

ABSTRACT:

Title: Energy Consumption for Small and Medium Enterprises (SME's)
Subtitle: An Investigation into the use and cost of energy to small and medium enterprises and the benefits of implementation of energy efficiency strategies.
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Submission Date: 31st August 2010

Purpose: This dissertation arises as a result of energy costs facing Irish small and medium enterprises (SME's), the purpose is to identify the most cost effective methods of reducing energy costs through utilising modern technologies and equipment in conjunction with proactive management behaviour. The research will contribute to the current body of knowledge on energy efficiency and will develop recommendations to the construction industry, SME's as well as planning authorities and incentive schemes.

Methodology: The proposed research strategy aims through the literature review to identify how other countries have dealt with this issue, what lessons are applicable to the Irish market. In order to identify the key issues encountered by SME's, the use of case studies of six enterprise centres has been adopted as the research strategy to explore energy issues facing SME's. Questionnaires have also been utilized to ascertain among industry professionals the best method of reducing costs in these buildings.

Findings: The research found that there are numerous reoccurring issues facing small and medium enterprises trying to minimize their energy costs. There were a number of factors which were critical to the success of an energy management plan, the first issue was awareness, it was discovered in the case studies that only one of the six participants had knowledge about where energy was not being utilized effectively. Another issue was management behaviour, management have a choice the control the energy through user control or management control, both of which require significant management commitment. Post occupancy evaluations need to be adopted as a standard operating procedure amongst construction organizations to learn from previous mistakes in order to build smarter in the future. Change to energy efficiency planning guidelines and incentive schemes have also been identified as critical to improving building's energy efficiencies.

Keywords: *Small and Medium Enterprises, Energy Costs, Energy Efficiency, Management Behaviour, Lessons Learned.*