Energy SMEs in sub-Saharan Africa: Outcomes, barriers and prospects in Ghana, Senegal, Tanzania and Zambia - DTU Orbit (04/08/2019)

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This report presents the findings of research into the main outcomes of government and donor-backed efforts to promote small and medium-sized energy businesses (energy SMEs) in sub-Saharan Africa. The research follows an outcome analysis methodology. The focus is on four countries: Ghana, Senegal, Tanzania and Zambia and primarily on UNEP’s AREED programme (2002-2012). This research focuses on the ‘contributing factors’ – a deliberately broader term that incorporates external and internal ‘success factors’ – for energy SMEs, about which much has already been written. Indeed, the research findings presented in this report reaffirm most of what has been concluded in previous studies, including Kolominksas (2003); Mehlwana (2003); Denton (2006) and Napier-Moore (2006). These studies identified the lack of access to affordable finance as the being the predominant, persistent, barrier to establishing and scaling up a commercially viable energy SME sector, emphasising the lack of strong policy support from governments, poor business skills capacity and the high cost of many RETs as related cause-and-effect barriers.

While these issues continue to characterise, to a greater or lesser extent, the energy SMEs sectors in the countries studied for this research, it is more relevant to revisit the main assumption behind AREED and other donor-backed programmes designed to promote energy SMEs. The assumption is that the solution to the aforementioned barriers would be overcome by a ‘demonstration effect’ whereby successful energy SMEs, supported by donor-backed programmes, influence the commercial financial sector to invest in energy SMEs, thus triggering a virtuous circle of growth and profitability. Experiences drawn from a decade of AREED support across four of the project countries reveal both the presence (Ghana, Senegal) and absence, or weak presence, of this demonstration effect (Tanzania, Zambia). This is a central question, and one which was not the focus of previous research, presumably because the answer was not fully apparent prior to 2006 when the last substantial work was conducted.

Where there is an absence, or weak presence, of a demonstration effect a number of explanatory factors can be identified. These include, inter alia, the lack of an entrepreneurial culture; an SME ‘dependency syndrome’ perpetuated by grant-based support from governments and donor agencies; persistent shortcomings in business skills capacity; lack of clearly defined markets; demand-side barriers to purchase relatively high capital-intense energy products.

Where numerous energy SMEs are in operation and thus where a valid demonstration effect can be identified, there is a perceived paradox that serves to undermine commercial interest in investing in energy SMEs. The paradox is that the donor-supported businesses that were issued with concessional and/or flexible loans serve to demonstrate that these businesses depend upon such concessional terms, i.e., that they could not survive in ‘the real world’. While this assumption is widely regarded as self-evident by private investors, there are in fact other, more concrete, factors that act to undermine the demonstration effect. These include, inter alia, relatively high transaction costs of investing in SMEs; the inherently complicated nature of energy sector SMEs with longer supply chains and slower pay-back periods for capital-intensive technologies such as solar PV; rigid rules regarding the need to secure collateral. These factors can be understood as structural issues that conspire to increase the financial risk of investing in energy SMEs and thus are not the product of ignorance on the behalf of the banking sector. In the countries studied for this research, these factors are compounded by the high opportunity costs for banks where higher rates of return can be secured from investing in high-turnover businesses, for example those trading in high-volume, perishable goods. There is also a more general challenge faced by a range of SME entrepreneurs where such individuals and businesses are considered by banks to have an inherently higher risk profile, a factor which, to some extent, appears to be the product of ‘anti-SME’ discrimination, where investors favour larger corporate players operating under licence, often backed by strong branding, reputation and/or political connections.

There is evidence that government in the countries studied is now more receptive to the concept of energy SMEs. For example, most governments have eased the burden of red tape that traditionally surrounded business registration in many African countries and some governments, such as Senegal, have set up government departments whose sole purpose is to support SMEs. However there is a predominant view among stakeholders, across the countries studied, that governments are ineffective in designing and implementing tangible support for energy SMEs, despite politicians often providing strong rhetorical support. As such the establishment and success of energy SMEs more often depends on support provided by donor agencies or NGOs that can provide technical assistance and/or subsidised loans. This point highlights an important status quo, and an issue that was itself one of the key rationales behind supporting energy SMEs in the first place, i.e., to by-pass government in efforts to supply sustainable energy technologies to low income consumers by supporting SMEs. However, early experience with the practical challenge of supporting energy SMEs led observers, including Denton (2006) and Napier-Moore (2006), to consider the role and importance of an ‘enabling framework’ necessary for energy SMEs to function and thrive. While this issue would appear to present itself as a chicken-and-egg dilemma, the research findings presented here from Senegal, and to a lesser extent with Ghana’s LPG market, do suggest that conducive economic and regulatory conditions are a prerequisite for scaling up the commercial success of energy SMEs. At the same time, one of the well-understood success factors for specific energy SMEs is the head start given to relatively mature technologies that are reliable, easy to understand and suitable for local distribution, thus presenting a ‘low-hanging fruit’ opportunity for SMEs. LPG and fuel efficient cook stoves are the obvious technologies that have proven to be most commercially viable, and indeed the failure to conduct in-depth market testing for energy products and services has been a major cause of commercial failure for otherwise well organised and motivated SMEs.

A major geographical outcome is that energy SMEs continue to mostly operate in, and supply, urban and peri-urban markets. As such, programmes (including AREED) that were originally intended to address the rural market, where traditional fuel use accounts for major social and environmental impacts, have largely failed. This is due to low levels of entrepreneurial capacity, higher transaction costs for supplying a dispersed rural market, and demand-side barriers for capital-intensive RETs. However this market focus is not unique to the energy sector and entrepreneurial talents and opportunities tend to dominate in urban areas, across all sectors.