“THE SMART CITIES ARE OFFLINE” – THE IMPACT OF THE ENERGY CRISIS ON THE DEVELOPMENT OF SMART CITIES.

Category: Administrative and Procurement Law,Commercial Law,Infrastructure and Telecommunications,IT Law
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Smart cities are a pathway to connecting and improving the quality of life of its inhabitants, business and government. They feature the use of information and digital technologies in running a more sustainable and efficient environment. In South Africa, the government intends on establishing new smart cities across the country and as part of its agenda to develop a smart South Africa.

Although the move to smart cities will advance the country, there exists a plethora of challenges which threaten these plans. One of these challenges, is the energy crisis in South Africa. Over the past decade, South Africa has been impacted by power cuts, which occur on a daily basis. Depending on the load-shedding stage implemented, some areas, including the big cities may experience power cuts for more than two hours a day. Power cuts are a major issue because electricity drives the economy. Continuous power cuts pull the plug on economic growth and development. For the government to succeed in its smart city plans it requires an imminent solution to stabilise the country’s energy crisis.

Smart cities need an infrastructural and energy plan. The National Infrastructure Plan 2050 Phase I (“**NIP 2050**”), by the Department of Public Works and Infrastructure sets out four strategic target areas which include, energy infrastructure, freight transport infrastructure, water infrastructure and digital communications infrastructure.[1] In the energy sector, the NIP 2050 focuses on sustainability, low-cost energy and commissioning a decentralised generation of energy with the goal

to provide smart energy networks and renewable energy.

Smart cities make use of technology and are composed of smart energy, smart infrastructure, and smart technology (this is not an exhaustive list).[2] Enabling the use of technology especially in the energy sector can stabilise the ongoing power cuts and promote efficiency and sustainability in energy use. Similarly, technology can aid in other public services such as water, healthcare, transportation, and housing contributing to the vision of a Smart South Africa which benefits its residents, business, and government.

Moving forward, the South African government will need to structure implementation plans and make use of digital solutions to address the energy crisis. Smart cities operate on smart energy, and integrating the use of technology in the energy sector will assist in achieving the goal of a smart South Africa.

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[1] National Infrastructure Plan 2050 (NIP 2050) Phase I

[2] Mohanty S P "Everything You Wanted To Know About Smart Cities" *ResearchGate* 2016 1.