

TITLE OF MASTER THESIS

Financial Assessment of Energy Improvement for Public Buildings

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ACADEMIC YEAR

2014 - 2015

ABSTRACT

The aim of this thesis is to calculate the possible economic benefits for the Greek State arising from the implementation of energy saving measures in public buildings and in particular in primary and secondary school buildings. The 1st Gymnasium (high-school) Anatoli, Ioannina was chosen for this case study. In the context of this thesis, an energy efficiency review was carried out in accordance with the Energy Efficiency Guidelines for Buildings. Energy consumption was calculated using TEE KENAK (V. 1.29.1.19) software, on which we based our decisions for optimal interventions to upgrade the energy efficiency of the building. Following that, we recalculated the building's energy consumption and quantified the expected energy savings. By completion the Price List of the Tender, the expected cost of implementing the project was determined, taking in count that the project would be co-funded. A cost benefit analysis was undertaken of implementing the suggested investment. The most prevalent investment evaluation index was used to evaluate the suggested investment. Moreover, a sensitivity analysis towards capital investment, cash flow and other suggested interventions was conducted. Finally, a SWOT analysis was also carried out.

KEYWORDS

Financial assessment, energy improvement, public buildings.