



**October 2022**

# Policy Brief

## Unlock the bottlenecks

CSOs Call for a Stand Alone National Renewable Energy Policy to unlock Investment Bottlenecks in the Subsector



Photo credit:

Raphael Pouget / Climate Visuals Countdown

This brief was developed by the Sustainable Energy Forum (SEF),  
coordinated by TaTEDO, WWF TZ & Climate Action Network TZ.



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### CSOs Call for a Stand-Alone National Renewable Energy Policy

#### to unlock Investment Bottlenecks in the Subsector

#### SUMMARY

##### Key Messages:

- Even though National Energy Policy (2015) advocates for the use of renewable energy and increased role of private sector; lack of comprehensive strategies and regulatory framework setbacks putting the policy statements into practice.
- Lack of policy implementation instruments created rooms for uncoordinated activities, plans and directives contradicting the broad vision of the National Energy Policy 2015.
- Unpredictable regulatory regimes cautioning to have affected expansion and new investment in renewable energy mini-grid projects in the country.
- Removal or reduction of various taxes on environmentally friendly technologies could increase end-user affordability of the renewable and efficient energy technologies.
- Development of a robust renewable energy policy, strategy and regulatory framework is inevitable in fostering public and private investment into renewable energy.

#### INTRODUCTION

##### Out-dated fossil-based energy system: slowing down development

From the power generation side, nearly 60% of the total installed capacity of electricity production in the country is from fossil fuels ( mainly fossil gas : 57 % ), with only 37% originating from the hydro sources, that varies in times of drought leading to rolling blackouts. Furthermore, a quarter of the produced power is lost due to the poor state of the grid infrastructure. The unreliability of power supply has had a negative impact on the development of Tanzanian industry sector. When it comes to the consumption side, mostly at household level, more than 85 percent of the Tanzanian households rely on biomass fuels for cooking, associated with indoor air pollution and related health issues as well as significant amounts of deforestation.

##### Untapped potential: RE to leverage development

Although Tanzania has excellent wind, solar, geothermal and biomass resources for power production, only 4.85% of non-hydropower renewables potentials are being considered in the Electricity Industry Reform Roadmap to 2025. The country's abundant renewable energy potential offers the possibility to overcome some of the challenges faced by the energy and power sectors. This would lead Tanzania towards economic growth that is sustainable and cost effective. Tapping more of these sustainable resources would facilitate Tanzania's economic transformation, and hence put her in the right direction towards attaining a middle-income status in the next decade.

### INTRODUCTION: UNLOCK THE BOTTLENECKS

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#### Exit fossil fuels

#### Invest in the future

It is widely argued that switching to renewable energy sources requires far less investment into the power sector than new fossil energy sources. There is convincing empirical evidence that sustainable renewable energy sources translate to lower energy costs with positive impacts on inclusive socio-economic development. A study carried out by the IRENA and the LBNL in 2015 found that wind power in Tanzania could displace much of the oil-based power at a third of the cost, due to the high correlation of wind resources with system demand. An examination of the least-cost energy system for Tanzania found that utility-scale solar PV and wind projects could reach 3.7 GW and 1.9 GW by 2030, alongside 694MW of gas-fuelled power plant investment already in the pipeline (IRENA, 2017). This analysis supports the need to reduce the expansion of coal and oil-fired power plants in order to reach the least-cost scenario. IRENA estimates that the overall share of renewables in electricity production, including large hydropower, could reach 78% by 2030. This would require investments of USD 11.4 billion in generation and USD 6.7 billion in transmission and distribution investment between 2013 and 2030. The average generation cost would fall by 17% between 2013 and 2030.

#### Fast-Track RE for 1.5 °C

The ongoing transformation of the global energy system is hastily accelerating to meet the objective of the Paris Agreement to limit the rise in average global temperatures to well below 2°C, and ideally to 1.5 °C, by the end of the century, compared to pre-industrial levels. Where Tanzania commits to reduce GHGs emissions economy-wide between 30-35% relative to the Business-As-Usual (BAU) scenario by 2030.

#### Finding the bottlenecks

It is, against this background, WWF Tanzania commissioned an analytical study to elaborate the national energy policy frameworks to identify the gaps and barriers that undermine public and private sector investment in the renewable energy and divesting from new coal and fossil fuels power plants. This policy brief aim to highlight the findings of the study as well as communicate the policy recommendations to the stakeholders

#### *A Stand-Alone*

#### *National Renewable Energy Policy:*

#### *Unlocks Investments For The Future*

### Challenges and Bottlenecks to Invest in RE in Tanzania

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The Government of Tanzania has ratified a several of international treaties and instituted a range of energy-sector reforms . Further more the government initiated various strategies and programs aiming at attracting private-sector investment into renewable energy sub-sector in her commitment to adopt a green growth pathway by increasing the share of renewable energy in the national energy mix. Nevertheless, investment in renewable energy and hence its development has not been to the expectation. The following are some of the gaps and barriers identified in the analytical study report:

#### **(i) Lack of Energy Policy**

##### **Implementation instruments**

Over the last three decades Tanzania's energy policy and regulatory framework has undergone a series of disjointed reforms notably since 1992. For example; a move from National Energy Policy (NEP) 2003 to NEP 2015 was largely driven by several factors mainly: low private sector participation in large scale power generation; over-reliance on few generation sources; unreliable and expensive energy supply; overdependence on Government

subsidies; low access to modern energy services; and inadequate financial resources to develop the sector. NEP 2015 was therefore formulated to unlock the bottlenecks in the Energy Sector, improve performance and promote efficient use of energy resources. However, major challenges throughout the process have been the lack of comprehensive strategies, plans and legal framework to guide the implementation of such policy aspirations.

## Challenges and Bottlenecks to Invest in RE in Tanzania

### (ii) Lack of a comprehensive Renewable Energy Policy

Even though NEP (2015) advocates for the use of renewable energy and that it acknowledges the need for increased role of private sector in the energy generation and distribution in the country; there is lack of comprehensive strategies and regulatory framework to enable putting the policy statements into practice. The strategy document for the NEP 2015 has not yet been drafted, and neither the needed regulatory framework to enforce its implementation. The situation has been the same for the earlier policy documents (i.e., NEP 1992 and NEP 2003).

Lack of comprehensive strategy, programs and legal framework has created a room for a several uncoordinated activities, plans and directives within the mandated government offices that have partly contradicted the broad vision of the NEP (2015). For example, while the NEP (2015) asserts on increased share of energy from renewable sources while shrinking the share coming from fossil fuels over time, the articulation in the Power System Master Plan (PSMP, 2020) sheds an opposite trajectory. Specifically, while PSMP

(2020) only projects a very marginal increase in the share of energy originating from renewable sources such as wind and solar (i.e. 3.54% and 3.96% from solar and wind, respectively) by year 2044, it projects a sharp increase of the share of energy from coal from 0% to 26.24% by the same period (Fig 1).

At the same time, the PSMP projects a decline in the share of energy from hydro sources and Biomass, both of which renewable sources within the same period. Such mismatch between policy statements and other ongoing government plans creates an uncertain environment on the ‘true direction of the government’ to any potential investor in the renewable energy sources. It is unlikely for the investor to have an appetite to dedicate the resources to generation of wind or solar energy if the government aspirations are on increasing the share of energy from coal, for example.

*A robust stand-alone  
Nationale Renewable Energy Policy  
Will create a predictable and attractive  
Environment for investments in RE*

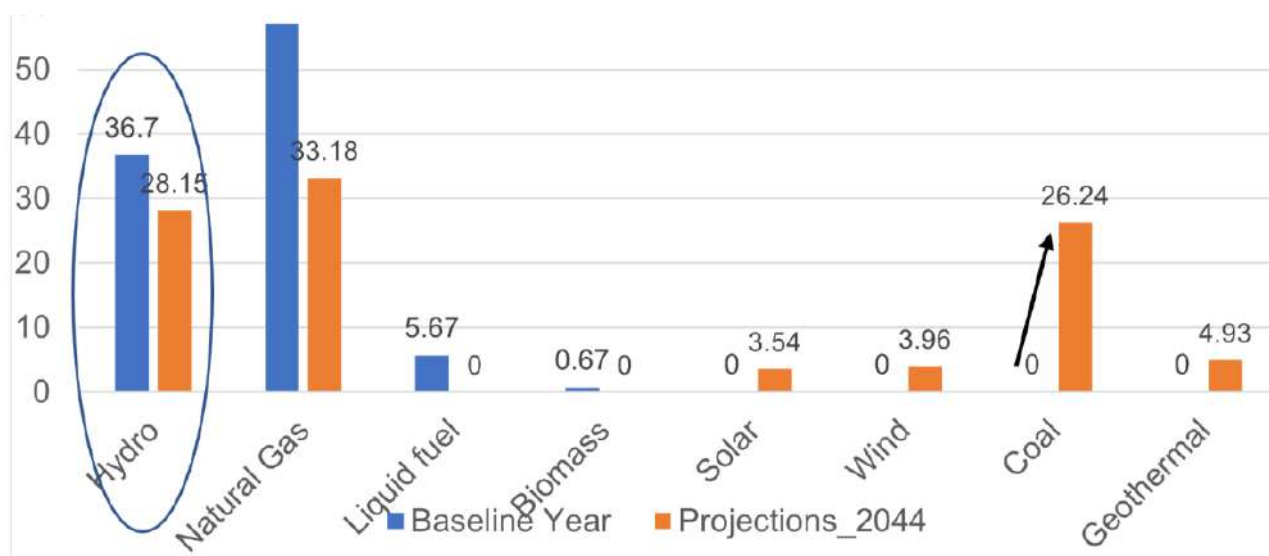


Figure 1: Baseline versus Projected energy shares (%) by sources (PSMP, 2020)

## Challenges and Bottlenecks to Invest in RE in Tanzania

### (iii) Unpredictable Regulatory Regimes

Stable regulatory regime is an important aspect to increasing confidence of any investors. Power generation is an expensive investment. Unpredictable directives by the government create high investment risks. For instance, a case where mini-grid investors were required to charge same tariff of TZS 100/KWH as TANESCO, regardless of their costs of power generation which was against the signed small Power production standardize tariff.

### (iv) High Initial Investment Cost

High initial investment cost is among the barriers facing renewable energy development in Tanzania. The government-supported energy projects can access grants or concessional loans, while private investors interested in financing renewable energy projects cannot access favourable financing terms. Local commercial banks and other local lending institutions are not yet engaged in funding large-scale renewable energy projects.

### (v) Inadequate Transmission Infrastructure Networks

Most renewable energy sites are in remote areas, decentralized in nature; the present general electrical power system in the country is designed to support the requirements of centralized system. This creates technical challenges due to inadequate transmission infrastructure for integrating power generated from renewable energy.

### (vi) Affordability Challenges

Affordability issues revolve around challenges to acquiring specific technologies needed either for production, distribution, or usage of a particular type of renewable energy in the country. This is pronounced by the fact that most of the modern technologies needed for production and distribution of renewable and cleaner energy sources are not locally produced making it relatively expensive to invest into such ventures. For example, tax (including VAT, Import duties and others) attached to importation and distribution of electric pressure cooker (EPC) to end user amounts to 42% of the cost. This implies that exemption of EPC from tax payment will reduce the price of EPC by more than 50% in the market.

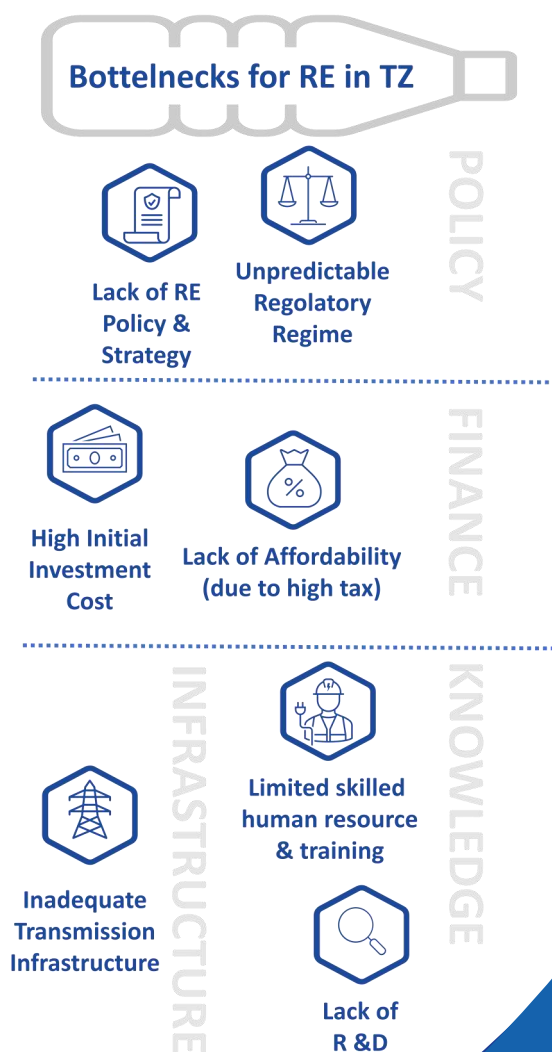
### (vii) Limited Skilled Human Resource and Training

(vi) Limited Skilled Human Resource and Training

Currently, Tanzania has a limited number of trained personnel, training facilities, and institutions to initiate, operate, and maintain renewable energy projects and technologies and projects. This impacts negatively on the investment and development of renewable energy sources. To ensure smooth implementation of the RE Policy and Strategy, availability of a well-trained and skilled workforce is of paramount importance.

### (viii) Research and Development (R&D)

To promote and accelerate technological transfer in renewable energy; research development is crucial for enhancing the exploration and establishment of new renewable energy technologies that can be applied to its development.



## Policy Recommendations

### Recognizing RE potentials

Recognizing the potential contribution of renewable energy to the country’s future energy mix calls for a robust Renewable energy policy, strategy and regulatory framework to foster public and private investment into renewable energy.

### Robust policy and regulatory framework for RE

Government commitment and the policy environment around renewables energy development should be properly guided and protected by a robust policy and regulatory framework.

### Review energy subsidies and incentive

It is necessary for the respective Ministry to review the energy subsidies and incentive scheme to create a reformed and targeted subsidies and incentive scheme which could raise financing for renewable energy projects and attract private and foreign investments to fully harness renewable energy potential.

### Support decentralized energy systems

Government to adopt decentralized energy system that can efficiently and effectively support renewable energy technologies.

### Lower importation cost and taxes for RE technologies

Policy strategies to lower importation costs of sustainable energy technologies could provide a better environment to investors and end-users. Removal or reduction of various taxes such as import duty and VAT on these environmentally friendly technologies could result to relatively lower investment costs needed by the private sector (and increased end-user demand of the respective appliances) and foster their increased participation/investment in the sector.

### Mainstream clean cooking in national energy policy

Ministry of Energy should ensure national energy policy adequately address challenges associated with energy for cooking given the fact that currently biomass energy contributes more than 85% of total energy consumed in the country.

### Human capital development program

Government to implement a human capital development programme to bridge the expertise gap in renewable energy.

### Support and Finance R&D

Government to deliberately support R&D activities through sectoral budget allocation to advance renewable energy development.

