

AIMS AND OBJECTIVES

The aims of this project will be multidimensional.

The estimation of the environmental impacts of a typical medium range wind park (10-20 MW) on a typical Greek place not at a close range of a residential area in the first aim.

The evaluation of the conclusions of the EIA study.

The comparison of adverse possible impact to the natural / manmade environment and public opposition with the degree of necessity of the specific project to the macro-climatic and the national or European targets set.

In order to achieve the aims of the project the following objectives have been set:

- The data that are obtained by the articles and the national and the European legislation.
- Technical data from construction companies of wind turbines.
- Measurements of the noise level near the wind park.
- Studies and aspects from international environmental agency authorities.
- Photos and visualization tools in order to support the results of the EIA study.
- Public discussion about the results of the EIA study.

BACKGROUND AND LITERATURE REVIEW

Wind parks are a solution to the problem of the climate change. The construction of wind parks produces some factors that they affect both the natural and manmade environment.

The factors that they affect the environment are:

- The construction of roads near forests and coasts.
- The noise nuisance.
- The aesthetic degradation of the natural environment.
- The death of birds and other animals near the wind parks.
- Economic and social factors that are related with the topic locations.
- Flora and fauna.

The scope of this dissertation will be multidimensional and the main aim is to assess the environmental impacts of a typical medium range wind park (10-20 MW) on a typical Greek place not at a close range of a residential area. The description of the environmental consequences must cover the visual impact of the local people and the users of roads nearby, the noise of the operation of wind turbines and some other factors in relation with natural environment.

Another scope of the dissertation will be the investigation of the availability to have possible impacts to the natural / manmade environment. At the same time it is a necessity for the public opposition at this project to be considered, in addition to the macro-climatic environment and the national targets that have been set about the reduction of CO₂ emissions.

The aim of the above is to evaluate all the information from the EIA study of the project in order to reach to a conclusion about the environment impacts and especially for two factors:

- The noise annoyance.
- The visual impact from the wind park.

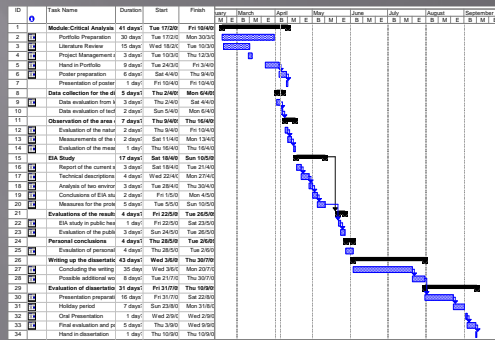
The supporting of the conclusions of an EIA study in a public discussion is one of the most important aims of the project, whether it is either proved or not, the necessity of the wind energy concerning always the natural and the manmade environment.

Besides this public presentation of the EIA study is obliged by the law, and gives the opportunity to the local population and authorities to have a full briefing of the study.

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PROJECT DESCRIPTION

Using the technical data and other sources from the bibliography, estimation for the operation of wind park will offer useful data for the EIA study. These data are the followings:

- 1.Type of wind turbines.
- 2.Number of wind turbines and the output electric power of them.
- 3.Distance between the wind park and the houses of the residents.
- 4.Data for the wind velocity of the area.
- 5.A record of the roads that there are at the area and if it is possible the number of cars that are passing through or near the wind park per day.
- 6.A record of the natural and manmade environment at the area of the wind park.

Having all the above data and using the legislation about the EIA studies, the design of the EIA study can be completed.

Design and evaluation of a complete EIA study about the operation of the wind park.

An EIA study in Greece is following particular rules according to the legislation of the Ministry of Environment.

Using these rules and the data from the theoretical background of the EIA study, will have the following contents:

- 1.Description of the project. The description concerns the natural and manmade environment, the technical data of the wind park and other factors in relation to the local conditions.
- 2.A report about the possible environmental impacts to all the sections of the environment as the noise annoyance, the visual impact to the residents, the impact to the birds and other animals and the impact to the traffic conditions of the area.
- 3.Measures against any possible environmental impact according to the legislation.
- 4.Licence for the EIA study from the Ministry of Environment.
- 5.Public hearings and consultation meetings for the results of the EIA study.

CONCLUSIONS

The construction and operation of wind power, often in areas of open countryside, raises issues of visual impact, noise and the effect on local wildlife. These issues are addressed through an environmental impact assessment (EIA study).

The conclusions of the EIA study are useful, because they are an opportunity to develop argumentative positions in favor / against the project and are able to support these in public discussions in order to prove that a wind park is a positive project for the climate change.

The public discussion for an EIA study is referred by the legislation. The dissertation is going to solve some significant factors for the environment, such as :

- The visual impact.
- The noise
- The local wildlife.

The EIA study concerns about the effect of wind turbines that have on the land-scape, and will prove that wind parks are symbols of a less polluted future.

The people have to learn that compared to road traffic, construction activities and other sources of industrial noise, the sound produced by wind turbines in operation, is comparatively low.

Also the EIA study mentions that the turbines have to be positioned far enough from nearby homes in order to avoid unacceptable disturbance.

However, the basic conclusion is that the respect of the environment from the operation of every project is an obligation for the humans.

On the other hand the use of wind energy will give a clean and free energy for every country, so the people have to think the benefits from the operation of the wind park and to understand that this project is a positive section for the future of our world.

