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# Potential of Biofuel Usage in Turkey's Energy Supply

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Additional information is available at the end of the chapter

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## Abstract

Rapidly growing population and industrialization brought about the enormous need for energy, alongside the environmental problems. Since biofuel energy is inexhaustible, it is becoming increasingly important to address the energy problem. Today, it is possible to classify biomass energy into two classes: classical and modern. Classical biofuel utilization is the simple burning of wood obtained from tree cutting and animal wastes, where modern biofuel application consists of a variety of fuels produced from various sources. Turkey's potential for biofuels is estimated to be around 45 Mg. As a renewable energy, it's been under the Renewable Support Scheme by regulation for more than a decade now. By the end of 2016, installed biofuel electricity generation capacity had reached 468 MW with 2 billion kWh realized (~0.7% of national demand). The aim for 2023 is reaching at least 1000 MW (which will be around 1.3% by then). Many analysts believe that the potential for development is higher and realization therefore will surpass the official aims. Effective usage of biofuels for power generation may not be sizable but it's critical and will make multilayer contributions to energy supply and dependence as well as to meeting climate and sustainability targets of the country.

**Keywords:** energy policy, biofuel, agricultural and environmental interaction

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## 1. Introduction

The civilization tendencies toward modernization mainly progress through industrialization of societies. Combining the economic results of modernization, which are mainly increased public welfare, eased access to consumption, alongside the growth in population, leads to enormous increase in energy demand, where the upward acceleration persists for decades [1].