sourcewatch reports Chinese involvement in the coal roll out and related industrialisation. According to sourcewatch, the Chinese Sichuan Hongda Co. Ltd. signed a US\$3 billion deal with the Tanzanian government to mine coal and iron ore in Tanzania. These investments

involves construction of the Mchuchuma Coal Mine, transmission lines between Mchuchuma and Liganga for supplying a Metallurgical Complex, and an accompanying 600-megawatt (MW) thermal power station. According to sourcewatch estimates, Mchuchuma coal deposits have more than 480 million tonnes of coal reserves which will be used for expanding a coal fired national grid (Sourcewatch 2019).

The Tanzanian NDC does not address the coal expansion and focuses its energy related mitigation action on carbon sinks through forest conservation, afforestation and reforestation, increase of natural gas, expansion of renewable energy sources including geothermal, solar, hydro, and wind. (UNFCCC TNZ 2015)

Tanzania's coal expansion results in clashing government interests between energy security and sustainability interests in renewable energy and low-carbon development from civil society and the international donor community (Thabit 2017).

“Clean” coal looming in greening Kenya

Kenya has in many ways made progress in sustainable electrification, women empowerment and incentivising the influx of renewable energy technology. The country is successfully building one of the biggest wind energy parks in Turkana, aiming to build up supporting industries. The government put in place tax incentives to promote the diffusion of renewable energy. Kenya's least cost power development plan (2011-2031) aims to develop domestic renewable energy resources to reduce the dependence on imported oil and the pressure on forests and vegetation, by increasing the use of Liquefied Petroleum Gas (LPG).

Kenya's electricity sector largely relies on its hydro capacity, similar to Tanzania, which is vulnerable to the impacts of climate change, but has potential for integration with wind energy technologies. The electrification rates are low, and particularly the rural and urban poor continue to rely on biomass as their main fuel.

Kenya's installed capacity adds up to 2.2GW, largely due to a considerable hydropower. Kenya's national power generation utility KenGen owns the main installation, which add up to 750 MW, which can be increased with additional potential in small rivers.

Kenya is central to developing an eastern African power pool which can, with largely hydro and geothermal resources, rely mainly on renewable energy.

The Kenyan government has engaged in a controversial coal expansion aiming to build a 1,050 MW coal-fired power station in Lamu, Kenya. Lamu is an UNESCO heritage site, which has been part of the cause of controversies, as it would lead to large-scale evictions along with the common negative environmental and economic implications of coal.

At the same time, Kenya currently only has a relatively low demand for electricity which adds up to 1,6 GW against 2,2 GW installed capacity. More capacity from renewable energy will be available in the near future, which makes more investments into centralized coal plants redundant. This situation increases the risk of creating stranded assets.

These dynamics raise concerns about the necessity for substantial long-term investments such as coal plants that come with liabilities and lifespans for over 40 years. Kenya has little

domestic coal and would therefore mainly rely on imports. The project plans on including coal-handling facilities at the proposed Lamu Port.

Civil society has recently won a court case that resulted in Lamu failing to receive its license (Dahir 2019). Chinese “debt trap diplomacy” is fueling Kenyan civil society opposition, as Kenya’s debt is \$7.3 billion, which is largely owed to its biggest lender China (Ullman 2019). A second power plant is on the planning in Kaloleni, Kenya.

The Kenyan government reveals its ambition of becoming a “newly industrialized middle-income country by 2030” in its NDC (UNFCCC KE). Kenya’s industrial development will most likely increase emissions from the energy sector. The NDC frames the Kenyan energy mix as “mainly clean with deliberate efforts by Government towards enhancing geothermal, wind, solar and other clean energy development.”

Kenya’s National Climate Change Response Strategy (NCCRS 2010), National Climate Change Action Plan (NCCAP 2013) reveal Kenya’s “clean coal” ambition as part of its energy development, energy efficiency, climate smart agriculture, and drought management. The NDC, however, only mentions “other clean energy” without further specification.

Kenya’s coal expansion, again, raises concerns over its commitments to the Paris Agreement, as well as China’s commitments to reducing emissions from coal. While the Chinese promote renewable energy inside China, coal infrastructure exports are an essential ingredient of its road and belt initiative. Similar developments can be witnessed across the region.

Conclusions and recommendations for the 2020 submissions

This brief has shown the great need for sustainable development outcomes in Sub-Saharan Africa leveraged through climate action. The technological solutions in renewable energy are accessible. Costs are declining and renewable energy technologies become increasingly affordable. The challenge of leveraging the desired SDG outcomes now depends on the incentives and policy design. Policies and measures need to be inclusive and managed in ways that the desired beneficiaries will be able to access and use these technologies to unlock their developmental benefits.

The case studies have shown, however, that the NDCs and the current energy policies operate in two different policy universes, despite them being authored by the same governments. Coal is the single most polluting source of electricity, however, it remains competitive with cleaner renewable energy technology. As long as the Chinese can provide these technologies cost-effectively along with major infrastructural projects, they will understandably be able to tap into aspirations for modernization and traditional pathways for developmental progress nurtured by small ruling African elites.

The open networks in civil society and the international community trying to compete with much smaller ruling communities will face difficulties, as power relations in the decision-making processes remain largely unbalanced.

How can the NDCs then realistically leverage energy-related SDG outcomes?

Some recommendations and entry points for a discussion on how to engage on strengthening the NDC for leveraging SDG outcomes follow:

- NDCs and national action need to be integrated by constructing shared and legitimate narratives of modernization and socio-technical trajectories inclusively
- Research and information needs to empower those who will else miss out on these opportunities.
- Strengthen additional international treaties in support the Paris Agreement, such as non-proliferation treaties for fossil fuels, border tax adjustments under the WTO.
- The international community needs to compete and offer better choices to developing nations in Sub-Saharan Africa to leverage the desired SDG output and to avoid emissions intensive trajectories
- Incentivize renewables in ways that they create benefits for those who need it the most (women empowerment, rural electrification, local industries, integration with grid, flexible energy supply).
- Focus on domestic action that can spur climate action work for local people, finding the sweet spots and win-win situations that will ensure uptake.
- NDC leveraging SDG benefits needs to happen via local climate action in promoting inclusive renewable energy programs (and opposing harmful coal roll outs).
- Strengthen the signal function of the NDC that can leverage international support, local exchanges and learning on how to build RE infrastructure reaping co-benefits while respecting local decision-making processes and sovereignty
- Adaptation still comes first in the climate change narrative on the continent and needs to be prime for building sustainable energy infrastructure in a climate resilient way, keeping the water constraints and other climate impacts into account

In sum, the ability of NDCs to leverage sustainable development outcomes should not be overestimated. NDCs are formal communications to the UNFCCC that aim to meet international expectations and meet national interests in international diplomacy. NDCs are not national government priorities in Sub-Saharan Africa, but they do have signal functions and creates the opportunities for governments to express domestic needs internationally.

The success of international agendas on climate and development depends on their coherence with local action. Domestic policies often move forward without transparent communication or process. Hence, it is essential to address the climate and development problem holistically.

National and international NGOs can work together in supporting Sub-Sahara African nations to successfully meet their sustainable development agendas. The case of the rejected

coal license for the coal plant in Lamu, Kenya, has shown that increasingly well-informed, capacitated and resourced NGOs can make a difference in moving towards NDC compatible energy policy. South Africa has been experiencing similar accomplishments in its nuclear energy policy processes.

The keys to success to meeting NDCs and SDGs in Sub-Saharan Africa are twofold: firstly, the inclusive diffusion of renewable energy technologies, which maximize co-benefits in industrial development, employment, access to electricity and clean cooking fuels in Sub-Saharan Africa; secondly, to successfully prevent building unnecessary fossil fuel infrastructure and to avoid investing scarce resources into future stranded assets.

The Paris Agreement and the Agenda 2030 are very important building blocks in creating conducive environments for supporting sustainable development. However, further trade related measures will have to prevent the continuous proliferation of fossil fuels while facilitating sustainable technology solutions. Only win-win constellations at local, domestic and international levels will trigger much needed change.

References

- Africa Energy Commission (2019) African Energy, <https://afrec-energy.org>
- CSIR (2019) Future skills and job creation through renewable energy in South Africa Assessing the co-benefits of decarbonising the power sector, http://www.erc.uct.ac.za/sites/default/files/image_tool/image_s/119/Papers-2019/COBENEFITS_Employment_Power_Sector_Study%2BExecutive_Report%2BMarch2019.pdf
- Dahir, Abdul Latif (2019) China's plan to help build Kenya's first coal plant has been stopped—for now, Quartz Africa, <https://qz.com/africa/1653947/kenya-court-stops-china-backed-lamu-coal-plant-project/>
- German Development Institute (2019): SDG and NDC Synergies, <https://klimalog.die-gdi.de/ndc-sdg/synergies/Africa/39> (accessed August 19th, 2019).
- Global Coal Plant Tracker (2019) <https://endcoal.org/global-coal-plant-tracker/>
- HDR (2019) Human Development Report and Indicators: The Multidimensional Poverty Index, <http://hdr.undp.org/en/2019-MPI>
- IEA (2017) Energy Access Outlook, www.iea.org
- IEA (2018) World Energy Outlook, www.iea.org
- Mwiti, Lee (2018) Confusion reigns over Kenya's actual electricity generation capacity, Standard Media. <https://www.standardmedia.co.ke/article/2001290115/fact-checker-just-how-much-is-kenya-s-electricity-capacity>
- Nachami, Michal (2018) Climate Change governance in Tanzania: Challenges and opportunities, Policy Brief, Grantham Institute, London School of Economics <http://www.lse.ac.uk/GranthamInstitute/wp-content/uploads/2018/10/Climate-change-governance-in-Tanzania-challenges-and-opportunities.pdf>
- Ockwell, David, Byrne, Rob, Hansen, Ulrich Elmer, Haselip, James, Nygaard, Ivan (2018) The uptake and diffusion of solar power in Africa: Socio-cultural and political insights on a rapidly emerging socio-technical transition, Energy Research & Social Science, Volume 44, Pages 122-129.
- Putnam, Robert D. (1988) Diplomacy and Domestic Politics: The Logic of Two-Level Games, International Organization, Vol. 42, No. 3, pp. 427-460

UNDP (2016): Developing Country Support Needs for the Implementation of Nationally Determined Contributions (NDCs): Results from a Survey conducted by the United Nations Development Programme,

<https://www.ndcs.undp.org/content/dam/LECB/docs/pubs-reports/undp-lecb-INDC-Country-Support%20Analysis-201605181.pdf> (accessed August 19th, 2019).

Service, Robert (2019) Giant batteries and cheap solar power are shoving fossil fuels off the grid, Science Magazine, <https://www.sciencemag.org/news/2019/07/giant-batteries-and-cheap-solar-power-are-shoving-fossil-fuels-grid>

Sourcewatch (2019) Mchuchuma Power Station, Centre for Media and Democracy

https://www.sourcewatch.org/index.php/Mchuchuma_power_station#cite_note-All-2

Thabit, Jacob (2017) "Competing energy narratives in Tanzania: Towards the political economy of coal" African Affairs, Briefing, Oxford University Press, 116/463, pages 341-353

Winther, Tanja, Ulsrud, Kirsten, Saini, Anjali (2018) Solar

powered electricity access: Implications for women's empowerment in rural Kenya, Energy Research & Social Science, Volume 44, Pages 61-74

UN (2015): Paris Agreement, <https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement>

UNFCCC (2015): South Africa's Intended Nationally Determined Contribution (INDC)

<https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/South%20Africa%20First/South%20Africa.pdf>

UNFCCC (2015): Intended Nationally Determined Contribution (INDC) of Mozambique to the United Nations Framework Convention on Climate Change https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Mozambique%20First/MOZ_INDC_Final_Version.pdf

UNFCCC (2015); Intended Nationally Determined Contributions of the United Republic of Tanzania (INDCs) <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/The%20United%20Republic%20of%20Tanzania%20First%20NDC/The%20United%20Republic%20of%20Tanzania%20First%20NDC.pdf>.



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