

The Impact of Surveying and Mapping in Transforming Ghana's Energy Sector; A Case Study of Electricity Company of Ghana (ECG) Asset Mapping Project

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SUMMARY

Reliable energy supply remains a critical factor for socio-economic thrive for most nations. Since the past decade, Ghana has experienced severe electricity supply challenges costing the nation an average of US \$2.1 million in loss of production daily . The losses has been drain on ECG's financial ability to pay power generators and distributors, pay employees and contractors made up of field engineers and technicians, repair and maintain their resources, and extend their service to un-electrified communities which has led to persistent and unpredictable power outages over the years.

A recent study conducted by the Africa Centre for Energy Policy (ACEP) alludes these loses to illegal power connections, tempering with meters and SHEP meters connected to the national grid without distributions agents' knowledge. However, through surveying and mapping initiative under the ECG Asset Mapping Project, Losamills Consult Limited has developed geospatial solution which is helping ECG to identify illegal connections and tariff inconsistencies, improve revenue generation, develop accurate navigational map for field operations and ultimately ensures reliable electricity power supply in Ghana.

The methodology involved three processes: (i) Capturing of field data of all ECG assets including meters, poles, pylons, transformers, customers location using Navcom LandPak GPS ; (ii) data editing and attribute data standardization using ArcGIS; (iii) automating categorization of map features into AutoCAD using LSM Escript application. Evidently, this project has been instrumental in arresting, prosecuting and recovering huge sums of money from illegal connection offenders. In 2021 ECG identified 1,537 illegal connections across the country and recovered GHC 6.2 million from offenders .

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