



# Chapter 10

## Climate Crisis and The Future of Renewable Energy in the Turkic Republics


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### ABSTRACT

*The continuation of the worsening climate crisis and the severe environmental degradation caused by fossil fuels is not sustainable for the world. It is important for major energy suppliers and importing countries to turn to renewable energy to meet the intense demand for energy and for future generations. In addition, governments are turning to renewable energy sources and increasing their investments in order to reduce foreign dependency in an economic and political context. Therefore, renewable energy strategies offer new opportunities for competitive strategies and cooperation in the world. This study evaluates the current renewable energy studies and investments of the Turkish Republics. In addition, policy recommendations will be made within the framework of the possible economic/political effects of these resources, which will create potential in the long run for the countries.*

## **INTRODUCTION**

Energy sector has always occupied the world's economic agenda and has become an indispensable part of global system. The concept of energy is the dynamo of sustainable development, affecting every field from international politics to economy. Countries with rich fossil resources earn high incomes through energy exports and can use energy factor in their favor in international policies. Thus, these countries can allocate a budget for financing sustainable development and quality living standards. For developed countries are dependent on foreign energy, importing natural gas and oil used in areas such as industry, heating, transport, and electricity generation may cause current account deficits. In addition, if energy supply security is negatively affected by foreign policy, inflation problem may threaten the economy of the country.

Energy market, of which fossil fuels account for 82% (BP, 2022), is now at the center of multi-vector policies. Increasing world population, regional and global wars, and economic crises disrupt the energy supply-demand balance and create major problems. In addition, while the reserves of fossil fuels are decreasing, on the other hand, the emission of greenhouse gases after the processing of these fuels increases global warming. The Intergovernmental Panel on Climate Change (IPCC) (2014) states that if greenhouse gas emissions continue to increase at the current rate, the world will be adversely affected by rising sea levels, shifts in seasons, loss of biodiversity, and increased frequency and intensity (Godfrey and Tunhuma, 2020: 3).

Regionally and globally, changing climate and environmental conditions directly or indirectly affects the lives of individuals residing in the relevant areas. Factors such as the world's population increase, wars, regional conflicts, energy struggles, and industrialization serve as driving forces for environmental pollution, consequently leading to global warming and climate change. In this context, environmental pollution, directly or indirectly linked to human activities in the global atmosphere, has undergone extensive analysis in numerous scientific studies. It is observable that climate and environmental disasters caused by human activities have escalated since the Industrial Revolution. However, examination of the relevant literature reveals conflicting perspectives: proponents attributing these disasters to human activities and skeptics contending otherwise. Moreover, the current concern regarding anthropogenic changes in greenhouse gases in the Earth's atmosphere is highly debated, particularly the impact of human activities augmenting the natural formation of the greenhouse effect and its correlation to global warming.

Numerous scientists concur that global warming represents the primary environmental challenge confronting life on Earth. While the existence of a natural greenhouse effect is well acknowledged, the perturbation in the composition and abundance of atmospheric greenhouse gases due to human activity raises significant concerns. The terms 'global warming' and 'increasing greenhouse effect' imply human-induced climate change. Given that the primary human contribution to climate change stems from greenhouse gas emissions through fossil fuel combustion, mitigating this impact will necessitate substantial alterations in energy production and consumption. Various methods aimed at pollution reduction can yield short-term improvements. For instance, enhancing energy efficiency across economic sectors and transitioning from high-carbon to low-carbon fuels offer alternatives. However, achieving a long-term solution requires incentivizing technological progress appropriately to ensure climate-friendly advancements. Conversely, accurately predicting the ultimate physical impacts of climate change remains challenging. There exists substantial global uncertainty regarding the repercussions of climate change, amplifying the climate crisis. This uncertainty complicates decision-making, as it is challenging to determine the most prudent course of action. Decision-makers tend to postpone action until more precise

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