Microfinance and Polycentric Governance as Strategies for Renewable Energy Deployment in Urban Sub-Saharan Africa

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EXECUTIVE SUMMARY

Sub-Saharan Africa (SSA) is one of the least electrified regions in the world and also a region that is characterized by poverty and inequality due to high levels of climate change vulnerability. In order to reduce greenhouse gas emissions and facilitate the attainment of the Sustainable Development Goals, SSA policymakers are compelled to devise new innovative strategies and policies to enhance investments in renewable energy technologies (RETs). Accordingly, this chapter provides an assessment of some strategies to accelerate RET deployment and the potential of polycentric governance systems to improve RET deployment. The assessment concluded that even though renewable energy investments through climate finance and microfinance modalities are not at a level sufficient to ensure that universal energy access can be attained in the region, SSA can still accelerate its progress on RET deployment by utilizing nationally determined contributions as instruments to direct South-South aid, trade, and investments into priority renewable energy sub-sectors.

BACKGROUND INFORMATION

A lack of access to modern energy and electricity is noted to be one of the factors that exacerbates poverty and inequality in Sub-Saharan Africa (SSA) and makes SSA to be the most physically and economically backward developing and poverty-stricken region in the world (Suberu et al., 2013a). Some studies have estimated that the global electrification rate stands at 80.5% of which the rural electrification rate is 68% and the urban electrification rate is 93.7%. However, SSA is estimated to have an electrification rate of 30.5% of which the rural electrification rate is 14.2% and the urban electrification rate is 59.9%, and North Africa is estimated to have an electrification rate of 99.0 of which the rural electrification rate is 98.4% and the urban electrification rate is 99.6 (Javadi et al., 2013). Some of the reasons that have been cited as the causes of the low rates of electrification in SSA include limited capital investment, lack of technological knowledge on renewable energy development, constricted power generation planning, high cost of electrical energy generation and high transmission losses (Suberu et al., 2013b). This therefore means that renewable energy deployment is constrained by various financial and management aspects which could consist of a combination of internal and external factors. Accordingly, internal factors are constraining factors that lie within a firm's environment and are largely controllable by the firm whilst on the other hand, external constraining factors consist of market and infrastructure aspects that lie outside the direct influence of the firm such as the policy and regulatory environment, infrastructure policy, consumer awareness and technology availability (Abdmouleh et al., 2015).

An estimated 68% of current total anthropogenic greenhouse gas emissions emanate from energy related-activities (Suberu et al., 2013a) hence there is a great threat that increases in energy access and demand in SSA can potentially lead to rises in anthropogenic emissions of greenhouse gases which result in climate change (Lau et al., 2013). Climate change has already been cited as a factor perpetuating poverty, food insecurity, migrations and social conflict in Africa, and could potentially put an additional 100 million people in extreme poverty by 2030 (Hallegatte et al., 2014; Hallegatte et al., 2016). Consequently, the Sustainable Development Goals (SDGs) are calling for state and non-state actors to put in place policies and mechanisms that can reduce the vulnerability of communities to climate related extreme events, and other economic, social and environmental shocks and disasters (UN, 2015). It is in the light of these developments that renewable energy technologies (RETs) are now considered to be vital for climate change mitigation as they can secure energy supply and access whilst contributing to social and economic development and reducing negative impacts of energy supply on the environment and health (Edenhofer, 2011).

RET deployment in SSA has historically been constrained due to a number of reasons. However, there is now potential for RET deployment to be undertaken