Chapter 62
Conditions for Development of Renewable Energy in Poland

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ABSTRACT

The Paper examines legal and financial tools which are used in Poland to succor the development of energy from renewable resources. In the first part a definition of sustainable development is given and the short history of this idea is shown. Then the concept of Sustainable energy is introduced. The second part describes main policies of European Union on sustainable policy and the Polish Legal System on Renewable Energy is described. The fifth part of the paper analyzes the sustainable development indicators provided by Eurostat for the energy produced from renewable resources. there are 6 indicators analyzed. In the end the forecasts for the development of RES in Poland is given. There are clues for development of different technologies in different provinces of Poland. There are also forecasts for the development of the renewable energy market in Poland.

INTRODUCTION

The environment has played a significant role in many theories of economics already in the nineteenth century, while its importance to the economy began to be noticed not until the second half of the twentieth century. Since then, environmental social, economic aspects connected altogether in one theory of sustainable development (SD) have become an important part of modern macroeconomic policy. In today's global economy, the European Union has adopted the role of a leader and promoter of sustainable development. Thanks to the efforts of the EU, a number of countries has managed to make significant commitments on the environment. At the same time, the European Union requires its members to fulfill the obligations to the protect the environment in the context of sustainable development. These requirements were a base to carry out studies showing changes in the field of sustainable development in Poland.

As energy is an integral part of SD, this paper will explain the meaning of energy in the theory of sustainability. It will also present the Polish renewable energy market and its changes during 2004 – 2013 period. In most cases the data is provided for 28 Member States of European Union (EU 28), but in some

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indicators the last available data was for 2011– before Croatia joined EU., so this data is for 27 Member States of European Union (EU 27). In the end the changes in sustainable energy indicators for Poland will be described and guideline to the further development of renewable energy installations will be given.

DEFINITION OF SUSTAINABLE ENERGY

Reflections on the human impact on the environment have their origins back in the mid of 20th century. The greatest importance for conceptualization of sustainable development had the first scientific publications on the impact of synthetic chemicals on the human health, reports on the environmental limits of economic growth, as well as the papers on relations of the human population size and the state of the environment. The main works which highlighted environmental problems were: Silent Spring by Rachel Carson published in 1962, Tragedy of the Commons by Garret Hardin published in 1968, Limits to Growth by Club of Rome published in 1972 and Deep Ecology by Arne Naess published in 1973 in *Inquiry Magazine* (Charkiewicz & van Benmekom, 2001).

Concerns that have arisen as a result of these publications convinced the United Nations (UN) to organize meetings, which aimed to recognize humanity's connection with environment. In 1972, UN held the Conference on the Human Environment, which focused on human – environmental interconnections. As a result of the Conference, the Declaration of the United Nations Conference on the Human Environment was created. It became the first document in international environmental law, which delineated the human right to a healthy environment (Kozłowski, 2000, pp. 105–106).

UN continued their work on effects of human actions on environment. In 1980, together with the International Union for the Conservation of Natural Resources (IUCN), UN published the World Conservation Strategy (WCS). This document, as a result of previously taken actions, proved that there is an interdependence between environmental conservation and economical development. WCS built the basis for the idea of sustainable development by highlighting that development depends on Earth protection.

In 1983 UN created the World Commission on Environment and Development (WCED), which main task was to prepare an agenda for global change into more environmental direction. As a result, in 1987 WCED released *Our Common Future* Report (called also Brundtland Report), in which it was stated that "the environment does not exist as a sphere separate from human actions, ambitions, and needs, and therefore it should not be considered in isolation from human concerns. The environment is where we all live; and development is what we all do in attempting to improve our lot within that abode. The two are inseparable." In these words WCED created the idea of development which joined economic, social and environmental issues accompanied by global solutions. This concept of development, for the first time called the sustainable development, addresses "the needs of the present without compromising the ability of future generations to meet their own needs". This broad definition orders present generation to act responsibly in three important dimensions, so that the future generations will be able to lead their lives at least at the same level as we do now. Those three dimensions submitted in Brundtland Report are: environmental sustainability, economic sustainability and social sustainability (Seema, 2010).

In Our Common Future it was proved that social and economic systems cannot run separately and without the influence on the environment. All, past, present and future generations, lead their lives by fulfilling different and often competing needs of society members. At the same time human beings live within limitations imposed by the environment, social rules and economic possibilities. This is why the idea of sustainable development needs to be treated as a system in which every all three spheres are