

## ATLAS: GEOGRAPHIC INFORMATION SYSTEM OF ALTERNATIVE SOURCES OF ENERGY

In this article, the authors raise the issue of the upcoming trend in the economy, namely, the use of alternative sources of energy to meet the demand for electricity and heating in the areas that suffer from the underdeveloped infrastructure. For this purpose, analysis of existing renewable energy sources, compilation of interactive maps and databases of climatic conditions (solar radiation, wind roses, and temperature zones) is needed to assure a smooth operation of renewable energy facilities and to generate a geographical link between the above databases.

The objective of the proposed technology designated for the assessment of options for the positioning of varied alternative sources of energy is to identify the types and quantities of alternative energy sources and to have them positioned on site. The authors believe that wind mills and energy generating facilities that consume low-temperature heat are impossible to operate in winter seasons in the areas that have cold climates.

Positioning of alternative energy sources contemplates the analysis of the available data, collection of any missing data and update of the information available to date. Thereafter, complete data analysis is to develop into an advanced full-scale geographic information system of alternative energy sources in Russia.

**Key words:** alternative energy sources, renewable energy, GIS system.

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