

Degradation of the natural environment is a major problem in the contemporary world faced by all countries worldwide. The process of degradation consists in the deterioration of the environmental conditions as a result of water, soil and air pollution. In turn, these pollutants lead e.g. to a reduction of wildlife biodiversity, climate change or increased frequency of extreme weather events. Most of these pollutants are a result of human activity and are formed in the process of goods manufacture and management. Further uncontrolled increase in pollutant emissions may lead to an environmental disaster, i.e. irreversible changes in the natural environment.

In accordance with the concept of sustainable development and intergenerational equity actions need to be undertaken to reduce pollutant emissions and preserve the environment. However, it also needs to be remembered that these actions may not constitute a barrier for a further socio-economic development. Numerous studies have shown that it may be attained thanks to innovations and advanced technologies as well as limited exploitation of natural resources. It results from the concept of the environmental Kuznets curve that environmental changes correspond to successive stages in economic development. At the initial stage of an economic boom we observe a rapid increase in economic activity, which is connected with the consumption of large amounts of raw materials as well as increased pollutant emissions and amounts of generated waste. Next this trend is becoming less intense, which is a consequence of changes in the economic structure of a given country (development of the tertiary sector, which is not such a huge burden to the environment). In the last stage an increased role is played by innovations and technological changes, thanks to which environmental degradation may be reduced.

This trend is seen mainly in highly developed countries and regions, where the demand for an unpolluted environment increases while simultaneously the capacity to incur costs for environmental protection is growing. Environmental degradation may be prevented thanks to the analyses of the dependencies mentioned above and an accurate identification of factors influencing the process of environmental degradation.

The purpose of this project is to investigate the impact of economic development on the Polish provinces of selected changes in the emission of greenhouse gases. These investigations will identify factors determining pollutant generation and economic changes having the greatest effect on air degradation. This study will be conducted for one component of the natural environment, since air pollution is of particular importance and indirectly affects the other environmental components, i.e. surface waters and soils, influences climate change and is crucial for human health.

The realization of the project will constitute a significant contribution to the development and popularization of studies in environmental economics. Outcomes of this project will also fill the existing research gap resulting from a shortage of studies at the regional level, both in Poland and abroad. Results of these investigations will also provide a model and basis for further, in-depth analyses taking into consideration other environmental components as well as other economic factors. Moreover, this research project may constitute the foundation for a detailed diagnosis of selected towns or regions, as well as the basis for the selection of an appropriate development strategy, facilitating limitation of environmental degradation.