

A HASZNOSÍTHATÓ NAPENERGIA FŐ JELLEMZŐI 2008. ÉVBEN HÓDMEZŐVÁSÁRHELY TÉRSÉGÉBEN

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ABSTRACT-Main Properties of Usable Solar Energy in Hódmezővásárhely Region

One possible method to reduce the energy dependence is to increase the role of renewable energy sources being at our disposal.

Geothermal energy and solar energy are renewable energy sources which can be found in the largest quantity in Hungary be exploited economically.

The objective of my examinations is to acquire direct experiences about the active thermal heat utilisation, while comparing the results of the relevant literature and my own measurements primarily regarding the South Plain of Hungary and the neighbouring countries. The value of the radiance energy coming to the area of Hungary is slightly different according to the geographical position of the area. The average values are between 1250-1550 kWh/M², with the higher values on the south-eastern part of the Great Plain of Hungary, in the Szeged-Debrecen region. The daily average values change between 3.28 kWh/m² and 4.1 kWh/m².

I carried out my examinations in Hódmezővásárhely between 1st January and 31st December 2008. The insolation measurements typical for the exploitable radiance energy values were done daily, every hour from 8.00 am to 4.00 pm in June, July, August and October. I registered the number of the sunny hours and their percentage compared to the days of the month as well as the insolation values expressed in lumen/M² in a measurement register book. I defined the performance density values typical for the radiation intensity by calculating.

Based on the data in the literature and the examinations we can state that in the south-eastern part of Hungary and in the surrounding areas over our borders there are favourable opportunities for the utilisation of the solar energy primarily in the field of thermal use.

The potential solar energy enables a significantly more intensive utilisation primarily in those areas where the energy demand coincides with the summer maximum values of the radiance energy, such as fodder drying or solar cooling–air-conditioning.

Keywords: solar energy, solar insolation, solar thermal utilisation