Barriers and Opportunities for SMME Participation in Renewable Energy Industry

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INTRODUCTION

Renewable energy can be explained as energy that is derived from natural resources and processes, that are not depleted but replenished at a rate that is faster than the consumption thereof (International Energy Agency, 2018). This form of energy has gained a lot of interest as a result of its advantages over the conventional energy generation from fossil resources that are currently depleting and results to pollution. South Africa in-line with the energy transition to low-carbon, by introducing the renewable energy into the energy mix, established the Integrated Resource Plan 2010 for electricity, which stipulates the energy composition for the country, by the Department of Energy (DoE) (Department of Energy, 2013). This plan was promulgated in March 2011 and has been the basis for the establishment of the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP), to facilitate introduction of renewable energy into the grid.

Below are some of the renewable energy technologies CSIR is involved in.

Figure 1 Renewable energy technologies

PROBLEM STATEMENT

The procurement of renewable energy through the REIPPPP, which began in 2011, has attracted R201 Billion investment from both local and foreign investors from bid round 1 to bid round 4. The REIPPPP economic development rules requires IPPs to commit to a certain percentage of their revenues to enterprise development.
According to the IPP Office Report (2017) enterprise development commitments are made as percentage of revenue of the operating IPPs. The target for IPPs to spend on enterprise development is 0.6% of revenues over the 20 year project operational life, which amount to an average of R320 Mil per annum for Round 1 to Round 4 projects. Despite these reported commitments, SMME participation in in the core value chain of renewable energy remains minimal.

The purpose of this study is

i. To establish an industry view on participation of SMMEs in the renewable energy value chain
ii. To consolidate the information relating to barriers and opportunities for SMME participation in the REIPPPP and package it in the form of a guide for SMMEs

METHOD

In order to identify opportunities that facilitate and the challenges that prohibits the SMME from participation in the core value chain of the renewable energy, a desktop study was conducted. The desktop study focused on analysing renewable energy the policy and market in south Africa, and further analysed different value chains within the renewable energy sector, in order to identify parts of the value chains where SMMEs can play a role. The study followed a qualitative research method, using interviews as a method of primary data collection. Because of a small number of participants this method does not presume to represent the wider population, but enables the researcher to present detailed snapshots of the participants under study. Key industry role players including project developers (IPP), equipment manufacturers (OEM), construction companies (EPC) and other industry role players were interviewed. The focus of the interviews was on opportunities, challenges and possible solutions for better representation of SMMEs in the renewable energy value chain. The results were analysed by means of grouping responses according to emerging themes and building a narrative according to those themes.

RESULTS

1) Barriers of entry into RE industry for SMME

The graph below represents the challenges that were outlined by the industry players that were interviewed, who had an interaction with the SMME within the renewable energy industry. The number of participants that have identified the issue as a barrier for the SMME, as expressed in percentages. Thus, a 100% means all participants identified the issue as a barrier. Below are the challenges that were quite common amongst the participants, with items in bold indicating a high intensity:

- **Advertising opportunities not standardized, contract work opportunities missed**
- **Lack of experience & track record**
- **Local content not enforced**
- Lack of financial resources for upfront compliance
- Lack of resources for working capital
- **Lack of equipment- high capital investment**

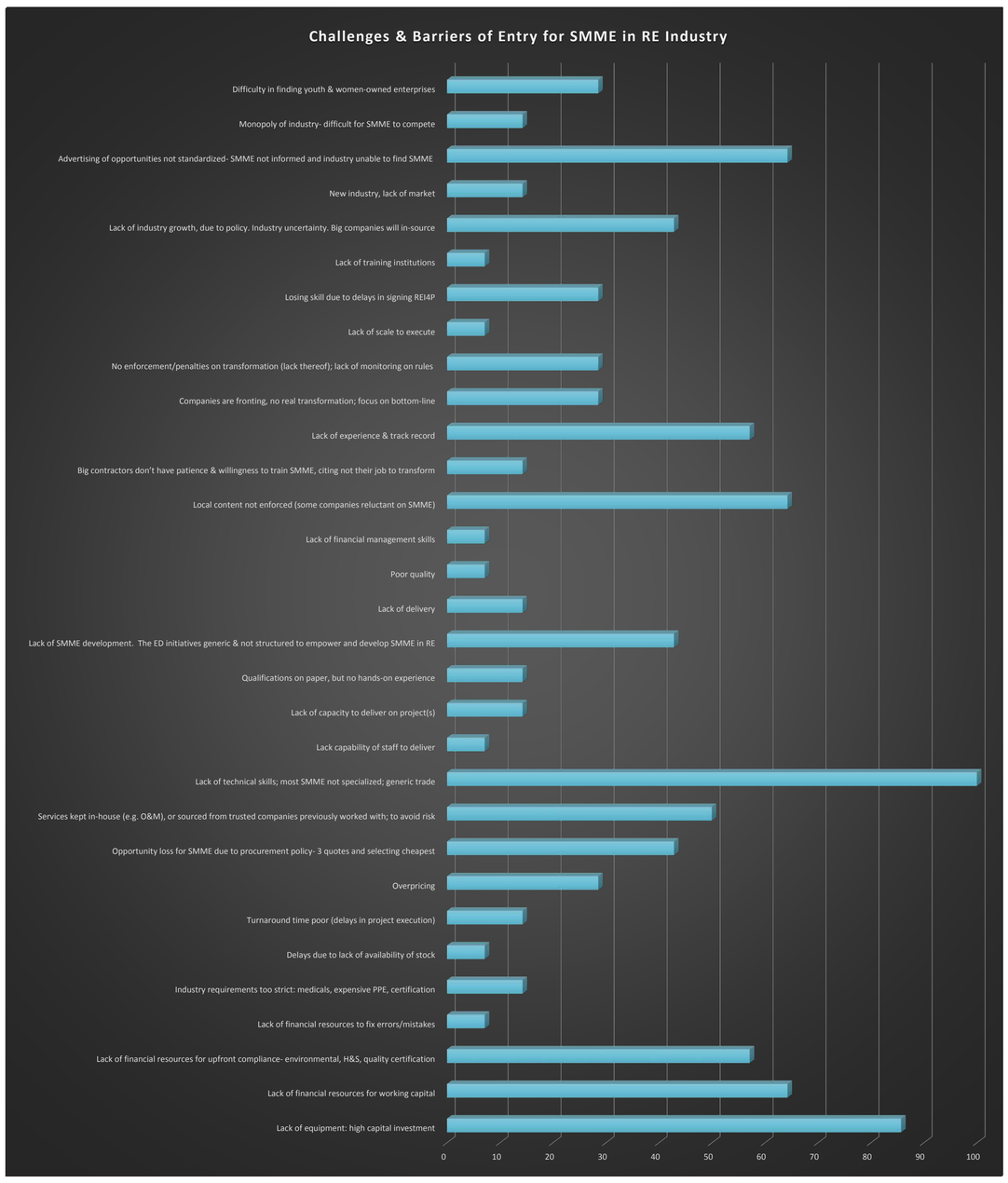

Figure 2 Barriers of entry for SMME participation

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2) <u>Opportunities available for SMME participation</u>

The research participants identified opportunities that SMMEs can tap into within the renewable energy value chain. It was noted SMMEs often benefit from providing auxiliary services such as cleaning, catering, security, etc. These are seen as “low hanging fruits” as they do not require specialised skills. However, is was also noted that there are several opportunities that SMMEs can tap into, if barriers can be sufficiently addressed. Figure 3 illustrates opportunities at different stages of the value chain that were identified by research participants.

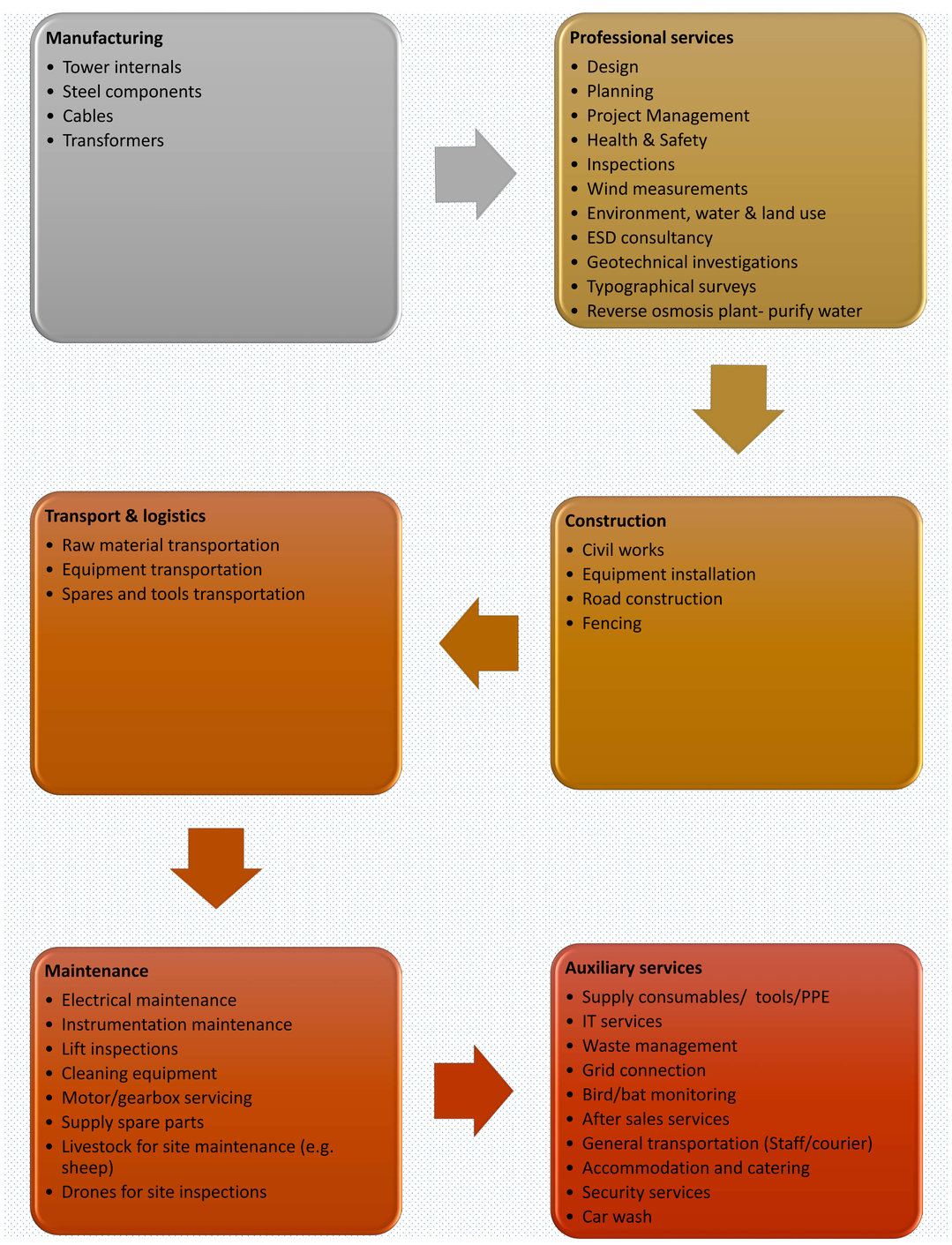

Figure 3: RE value chain opportunities

These opportunities include:

- Manufacturing – although barriers for entry are high for SMME, there are components that can be manufactured small businesses such as wind tower internals, steel components, etc.
- Professional services – this presents opportunities for small consulting firms to provide services at project development stage, during construction, and during operation and maintenance
- Construction – presents opportunities for sub-contracting of SMMEs in areas such as civil works, electrical installations, fencing, etc.
- Transport and logistics – presented the least opportunities for SMME to participate. However, it is technology specific, where small components can still be handled as opposed to other technologies that have big components that needs specialized vehicles such as wind tower.
- Maintenance – has been identified as another area that presents opportunities for SMME. However operation of plants as it is linked to performance is kept in house by equipment manufacturers.
- Auxiliary services – present most opportunities for SMME participation.

DISCUSSION

SMME participation in the renewable energy value chain remains a challenge. Construction of renewable energy plants needs to meet very strict quality standards which needs experienced companies with a strong financial muscle. While several challenges have been identified that prohibit SMMEs from obtaining business opportunities in the renewable energy industry, there is an opportunity for government to establish programmes that prepare the small companies to get to a state of readiness when these projects are built. These programmes could include technical support, incubation, financial support and certification. If enterprise development criteria of the REIPPPP could specify that a certain percentage of the funds be spend to develop renewable energy companies, that could strengthen SMME participation.

A vast number of opportunities exists for SMME participation in the core value chain; that are within reach without high capital investment requirements in order to participate. A number of these opportunities were identified across the entire value chain, with very limited role for SMME in Operation and Manufacturing.

CONCLUSION

The renewable energy industry is at its infancy in South African, a certain degree of reliance on international expertise is expected; however, with time, skills transfer needs to take place to allow local participation. This can be achieved with all parties working towards achieving that goal by enabling the environment for it to be conducive for SMME to play key role in the sector.
Support needs to be given to SMME in terms of coaching, mentorship and financial resources. In addition, SMME also need to strive for excellence, get specialized skill and aim for an above-average service delivery.

RECOMMENDATIONS

The industry made suggestions for all stakeholders, to alleviate the current challenges and to enable the SMME to take advantage of opportunities available. Figure 4 indicates recommendations proposed by the study participants.

Figure 4 Possible solutions to alleviate challenges

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