The Mega-Project Paradox: Is the "New-Build Programme" the last mega-project South Africa will see this century?

1. Overview

Projects are constructed daily across the globe. However very few of these are mega-projects. These mega-projects are deemed grand in scale and are designed to serve millions of people. Over the years a trend has emerged where these projects are having increasing problems related to time and cost overruns – despite issues related to labour, poor project management, reduced ROI, poor design and non-completion – increasingly mega-projects are being built. Therein lies the mega-project paradox.

Mega-projects are now facing major external market disruptors such as the spread of solar PV, economic growth in sub-Saharan Africa, diversification of the energy mix, changing consumer dynamics and market structure. One of the biggest threats to utilities is the changing regulatory reform and the move to 'prosumers'.

This study analyses mega-projects globally and then zeroes in on Africa and in particular South Africa. Its objectives are:

(1) To establish if more mega-projects are still being built globally, and if so in which countries?

(2) To identify the funders or financiers of these mega-projects,

(3) To characterise the feasibility and sustainability of these mega-projects given the risks and challenges associated with them.

Eskom is South Africa's energy utility and the largest utility in Africa. Given its delayed and expensive New Build programme, the question then arises – will Eskom embark on another mega-project build in this century.

This study reveals that mega-projects have sublimes which perhaps influence investment in them – political, economic, technological and aesthetic sublimes. In addition to these sublimes the social pacts these mega-projects bring are one of the biggest drivers for their investment. Furthermore, the future utility model has changed and Eskom will not survive the utility death spiral unless it adapts.

2. Methodology:

Literature scanning; Quantitative data sourced from secondary sources (Infrastructure Journal Global Project Finance); Survey

3. Expected results

Mega-projects are still being funded and at a growing rate. The single cause of this increase is unknown but can be attributed to a number of factors such as social compacts, diversification of the energy mix, growing electricity demand growth and energy security. Most of these mega-projects are in the United States, Europe and the Middle East and are funded by lenders from the Far East as well as Europe. With regards to the feasibility of funding mega-projects given their challenges the response was a mixed bag of outcomes. However despite declining electricity

demand globally, a tightening of the capital markets, mega-project paradox issues it seems that the financing of mega-projects continues much to an alarming rate. Despite the imminent utility model and changes around regulation these mega-projects persist, perhaps leaving the utility in financial straits later or with a stranded asset.

4. Conclusions

- Eskom to submit to market liberalisation and its unbundling
- Following unbundling, Eskom to split its generation business into renewables and thermal
- Eskom (as a newly formed renewables company) to go into partnerships with IPPs and diversify away from mega-projects to off-grid solutions, micro grids, grid based renewables, rooftop solar installations
- The Independent System Market Operator to be introduced and operationalised
- Eskom to decommission its old coal plants immediately, particularly those scheduled for decommissioning
- The integrated resource plan to be updated every three years taking into account demand conditions, least cost models and market trends
- Future mega-project technology decisions to be dispatchable with the ability to track both renewables and off-grid technologies
- The addition of ICT in the grid to give real time data and manage the grid diversification

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