

Environmental report

"Zonal Urban Plan "Wind farm, installation of monitoring and control towers, connection to the national power system",,
"Rehabilitation of the access roads and construction of transformer station 20 kV - 110 kV"

Commune Casimcea - Tulcea County

11. NON-TECHNICAL BRIEF

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The updated plan suggests mounting Gamesa G90 turbines, that shall have a tower with a height of 105 m up to the basis of the parcel. The tower is built from demountable panhead sections. The rotor is foreseen with three blades and has a diameter of 90 m. The total mass of a turbine can be approximately 346 tons.

Briefly, the production process foresees the generation of power by moving the air that drives the turbine rotor, which in turn activates an asynchronous electric generator. Each turbine is mounted on the foundation.

For introducing the power produced by the 36 turbines into the grid, these shall be connected through the medium voltage underground cables (30 kV), that include more lines, with the scope of minimizing the losses caused by the voltage decrease.

The main conclusions of this evaluation are that the objective is favourable for the environment due to the effective generation of wind power.

The impact of the wind farm over each environment factor has been analysed through the **Method of Negative Impact Units**. After evaluating the environment and taking into account the suggested measures for minimizing the negative effects of the analysed objective over the environment, we have concluded that the total quantified impact over the environment caused by the studied objective are **within the allowed limits**.

In this case, the most affected environmental factors are the Soil and the Biodiversity; but mostly during the construction period; during the operation period this impact is minimized. This aspect is very important for the long term investment.

According to the on site remarks and the existing bibliography, both the analysed location as well as the neighbouring area on a radius of 10 km are not crossed by a bird migration route. Also, we must point out that the studied area is anthropogenic, being completely represented by agro ecosystems, that undergo periodical interventions of diverse agricultural works. Thus, within the studied area there are no favourable conditions for moving the protected species specimens.

Because the objective is included in SPA Stepa Casimcea, it is recommended to carry out a detailed and professional monitoring of the effects of the wind farm over the local avifauna, according to the monitoring plan suggested in the present Environmental Report.

In order to prevent and minimize the impact over the environment, the environmental evaluation suggested a series of measures, of which we mention:

- it is forbidden to evacuate the waters resulted during the construction period;
- the waste shall be collected in special containers and transported in special arranged locations;
- ecological toilets shall be used;
- in order to limit the pollution of the air with dust, the material shall be transported in conditions that assure this by damping the material, covering it, etc;
- the machinery and transport means shall be evaluated in order to be in a proper technical state and not to emanate pollutants over the allowed limits.

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- the temporary deposit of the turbine components and construction materials, as well as a great part of the site organization, must be carried out as efficiently as possible, in order to avoid as much as possible the settlement effect of the soil due to the traffic of the machines and to minimize the risk of causing accidents.

- it is forbidden to wash, repair, carry out maintenance works to the transport means, machinery and equipment used within the premises of the site.

- during the execution of the works, the waste collection system within the site organization shall be carried out in special arranged spaces, and their evacuation shall be assured periodically by the salubrity service;

- the beneficiary shall follow up the measures taken to avoid the prolonged damping of the land near the construction, because prolonged damping with water infiltration into the land may have serious consequences over the foundation, requiring subsequent interventions, thus amplifying the impact over the soil and subsoil;

- it is recommended to monitor the operation of the wind turbines, identify and immediately rehabilitate the ones with technical problems (lubricant leaks).

- the temporary deposit of the turbine components and construction materials, as well as the site organization must be carried out only on the arable soils. In this way, the integrity of the SCI North Dobrogea plateau shall not be affected.

- special attention shall be given to the location of the turbine CO₂₀res that is situated at an approximate distance of 75 m from the limit of the above mentioned site of community importance.

- after removing the vegetable soil layer, it shall be deposited and protected.

The soil surfaces affected by the objective's construction works shall be covered or restored in order not to have affected spaces, other than those foreseen in the plan;

- in order to avoid the growth of the invasive species, we strictly recommend using the initially removed fertile soil;

- the location must be kept permanently clean because garbage attracts rodents, and these are hunted by predators. Where there is garbage, the number of insects also grows and these attract other small and medium birds, increasing the risk of collisions;

- it is forbidden to allow the formation of puddles and swamps in the turbine area, because these attract other water-loving bird species or organisms that live in water;

- the turbines must be signalled during night with a red intermittent light, with big intervals between two consecutive flickers, because light will make the birds more cautious and shall avoid the respective area;

- the tips of the wind plant blades shall be painted in bright colors, for at least 20% of those in the farm, in order to avoid impacts with birds;

- the disturbing noise levels above the limits allowed by STAS 10009/88 shall be forbidden;

- with regard to the presence of tumuli on the land, we recommend that on their afferent surface not to carry out site organization, including the deposit of materials or temporary traffic.

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FINAL CONSIDERATIONS

Following the performed study, consulting the impressive bibliography of the statistic data, etc, the following conclusions have been reached:

- A. The beneficial effect of power production through clean methods cannot be disputed because this method assures the production of power by eliminating pollutant emissions which are specific for these methods.**
- B. The wind turbines do not cause any pollution to the environmental factors during the operation period because wind power is green power.**
- C. The location in the park area does not have a major impact on the flora and fauna, function and destination of the arable land.**
- D. The location of the wind turbines in agricultural areas and neighbouring human settlements is recommended in the specialty literature, because the migratory birds normally avoid these areas.**
- E. The wind turbines have a positive landscape impact and shall contribute to the development of the local economy.**

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The elaborator recommends the approval by the environmental authority of the Zonal Urban Plan "Wind farm, installation of monitoring and control towers, connection to the national power system", "Rehabilitation of the access roads and construction of transformer station 20 kV - 110 kV"

Corn. Casimcea - Tulcea County

because the impact over the environment due to human activity is within the allowed limits.

12. BIBLIOGRAPHY - LEGAL BASIS

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