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# ISO 50001 (energy management) in food industry

Babak Pakbin

Institute of Standard and Industrial Research of Iran  
Qazvin, Iran  
B.pakbin@alumni.ut.ac.ir

Mahmood Reza Taheri

Institute of Standard and Industrial Research of Iran  
Qazvin, Iran  
Standard@isiri.org.ir

**Abstract**— Energy management that certificated by an international standard system named ISO 50001 can be implemented in industry such as food and beverage industry and this has investigated in this study by review on recent advances and researches. ISO 50001 certificate can assure the energy efficiency and management in food manufacturer unit during producing process. PDCA system (Plan, Do, Check and Act) that considered as protocol for ISO 14000 and 9000 also has used for ISO 50000. Pepsi Company is the first manufacturer that has implemented the ISO 50001 protocol.

**Keywords:** ISO 50001; Food industry; Energy management

## I. INTRODUCTION

### A. Energy management

The principal business of an industrial facility is making a profit through production of goods and services, not energy efficiency. While there has been movement in industrial markets over the past few years to attribute a higher value to energy efficiency as a pathway for addressing climate change, typically in response to emissions trading schemes or shareholder activism, the fact remains that the first priority of industry is to remain profitable. Recent revival of arguments about how industry cannot afford to deal with climate change during the current economic downturn brings this duality sharply into focus. Energy efficiency has demonstrated, time and again, that it saves industrial firms money while having a positive effect on productivity [1].

The industrial sector in particular offers tremendous opportunity for energy savings, and a significant opportunity to instill the tenets of energy efficiency within facilities that, in turn, employ and influence millions of people. The industrial sector has thus been an attractive target sector for states looking to reach new levels of energy savings through efficiency. The sector itself, working constantly to increase shareholder value and reduce expenses, has found energy efficiency

investments to be an attractive avenue to achieve those ends. Additionally, as climate change awareness and mitigation strategies increase, energy efficiency will likely be increasingly prioritized as a critical solution to reduce greenhouse gas emissions, and the potential financial risks associated with regulation [2].

The energy crisis of the late 70's of the XX century in Europe and the United States and growing competition from Asian producers predetermined the need to urgently Address the problems accumulated for years in the field of energy efficiency and the rational use of energy resources. The industrialized countries of the West, which have traditionally been the world leaders in the manufacture of various types of products, including, above all, high-tech goods, began to experience strong competition from producers in Asia. Chinese, Indian and Taiwanese companies, having, on the one hand a powerful high-tech industrial base and on the other hand, cheap labor, began to actively position themselves in foreign markets. However, access to world markets for European and American companies was conjugated with difficulties. To a great extent, this was due also to the high labor costs in Europe and the U.S. This situation initially put producers under a disadvantage relative to their competitors from the developing countries. In these circumstances, the emphasis on saving energy, consumed in the production process, became very logical for Western companies and as it turned out, a very effective way of development [3].

There is currently a growing need for manufacturing plants to improve competitiveness by reducing costs in all categories. These same plants also desire to sell more. Two strategic initiatives can support these objectives. First, reducing costs by eliminating waste in all forms and improving product quality. Second, certifying under the impending international standard for energy management, ISO 50001, will provide competitive advantage through product labeling with the expectation of driving increased sales. This paper will focus