

Summary

In my thesis I have extensively examined the national and international literature, and confirmed my research with relevant statistical data. The primary objective of my research was to examine the opportunities and chances of realizing the energy independence in a given subregion, to determine the targets of the essential interventions (in order to empower, to involve, to set an example, to encourage), and to find the necessary solution methods.

1. The current energy situation, the present-day geopolitical conditions, as well as their consequences have been examined and explored by using statistical data during my research. I have highlighted the Hungarian situation and declared the reasons for the high rate of energy import dependence.

2. I have explored the possibilities of increasing the energy security both at macro and micro level in Hungary, and determined the causes of deviation between the target and the concrete value.

3. The potentials hiding in the single alternative energy sources have been quantified. Based on different scenarios the optimal level of fossil energy need and the optimal rate of energy import dependence have been calculated by using a backpack model. The Solver analysis tool has been used in order to realize this.

4. Through an empirical research I have examined the obstacle factors that are making the spread of alternative energy sources as well as the realization of energy efficiency investments difficult in a given subregion.

5. It has been proved that by appropriate state regulations the smaller local communities can also do much to increase their energy security, and the factors that are behind the inadequate attitudes of the local population have been explored.

6. The forward-looking prospects of production, distribution and logistics (city logistics) have been examined. Based on the biomass these opportunities can be a competitive alternative against the fossil energy sources. The conditions of implementing a biomass project within the framework of economy and efficiency have been determined, taking into account the triple unit of producer-processor-utilizer, and offering a feasible alternative to the given subregion.