

ABSTRACT

This bachelor work deals with some environmental aspects of disintegration of traditional centralized heating systems in the Czech Republic. This situation is shown on a particular case of centralized heating supply in a housing estate in town Kroměříž. This centralized heating system has been quickly disintegrating and it is close to its dissolution due to disconnection of customers who has been building their own local household gas boiler plants. The bachelor work calculates the consumption of natural gas for both ways of heating. It is calculated by using the amount of heat energy required for heating of all buildings, including domestic hot water and the average efficiency of these production methods. This work also calculates the amount of emissions NO_x (nitrogen oxides) expressed as NO_2 (nitrogen dioxide) which are produced by each type of heating. The amount of NO_2 is calculated by using emission factor which is obtained from authorized measuring system. One part of this work also deals with nitrogen oxides in the atmosphere. Another important part of the bachelor work is about a basic dispersion analysis (study) - dispersion model of pollutant (nitrogen oxides) around the source/sources. One chapter compares the environmental impacts of central and local way of heating from the viewpoint of produced annual emissions NO_2 and dispersion analysis result. This chapter also provides another contextual information accompanying disintegration and disappearance of central heating. In the penultimate chapter are given some brief examples of the energy policy in other European countries in the connection with the district heating.

Key words: centralized heating system, decentralized heating system, household gas boiler plant, heat energy, natural gas, pollutant, nitrogen oxides, NO_x , NO_2 , dispersion study, environment