

Abstract

Energy transition in 20th & 21st centuries: challenges and environmental impact

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The main objective of the paper is to make a systematic and historic analysis of the energy transition process that countries across the globe are undertaking in the race against climate change.

The years 1970-1990 are characterized by a strong technological development and, at the same time, by increasing the danger of destroying the ecological balance. It has been proven that the accumulation of goods and services is not sufficient to achieve human well-being. New concepts and models of socio-economic development have been proposed.

In terms of energy challenges, during this period a large variety of energy-consuming activities was developed. But many of methods of energy production and use have proved to be unsustainable, leading by depleting terrestrial resources, and by disrupting the climate. The number of users and the amount of energy used are constantly increasing. As a result, more efficient means are needed to meet the energy demand.

The years 2000-2020 are the years when the useful energy structure of the Earth begins to be changed. The motto Energy safer, smarter, greener begins to be promoted by the countries of the world.

The paper analyzes the main features of the transition period to an environmentally sustainable energy. The advantages, disadvantages and trends until 2050 for energy transition are given. There is proposed a comparative study for energy transition state of art in European countries, to achieve the successful energy system by clean energy

production, and increase the efficiency of the use of energy, specially the electricity.