

Infrasound and Low Frequency Noise from Wind Farms – Case Study Comparative study in relation to seasonal variation (winter and summer)

J Saramago¹, A Ferreira¹, J Almeida¹, J Figueiredo¹

¹ESTE²SC - Coimbra Health School, Instituto Politécnico de Coimbra, Portugal

Introduction:

In recent years there has been a rapid growth in the installed power of wind power in Portugal. This, combined with technological development, has led to an exponential growth of both the generators and their implementation, neglecting the negative impacts they cause in their area of influence. One of the main concerns regarding the installation of wind farms is the presence of Infrasound and the negative impacts they have on the health of the receivers.

Objectives:

Concerning what is presented and the willingness to understand the reality of the population exposed to noise from wind farms and to contribute to the scientific knowledge about the thematic, the main objective of this investigation consisted of the analysis and Characterization of Infrasound, low frequency noise, ILFN and ambient noise produced in the Cela's wind farm. The aim was to try to realize that environmental variables can influence the propagation of noise and whether there are variations of propagation account for the seasonality (Summer and winter).

Methods:

The target population in study were the number of evaluations carried out in the comprehensive area of the Cela's Wind park, the sample was composed of 60 sampling points and the equipment used for data collection was the sonometer Cesva SC420.

Results:

It is considered that the summer season is the most worrying seasonal phase.

Conclusions:

In conclusion, due to this growing expansion and development of the construction of wind farms, it would be expected to pay significant attention to this subject by the public authorities with assignments in the field of planning and territory, and it is currently still a very unworked area in the existing planning instruments (municipal plans and special plans for spatial planning) in order to safeguard both the level of environmental impacts and the level of negative impacts on the exposed population.