

# Chapter 40

## Employment Aspect of Energy Performance Practices in Buildings and Fiscal Policy Proposals for Turkey

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### ABSTRACT

*Energy efficiency practices in buildings can be an important tool in fighting unemployment by creating many new jobs, besides increasing the economic, social and environmental levels of welfare. Therefore, energy-saving measures in buildings constitute a major aspect of energy policies in many developed countries. This study focuses on two main issues. The first of these is the evaluation of the increase in employment resulting from energy efficiency in building measures, and the second is the development of fiscal policy proposals for Turkey by comparing practices applied in Sweden and Greece.*

### INTRODUCTION

Increase in population, rapid growth, income increase and changes in consumption habits have resulted in the rapid growth of world's energy demand and the reserves in existing energy sources have approached critical levels. In the face of this increase in energy demand, the environmental and economic sustainability of fossil energy sources that have a large share in energy production and consumption have begun to be questioned. According to the 2015 report of the International Energy Agency-IEA (IEA, 2015, p. 25), more than 80% of primary energy consumption is derived from fossil fuels. More than 90% of the CO<sub>2</sub> emissions that cause global warming stems from fossil fuel consumption. According to the predictions<sup>1</sup> that IEA has made based on three different scenarios, it seems possible to reduce the share of fossil fuels in energy consumption in the case of improving new energy efficiency policies and increasing

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renewable energy investments. If the current policies are maintained, the security of countries' energy supply will be jeopardized and environmental degradation will increase. In this regard, as an alternative to fossil fuels energy production based on renewable sources such as solar, wind, hydro, biological and geothermal resources and one without risks unlike nuclear energy has been a significant current issue. Although the policies aimed at increasing renewable energy sources constitute a major step of measures to be taken with regards to energy supply, the use of these sources is yet limited. As for the efficient use of existing energy sources, it constitutes the demand aspect of measures. By increasing the efficiency of energy consumption it would be possible to reduce the environmental damage of fossil fuels<sup>2</sup> and to meet without interruption the energy needs of societies. In addition to this, energy saving would provide many economic and social benefits at the macro and micro levels such as the increase of countries' capacity for international competitiveness, the improvement of balance of payments for countries that import a large part of their energy since their external dependency would decrease and the reduction of energy costs for individuals as well as businesses. Besides, energy saving measures have the potential to generate a major employment. New jobs would be created by means of direct, indirect and induced effects. Direct effects would be triggered in the production, application and marketing processes of technologies that are to improve energy efficiency, indirect effects would be triggered in other sectors associated with the energy efficient sectors and induced effects would be triggered by spending the revenues obtained from energy expenses. Countries frequently bring up against global economic crises. The impact of these crises on individuals and social welfare often becomes destructive especially due to its unemployment outcomes. Governments' support for the implementation of renewable energy resources and energy efficiency through a sustainable development perspective will result in success in the struggle for both global economic crisis and global warming (Erdoğan, 2012).

32% of total energy consumption worldwide takes place in buildings according to the IPCC's 5<sup>th</sup> evaluation report (IPCC, 2014, p. 675). On the other hand, in Turkey, 32.3% of the energy gets consumed in the industrial sector, 25.0% in the transportation sector and 37.5% in the housing and services sector (Eurostat), and energy saving in housing might be provided to a large extent only by simple measures and low-cost techniques. When this potential is taken into consideration, it is of great importance to develop strategies and policies that will ensure energy efficiency in buildings.

Factors such as the use of renewable energy sources in buildings, recycling of waste, arrangements in heating/cooling, electricity/lighting systems, adjustments made in consumption habits to use energy more efficiently, will minimize energy consumption in buildings. Moreover, buildings called passive, green or sustainable will minimize the damage to the environment in the construction process. They can also be designed to consume nearly almost zero energy during their lifetime.

According to TÜİK data, the construction sector in Turkey accounts for 6% of GDP as of 2013 and the growth rate of the construction sector is 11%. 7% of the total labor force is employed in the construction sector. 121,049 new buildings were constructed in 2013 and nearly 85% of these buildings are residential buildings (TÜİK, 2014, p.134,135,395,404,676,678.). In Turkey there is a great opportunity for structuring to have a green transformation in the long term when the "Law of Transformation of Areas under Disaster Risks", that prescribes within the framework of urban transformation improvements and renovations in buildings under risk, is taken into account. Energy efficiency measures that would be taken in existing buildings include simple procedures that could be implemented and have effective return in a very short term. Returns created by these measures to be taken, are capable of quickly meeting their costs in terms of both the public sector, at the individual level and the business environment. In the long-term, social, economic and environmental welfare will increase.

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