



**UNCTAD 14**  
**Nairobi, 17–22 July 2016**



**Special Session: The role of natural gas in the transition to  
achieving sustainable energy for all in Africa**

**16 July 2016**

## **The Role of Green Energy in Achieving Sustainable Energy for All in Africa**

**CONTRIBUTION**

from

**The Government of Kenya**

The views expressed in this document are those of the author(s) and do not necessarily reflect the views of the UNCTAD secretariat.

# UNCTAD I 4

## GLOBAL COMMODITIES FORUM

### BREAKING THE CHAINS OF COMMODITY DEPENDANCE

---

#### SPECIAL SESSION THEMATIC PAPER

#### The Role of Green Energy in Achieving Sustainable Energy for All in Africa

---

##### **Justification**

The special session on the role of green/ renewable energy in achieving sustainable energy for all in Africa is aligned to sustainable development goal number 7 that seeks to address the following by 2030: ensure universal access to affordable, reliable and modern energy services; increase substantially the share of renewable energy in the global energy mix; double the global rate of improvement in energy efficiency; enhance international cooperation to facilitate access to clean energy research and technology; as well as expand infrastructure and upgrade technology for supplying modern and sustainable energy services for all in developing countries.

Most African economies depend on commodities exchange to stay afloat and any negative tilt in prices at the international market impacts heavily on states returns as well as on industry players and individual farmers. The ensuing effect is inability of governments to sufficiently address the 17 sustainable development goals (SDGs) as their gross domestic products flip flop. The low pricing of these commodities come as a result of very minimal value addition if any thus the export of not only raw materials but jobs as well. Inadequate value addition is not due to lack of technology but because of high overhead costs that make the resulting products non-competitive. One major driver of cost in production process is expensive, inefficient and ineffective power supply especially to the manufacturing sector. Besides stagnating industrialization, inconsistent and inadequate energy supply impacts negatively of SDG 3, SDG 13 and SDG 15 as people resort to the usage of unconventional energy sources such as charcoal, paraffin among others.

## **Renewable Energy Status in Africa**

Although Africa has immense renewable energy potential, harnessing the same is still at a nascent stage. There is still heavy dependence on non-renewable energy such as petroleum and coal. Hong (2014) documented renewable energy targets of North African countries in a study entitled; *An Analysis of North Africa's Capacity to Achieve Renewable Energy Development*. Apart from Algeria and Egypt that are net energy exporters, Morocco and Tunisia depend on energy importation to supplement their domestic consumption. The 2 net exporters are not safe either due to the growing domestic demand. The four countries have individually come up with plans to diversify from overreliance on fossil fuel by tapping on the abundant solar and wind energy. Algeria expects to have 15% of its total electricity generation from renewable sources by 2020 and increase the same to 40% by 2030. Egypt expects to have 20% of the country's electricity requirements met by renewable energy sources by 2020 while Morocco pegs its target at 40% by the same year. Tunisia on the other hand plans to have gradual increment of electricity generation from renewable sources so as to actualize an installed capacity of 40% by 2030. So far, only Algeria has a feed in tariff programme in place out of the four countries while Egypt has implemented its net-metering programme. Tunisia has taken to net-metering while Morocco has neither of the programmes.

Another study by International Renewable Energy Agency (IRENA) in 2015 underscores the enormous energy challenge that Africa faces. Incessant power shortages has dwarfed industrialization in most countries subjecting rural areas to underdevelopment, poverty and poor health. Although Africa is blessed with fossil based and renewable energy sources, continued reliance on oil and gas have perpetuated considerable social, economic and environmental constraints. Apart from the North African governments, Ethiopia, Kenya and South Africa are also leading in the effort of tapping on the renewable energy sources. Swaziland, Rwanda and Djibouti had set ambitious targets as well. To promote renewable energy solutions, Kenya has developed a Feed-in-Tariff (FiT) policy. Under the FiT system, investment security, market stability for investors in electricity generation and renewable energy solutions is provided while encouraging private investors to operate their power plants efficiently to maximize on returns.

Another case in point is Tanzania. Although it is endowed with abundant renewable energy resources, which could be key to meeting the country's energy demands, the renewable energy excluding hydropower accounts for only about 4.9% of generation capacity. Tanzania faces a number of challenges that are not are not unique to it but cut across most African

countries. These challenges range from lack of policy and regulatory framework for the renewable energy subsector, inadequate expertise to undertake feasibility studies to make energy projects bankable, to economic and financial constraints.

Although it doesn't fall under the renewable energy bracket, natural gas resources is another energy source that is underexploited by most African countries. Proven natural gas reserves are estimated at 496.860 trillion cubic feet representing 7.8% of the world's total reserves. Nigeria, Algeria, Egypt, Libya and Angola have the most important gas reserves totalling 463.643 trillion cubic feet and accounting for about 94 per cent of Africa's total reserves. Nigeria and Algeria have the largest gas reserves totalling about 340 trillion cubic feet (178.52 and 161.74 trillion cubic feet respectively), accounting for more than 68 per cent of Africa's total reserves. North African countries excluding Morocco have combined gas reserves estimated at about 280.71 trillion cubic feet representing about 56.5 per cent of Africa's total gas reserves. A number of African countries are also endowed with natural gas reserves, which are not associated with oil production. These include Ethiopia, Mozambique, Namibia, Rwanda, Democratic Republic of Congo (DRC) and Tanzania. Gas reserves in sub-Saharan Africa are increasing with new discoveries from deep-sea exploration activities in Angola, Equatorial Guinea and Nigeria.

To make the continent energy sufficient, there is need for appropriate policies, regulatory and governance frameworks, long-term strategies for the renewable energy sub-sector as well as ease in access to the financial markets.