

Assessment of Energy Efficiency Strategies of Public Libraries in Lagos, Nigeria

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ABSTRACT

Public libraries are social institutions that provide free, undiscriminated access to a wide range of knowledge, information, and resources to the communities they serve. These inclusive spaces serve as key facilities to foster literacy, facilitate lifelong learning, and uphold sustainable communities. With heavy reliance on public budgets and a responsibility to promote environmental stewardship and sustainability, energy efficiency is crucial to public libraries to lower operational costs as well as serve as beacons for environmentally conscious design. Lagos, being the world's fastest-growing city, was selected for this study because its rapid urbanization emphasizes the need for energy-efficient building designs. This paper seeks to investigate the adoption of energy-efficiency strategies by Public Libraries in Lagos, Nigeria to understand how the various strategies can be applied in the design process. Data were collected through carefully crafted observation guides and analysed using content analysis and the findings show that cross ventilation, window shading and the use of bright colours are some of the strategies commonly adopted by the public libraries. The study also recommends the consideration for building orientation, the thermal envelope as well as the use of active strategies such as occupancy sensors and lighting controls for future developments in Nigeria. The study is limited to its geographical context, Lagos state, Nigeria. Therefore, due to the contextual requirements of energy-efficient design, some principles discussed in this study may not be applicable to other geographical contexts.

Keywords: Energy efficiency, public library, design strategies, sustainability

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