

## Chapter 26

# The Role of Eco–Municipalities in Climate Change for a Sustainable Future

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### ABSTRACT

*Creating a sustainable future for cities is a critical issue worldwide and municipalities help shape cities from different perspectives. An eco-municipality is a governance strategy and holistic approach to creating sustainable communities and development. The sustainable strategies and projects of these municipalities mostly focus on public participation mechanisms, creating and building renewable energy sources, and designing healthy and green cities. The aim of this chapter is to examine the status of the strongly connected studies concerning global climate change and the eco-municipality model. In this regard, the projects and strategies of Nordic countries which have been pioneers in eco-municipalities and the studies of Turkish municipalities which have recently taken action to develop integrated environmental approaches will be discussed. In addition, an evaluation of projects and strategies of local governments in Turkey relevant to climate change will be critiqued.*

### INTRODUCTION

Climate change effects, limited and diminishing energy sources and negative impacts on natural environments are great challenges for countries. Such effects increase the necessity to engage in sustainable planning for cities and the rural areas. One of the comprehensive models for a sustainable future is the eco-municipality model which has the potential to create environmentally-friendly solutions for the well-being of the inhabitants (Bostanci, 2012). The aim of eco-municipalities is to focus on the importance of climate change and environmental issues, as well as, to create better and healthier conditions for the inhabitants. This is achieved as a result of collaborative studies with the member eco-municipalities in

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different countries. It also aims to create a participatory process to address these environmental issues (Langlais, 2009; Chamilos & Pongrácz, 2011; Bostanci, 2012).

Cities undertake transformation engaging different approaches throughout the world. Transformation, restructuring and retrofitting processes in urban areas depend on different aspects of dynamics, such as:

- Population movements,
- Economic growth,
- Technology needs,
- Socio-cultural inequalities,
- Wars and political conjuncture, and
- Natural disasters.

Even if the role of local government in mitigating climate change is important, the emissions and the problems created locally are truly global (Gustavsson et al., 2009). There is a demand for participatory processes in which global experiences and local potentials have been evaluated together for improving projects about renewable energy sources. If the local community has information about the projects related to environmental issues, they will also promote these types of projects. This local awareness is a key ingredient for sustainable development.

Renewable energy projects are technical tools for reducing climate change. There is a variety of projects about renewable energy sources from different countries. The choice of the energy source mostly depends on natural conditions of the cities. These projects have technical, cultural, social and innovative backgrounds. One of the most important aspects of the energy conversion is efficiency as well as the cost of produced energy (Akinci, 2011). All the projects concerning renewable energy sources have a variety of critical aspects to be considered.

Municipalities have a range of instruments for improving environmental sustainability and, along with other urban actors, take the lead in carrying out renewable energy projects to mitigate the effects of climate change (Bostanci, 2015). Establishing climate change departments in environmental management offices and organizing activities, seminars and training programs about these issues are some of the strategies used by municipalities to promote a sustainable future for the cities. This chapter will discuss the role of eco-municipalities in climate change for a sustainable future. The case study section focuses on examples of successful environmental issues in Turkey and the applications which are in the context of combating climate change on their agenda as stated by municipalities. Turkey, in this period of intense urban transformation, is facing critical threats. The government may be forced to fight against the social, economic and ecological crises because the resulting situations are unable to protect natural thresholds, and unable to resist further climate change. Taking into account the activities required to reduce climate change and urban transformation, these risks and natural disasters may lead municipalities to assume an important role in these processes.

## **BACKGROUND**

The effects of climate change have forced countries to find effective solutions to rapid urbanization, inequalities, non-renewable energy usage, waste management and industrial pollutions. Especially in the Nordic countries, a municipal model which focuses strongly on these issues in a multi-actor process has

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