

ABSTRACT

The Roles That an Energy Information System Play in the Efficient Implementation and Sustainable Management of an Energy Management Programme and the Implications These Have on Energy Usage Trends and Probable Impact on Energy, Building and Procurement Policies

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Jamaica, like many small island developing states, has very low rates of energy efficiency and exceptionally high cost of energy, which are inimical to the country's economic growth. This thesis demonstrates the roles of an Energy Information System (EIS) in identifying energy wastes, improving energy efficiency and reducing energy costs in buildings and facilities. It outlines the impact that EIS can have on wider developmental issues and sustainable development in general.

The thesis relies on the International Performance Measurement and Verification Protocol. This methodology bases on a comparative analysis of quantitative data before and after the implementation of Power Factor intervention. It includes setup of an EIS; data analysis; design of power factor intervention; evaluation of energy and dollar savings; and, analysis of energy, building and procurement policies implications.

The thesis establishes that an EIS is essential to a successful Sustainable Energy Management Programme and achieves this by using the University of the West Indies, Mona campus as a case study site. It demonstrates that an EIS is a cost effective solution for Jamaica that could rapidly reduce its exceptionally high-energy costs and high dependence on fossil fuel imports; significantly improve energy security and environmental stewardship; and, influence the formulation of energy, building and procurement policies towards Jamaica achieving developed country status by 2030.

Keywords: Stanley George Smellie; Energy Information System; Sustainable Energy Management.