

## Abstract

This report presents two separate studies focused on energy efficiency in the food industry. The first study analyzes the thermal energy systems at Al-Hijaz Chocolate Company in Palestine and proposes strategies for reducing electrical consumption while maintaining efficiency. The study includes a feasibility analysis of proposed strategies and emphasizes the importance of renewable energy sources. The second study outlines strategies for reducing energy consumption in a factory, including replacing filtration fans by heat recovery units, installing a VRF ducted system, and adding a VFD controller to the chiller system. Economic feasibility studies were conducted for each strategy, and the report concludes that implementing these changes could result in a 20% reduction in electricity costs for the company. The document highlights the importance of energy conservation and sustainability in the industrial sector and provides references for further reading. We recommended this study for applying to get fiscal profit by saving energy consumption in the thermal system. Which the total investment is 165000 NIS, it will save about 34000 NIS per year, simple payback period 4.7 years. So it's economically feasible to apply.