



ENVIRONMENTAL PROTECTION AGENCY

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UAB “Windfarm Akmenė Two”
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Cc. List of recipients

EIA DECISION

AS REGARDS THE ECONOMIC ACTIVITIES PLANNED BY UAB WINDFARM AKMENĖ TWO “WINDFARM OF UP TO 6 WIND TURBINES IN AKMENĖ DISTRICT MUNICIPALITY, KRUIPIŲ ELDELSHIP, C1 ZONE”

9/09/2022

No (30.2)-A4E—

1. Organiser of the proposed economic activity (name of legal person, natural person, address, tel.).

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2. Author of environmental impact assessment documents (name of legal person, natural person, address, tel.).

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3. The name of the proposed economic activity, the legal basis for carrying out an environmental impact assessment pursuant to Article 3(1) of the Law of the Republic of Lithuania on the assessment of the environmental impact of planned economic activities, referring to point(s) of Annex 1 to the Lithuanian Law on the assessment of the environmental impact of planned economic activities and/or indicating the screening conclusion adopted by the responsible authority that an environmental impact assessment is mandatory (letter No of date) or a finding of significance by the authority of protected areas that the effects are likely to be significant (date, letter No).

The planned economic activity is up to 6 wind farms in Akmenė Region Municipality, Kruopiai old. Zone C1.

In accordance with Article 7(11) of the Law of the Republic of Lithuania on the assessment of the environmental impact of planned economic activities (hereinafter ‘the EIA Law’), which provides that the organiser of the proposed economic activity (the commissioner) or the drafter of environmental impact assessment documents may initiate an environmental impact assessment without selection of the environmental impact assessment procedure, the PSA organiser has decided to initiate the environmental impact assessment procedures.

4. Location of the proposed economic activity (circuit, municipality, town hall; city, town, village or single sediment; street).

The PSEV plots are located in Akmenė Regional Municipality, Cruopiai sen., Bambalian land plots during construction and operation, which will be occupied by wind turbines, rented/purchased for parts, and the main use of the plot will be changed to 'Other' (Communication and Service Service Areas).

The FeV area is approximately 5.3 km east from Nova Akmenė; from the Lithuanian-Latvian border, the closest wind turbines are located at a distance of 0.8 km and around 2.2 km from the village of Schapnags. The distance from residential buildings is between 0.6 km and 2.1 km. There are no planned residential areas in the PSE area in accordance with approved spatial planning documents which are closer to the existing ones assessed in the environmental impact assessment report. The nearest medical institution is the Primary Health Care Centre of Vši Akmenė District, located 9 km to the west from PSAV.

According to the decisions of the general plan for the area of Akmenė District Municipality ('the master plan'), approved by Decision No T-145 of the Akmenė District Municipal Council of 28 June 2021 approving the amendment of the general plan for the area of Akmenė District Municipality, PŪV is included in potential areas for the installation of wind turbines. The FeV is part of the natural frame. In accordance with the provisions of the Natural Square approved by Order No D1-96 of the Minister for the Environment of the Republic of Lithuania of 14 February 2007 approving the provisions on natural frames, the construction of wind turbines in the natural frame area is not prohibited.

Cumulative effects are assessed with existing and planned wind turbines in the vicinity (e.g. UAB Windfarm Akmenė One, UAB Vyno parkai, etc.).

5. Description of the planned economic activity (key technical and economic indicators, alternatives considered, etc.).

UAB Windfarm Akmenė Two plans to build a wind farm of up to 6 units. Technological alternatives to the environmental impact assessment report:

- a rotor diameter of one wind turbine of 170 m, a tower height of 155 m, a total height of 240 m and a noise emissions of 106.0 dBA;
- a rotor diameter of one wind turbine of 162 m, a tower height of 149.159 m, a total height of 230.240 m and a noise emission of 104.8 dBA;
- a rotor diameter of one wind turbine of 162 m, a tower height of 149.159 m, a total height of 230.240 m and a noise emission of 104.5 dBA;
- a rotor diameter of one wind turbine of 162 m, a tower height of 149.159 m, a total height of 230.240 m and a noise emission of 105.5 dBA;
- a rotor diameter of one wind turbine of 158 m, a tower height of 161 m, a total height of 240 m and a noise emission of 107.0 dBA;
- one wind farm has a rotor diameter of 163 m, a tower height of 159 m, a total height of 240.5 m and a noise emission of 106.4 dBA.

At the time of drawing up the environmental impact assessment report, all planned technological alternatives were found to be equivalent, since the implementation of FBO under any chosen technological option will not result in physical pollution exceeding the legal and applicable limit values.

During the development of the technical design, wind turbine models may be replaced by other models without increasing the maximum wind turbine height, rotor diameter and noise emission parameters specified in the environmental impact assessment documents.

The main components of the wind turbine are the foundation, mast, stator, generator rotor, blades. The shoulder and the main wind farm cell are mounted on the top of the mast. The mast is designed in such a way that the rotor blades are kept at the desired distance from the ground, taking into account the wind speed. The inner part of the mast shall be equipped with the necessary equipment for the maintenance of the wind turbine and a lift. The stems are either seamlessly bonded steel tubes or structurally welded in blocks of steel components. During the PSE, wind turbines will be brought, unloaded and installed on the site with the help of special cranes. Depending on the weight and safety requirements of the wind turbine, steel rods and special purpose concrete for foundations will be used during construction. Once the foundations have been formed, wind towers, rotors and shoulders will be installed.

Information on production, use of energy, raw materials, chemicals

During the implementation of the planned economic activity, only wind energy will be used. The use of raw materials, substances and preparations (mixtures), including hazardous substances and preparations, radioactive substances, hazardous waste and non-hazardous waste is not intended.

Information on waste generation and management

The generation of hazardous, non-hazardous and radioactive waste is not foreseen during the operation of the FeV. Small amounts of non-hazardous waste (metal and mixed construction waste) may occur during the construction of wind turbines. This waste will be stored in special containers and transported for further treatment under contracts with waste managers. Waste will be managed in accordance with the provisions of the waste management legislation.

Information on the impact of FBO on land (surface and subsoil), soil, water

Nearest water body (up. (J-2) is 65 m away from FVA. Underground electric cables to connect wind farms to the electricity grid are expected to cross rivers or ducts in several locations. In these areas, underground electric cables will be built through a directional drill, in accordance with the requirements of the legislation and in order to minimise the environmental impact. The construction/installation of wind turbines and the civil infrastructure necessary for their operation will be carried out without prejudice to the hydrological regime of adjacent surface water bodies. According to the Flood Hazards and Risk Map, FeBOs are excluded from flood zones. No domestic or industrial effluent will be generated during the implementation of the FeV. The territory of the FeV is drained by general land-use drainage systems. Existing drainage systems and installations are expected to be maintained, the rest of the systems are to be reconstructed/reconstructed by preparing a part of the design of the drainage structures that have been damaged or are being restructured during the technical design phase. It is expected that the surrounding lands will not be affected by the development and implementation of remediation/reconstruction projects.

According to the State Geological Information System (GEOLIS), there are no geological phenomena and processes, geotopes on FEA parcels. The closest geotope is the Carpean Canyon, which is approximately 4.5 km away from the nearest PSA area.

The ground movement work will be carried out at the wind turbine installation sites. This part of the plot will be stripped of fertile soil and stored within the boundaries of the site in a designated area. The ground washed and/or the fertile soil layer would then be returned to the remediated area of power cables and transformers, the power cable installation lines would be smoothed out, the vector was restored and the remaining excavated soil would be distributed on the site by creating wind farm service sites.

Information on the impact of FBO on ambient air and climate

During the construction and operation of PSEs, chemical pollution can only be caused by the arrival of internal combustion engine vehicles serving wind turbines. After the implementation of the construction of the PSE wind turbines, it is expected that a maximum of one vehicle will serve 1 wind turbine per day. Emissions from motor vehicles are estimated to be negligible and therefore chemical pollution of ambient air is not further analysed in the environmental impact assessment report. The indirect positive impact of FBOs on ambient air quality is expected from the implementation of PFA. Wind energy is one of the renewable energy sources and its use reduces the consumption of fossil fuels and thus CO₂ and other pollutant emissions into the ambient air. The implementation of PHP is estimated to contribute to indirect positive impacts on ambient air quality and climate, as wind energy replaces organic fuels used to produce electricity.

Information on the impact of FEAD on landscape and biodiversity

Landscape, protected areas. According to the solutions for drawing the visual aesthetic potential of the landscape management plan approved by Order No D1-703 of the Minister for the Environment of the Republic of Lithuania of 2 October 2015 approving the National Landscape Management Plan (hereinafter referred to as 'the Landscape Plan'), the sites of the V1H2-d landscape are included in the visual structure type of landscape indicated by V1H2-d. The landscape of this visual structure type is dominated by a weak vertical patch (the landscape of the valleys of the plated valleys with two layered videotopes complexes). The horizontal visual strata of the landscape is with the landscape of the

predominance of semi-open spaces for the vast majority of viewable spaces. The spatial structure of the landscape, without clear vertical and horizontal interest.

The FeV area is not included in reserves, reserves, Natura 2000 or other protected areas. The nearest Natura 2000 Important Bird Area (SAA) – Forest near Dillbinge – is approximately 8 km away from the analysed site. The Zhangare Regional Park is around 8 km away from the PSA.

The landscape architect Dr Jonas Abrom carried out an expert assessment of the impact on the landscape. The first methodology (A. R. Budriūnas and K. Eringis) assesses landscapes from an aesthetical point of view on the basis of optimal diversity and harmony of objects and phenomena. The landscape was assessed on the basis of 80 attributes divided into 4 groups: the overall impressiveness of the landscape; the expressiveness of the relief; spatial diversity of vegetation; diversity and targeting of anthropogenic objects. The landscape was assessed from two spectacles (Bambale and Bambalai from Jautmalkiai). In terms of scores, the landscape observed from the first and second sights is classified as of low aesthetic quality. According to the results of the evaluation, the landscape was rated 31 points for the first wave without wind turbines and 33 points for the planned wind turbines. In addition to wind turbines, the landscape scored 38 points for the second and 38 points for the planned power plants. The difference in score shows that the visual – aesthetic quality of the wind turbines being designed will not be adversely affected. In the first case, the overall landscape image increases even marginally when assessed with the planned power plants. In the second case, the picture remains unchanged.

For the second assessment, a methodology was used to determine the significance and degree of contrast of the visual effects of the wind turbines and the nature of the effects from selected visual sites. The evaluation showed that the average impact on the settlements of Schapnag, Yautmalki and the New Akmenė – Žagare (No 153) landscapes is observed. The visibility of wind turbines is significantly reduced in the area of the Chapnags settlement by the existing forest massifs, the Soviet farm complex on the northern side of the settlement. The Jautmalki settlement is outside the Crown forest massif, but there are no plantations close to the settlement. From the north of the settlement, all the power plants that are designed will be visible as landscape spots. In the city of New Akmenė, power plants from some areas will be seen as subsurging landscapes. The impact is mitigated by an industrial area in the direction of wind turbines, forest massifs. Also significant distances, as the closest planned power plants are located > 5 km. The remote city of Akmenė is 17-18 km away from the planned wind farms. At this distance, power plants may be discernible but become remote background elements. The impact of the design of wind turbines away from or larger than forest massifs (Alkiškia, Cruopiai, Gairahai, marchist, Jagarė) will be negligible due to the existing forest massifs and the observation distance (5-12 km).

On the basis of the landscape impact assessment carried out, it was found that according to the map of the most valuable points of view of Lithuanian landscape panorama (Appendix to Annex¹ 1 to the Procedure), the closest point of view of the landscape panorama is the location of the Severe Average Review, which is approximately 34 km away from the FEA. Due to the extreme distance between the above-mentioned survey point and the planned wind turbines, the assessment of the impact on the landscape found that the closest view point of the landscape panorama, the location of the view of the highway, would not have a visual impact. The vertical angle of vision would be approximately 0,4 degrees and would not be less than 2,80 degrees vertical angle.

Biodiversity:

The assessment of protected plants, mushrooms and habitats of natural value was carried out by Dr Sigitas Juzen, PhD in the Botanical Strand. The wind farm ‘Windfarm Akmenė Two’ UAB planned to be built in Akmenė Two UAB, Kruopiai sen., will not have an inevitable negative impact on protected plants, mushrooms and natural habitats of particular natural value. Wind turbines, new access roads and underground electric cables are to be installed on agricultural plots where crops of low biological value

¹ The Procedure for assessing the environmental impact of planned economic activities (hereinafter ‘the Procedure’), approved by Order No D1-885 of the Minister for the Environment of the Republic of Lithuania of 31 October 2017 approving the procedure for assessing the environmental impact of planned economic activities.

are prevalent and low-extensive cold buckworm plantations. There are no valuable plantations and plantations and genetic resources in FSA impact zones. The increased spread of invasive and alien land plants in the area in question is not expected to occur due to the presence of FBOs, provided that temporary biotopes with open soil or ground are planted or otherwise handled in a timely manner.

The bat expert, Chairman of the Society for the Protection of Bat in Lithuania, biologist Deividas Makavičius, carried out bat studies and carried out an assessment in the territory of the Bay V. The planned activities for the installation of wind turbines in Area C1 will not have a negative impact on bats during breeding, summer feeding and migration due to the absence of bat breeding colonies in the HEAV area. Area C1 of wind turbines is not important for bats as feeding areas, as the area of agriculture with monocultures predominates: rapeseed, various types of cereals. These habitats are not attractive to bats due to the rich diversity and abundance of the species of Lepidoptera, Diptera, Coleoptera, etc. There are also no larger water bodies in the FeV area that are essential for bat breeding colonies. Therefore, the negative impact on bats during the breeding and migration periods will not be, or will be minimal, due to the installation of up to 6 wind farms in the FeV area.

The Ornithology expert, Aurelij Narbut, carried out the identification of breeding birds, bird crossings and feeding areas for birds of prey, as well as studies on monitoring autumn migration. The assessment of the impact of wind turbines on biodiversity was carried out on an expert basis, analysing all information on the state of biodiversity in the wind farm and adjacent areas. The impact of wind turbines on birds is likely to occur in breeding birds in the FEAV area, for grazing birds in adjacent surroundings, for birds of prey flying during breeding to the planned wind farm sites or via the FeV area. Negative impacts may occur on species in the vicinity of wind turbines, during migration, during migration, in the form of stockpiles in wind turbines, and for migratory bird species passing through wind turbines. During the construction of wind turbines, the noise factor is expected to increase due to construction due to construction, but outside the transition, the noise factor is not classified as a significant factor with potential adverse effects, it is temporary and the ornithophones of the FEAV area will not be significantly affected. The HEAV area is home to anthropogenic species, farm machinery is periodically employed in the field, and agricultural machinery is fed by birds working on the farmland, adapted to anthropogenic pressures. Geese, cliffs and crabs do not have adequate habitats for breeding, feeding and feeding in the FEAV area. Geese do not constitute accumulations of geese during migration, as there are no larger surface water bodies and transit during migration. A geese flying passes through wind turbines, which may have a negative impact on the flow of geese during migration, and it is therefore necessary to regulate the operation of wind turbines during migration. The cold buckworm berry trees in the Bay area are not attractive to the geese birds. White storms in adjacent environments did not pass, one socket was abandoned and the other was visited but did not pass. After the start of operation of wind turbines, parts of feeding areas for white pastures may be lost when they are built with statics, but there are alternative feeding points for birds with roughness, and there are sufficient distances between the white storm pairs and the planned wind turbines. The observations of the black storm are exceptional, which has been resting in the FEAV area, but is not exposed to the impact area of the wind turbines, but which has been observed below the BAU site in the Dabiki River, which extends above the Kwichlauki forest and the adjacent woodland within 1.8 km of the 36 wind farm. The grey winch is a common species in Lithuania, but is sensitive to the effects of wind turbines, collisions and disturbances. In the PSE area, where wind farms are planned, breeding habitats are not adequate, individual winches in these areas may feed, move more frequently between foraging areas or from one foraging area to another, and only be observed during migration in the adjacent area. At the time of observation, the winches fly to the rotor blades and there are alternative areas to build up the winches and therefore no significant impact on the winches is expected as a result of the FBO. For partridges and quails, a typical species adapted to the existing utilised agricultural area and anthropogenic practices will not be adversely affected by the FBO. There are no water bodies, gulls and trails in the HEAV area, only single crossings are monitored and no significant adverse effects are expected. Peppers and soil seedlings are widely received during migration and visit the territory of the FEA, but only to a limited extent. The larger stockings of common sponges

and soil seedlings occur in the adjacent area, but the species is not very vulnerable to the effects of wind turbines, so the expected negative effects will be minimal. Migrating finches are common to migratory species, the most abundant species of finches, and several less frequent northern species have been observed in the FEAV area. The average flight height below the shoulders of finches, pigeons flying in the Akmenė district will not have a significant impact on the migration of finches and horses. There is no high abundance in the area of the FEAV. There will be no significant adverse effects on the ornithofauna in the location and adjacent area of the FEAV due to the application of additional protection or compensatory measures.

Information on the impact of FEAD on material values

During the PMO, access roads are planned or adapted, the impact of such planned works on environmental components is not expected or will be short-term. Access routes to the planned wind turbines will not be located in protected areas, sites of natural habitats of European Community interest or sites. The site of the PSEV has been landed, so that the plant is to be maintained or reconstructed/reconstructed by preparing a part of the project for the design of the drainage structures that have been damaged or are being restructured as a result of the technical design. It is expected that the owners of the surrounding lands will not be affected by the development and implementation of remediation/reconstruction projects.

Local roads are expected to be used for access to wind turbines during and after the implementation of the PSE. The access routes to be used during the construction of the wind turbines will be coordinated with the Ministry of Transport and Communications or its subordinate institutions and with the municipality of Akmenė district and the communities concerned before the implementation of the PSE starts. Before construction starts, the parties' representatives will record the status of all planned roads using video recording devices (photographs and/or videos). In addition, it will record specific existing road infringements in a joint protocol. After completion of the construction, the parties' representatives will re-use video recording devices to record the actual state of the roads used and to identify the road infringements that UAB Windfarm Akmenė Two undertakes to remedy. This method will ensure that all road damage caused by UAB Windfarm Akmenė Two is restored or otherwise compensated. In order to reduce the negative impact on environmental components, there are no plans to use the Schapnag g. road 153 from Joniškis-Žagare-New Akmene to mid-Sharnage, as the community has already expressed its position in 2020 that this section is recently cleaned and the community fears that the road will be damaged. It should be noted that roads will not change the capacity of existing drainage ditches.

The electricity generated by wind turbines will be connected via underground power cable lines to the connection point specified in the grid operator's connection conditions. Underground power cables may be built through public (in coordination with the National Land Office) or private (subject to consent) plots of land. It is envisaged that underground power lines will be run along existing forest paths.

Information on the impact of FEAD on cultural real estate

There are no immovable cultural goods in the FEAV area. The area closest to the wind farms is located 1.7 km from the old public cemeteries. According to the map of the Register of Cultural Property, the FEAV site does not enter cultural heritage sites and their protection zones.

Information on the impact of FBO on public health

The WindPRO programme has been calculated on the basis of nine variants. The noise emission calculations carried out show that the noise level of planned wind turbines in the immediate residential environment may be between 11.1 and 37.8 dBA for all daily periods, while the total noise level may be between 30.9 and 41.1 dBA and shall not exceed the noise limit values set out in point² 7 of the Hygiene standard (L_{day} 55 dBA, L_{evening} 50 dBA, L_{night} 45 dBA).

² Lithuanian Hygiene Standard HN 33:2011 'Noise limit values in residential and public buildings and their surroundings', approved by Order No V-604 of the Minister for Health of the Republic of Lithuania of 13 June 2011 approving Lithuanian Hygiene Standard HN 33:2011 'Noise limit values in residential and public buildings and their surroundings' (hereinafter 'the Hygiene Standard').

The area within the sanitary protection zone varies between 47.46 and 132.58 ha depending on the planned wind turbine models. The boundary of the sanitary protection zone is approximately 135-360 m away from the planned wind turbines.

The Shadow Dissemination calculations were performed using WindPRO for nine variants. Estimates of the spread of shadowing show that in the immediate living environment, shadowing can be between 00:00 h/m and 10:37 h/m and will not exceed 30 hours/year. A cumulative assessment has identified a risk of overshooting of 30 hours/year. In order to ensure that the implementation of FEA does not exceed 30 hours the annual duration of shadow firing, an anti-flickering system will be introduced. This control system stops wind turbines when the sensors installed exceed the applicable values. Wind turbines shall be started automatically at least 10 minutes after shutdown, when the current lighting conditions do not allow for intense shadow flicker.

Information on the risk of FEAD due to extreme events and situations

There are no natural risk factors (landslides, seismic movements) or external technical factors (e.g. high establishments located nearby) identified in the PSE area in question that could cause extreme events. To avoid potential extreme events, wind turbines will be equipped with the following safety and management systems: braking system, lightning protection system, control system. Wind turbines shall also be equipped with a lighting system to warn the means of flight of a potential obstacle.

6. Measures to prevent, reduce, compensate for or address the expected negative effects on the environment. A description of these measures shall be provided, indicating at what stage of the economic activity they will be planned and implemented (e.g. building permit, authorisation to use underground resources or cavities, integrated pollution prevention and control permit, pollution permit or other statutory permits, operational phase, closure phase).

6.1. Existing drainage systems and installations are expected to be maintained, the rest of the systems are to be reconstructed/reconstructed by preparing a part of the design of the drainage structures that have been damaged or are being restructured during the technical design phase. It is expected that the owners of the surrounding lands will not be affected by the development and implementation of remediation/reconstruction projects.

6.2. The construction/installation of wind turbines and the civil infrastructure necessary for their operation will be carried out without prejudice to the hydrological regime of adjacent surface water bodies. In places where underground electric cables will be built through rivers/channels, they will be built through a directional drill, in accordance with the requirements of the legislation and in order to minimise the impact on the environment.

6.3. During the construction of the wind turbines, the fertile soil that is removed will be stored in a dedicated site within the boundaries of the site. The pill and/or the fertile soil layer will subsequently be returned to the remediated area of the power cables and transformers, the wiring sites will be levelled, the turf is restored and the remaining excavated soil will be distributed on the site by creating wind turbine service sites.

6.4. During the operation of wind turbines, bird observations will be carried out in accordance with the approved monitoring programme. It is envisaged to develop and approve a bird surveillance programme before the construction of wind turbines starts. If significant negative impacts of wind turbines are identified during monitoring, effective mitigation and compensation measures will be applied: wind turbine stopping during intensive bird migration hours; wind turbine braking during feeding, migration, etc. of birds to be protected (birds of prey, black storks, other sensitive species).

6.5. The improvement of the diet habitat conditions for swedes, megrim, quails, black storks, white storks, wipers, meadow sprouts, reed sprouts, small eagle horns outside the wind farm, restoring grassland to good environmental status (extensive grassland management through grazing, mowing, felling and cutting of degraded shrubs) is envisaged. 2 ha of grassland restoration per wind turbine, co-reconstruction of 12 ha of abandoned grassland).

6.6. Support for other environmental projects is envisaged and these measures are selected on a case-by-case basis on the basis of the impacts identified in the studies.

6.7. In view of the breeding of monkeys, swedes, quails and meadows in the FeV area, protected birds are fed on grassland during the breeding period: blackgrass, white pasture, steedling, meadow harrier,

Noisy, habitat changes or habitat destruction during bird reproduction (May-June) will not be carried out during the construction of wind turbines.

6.8. It is envisaged to develop and approve a bat monitoring programme prior to the start of the construction of wind turbines. In order to improve breeding conditions, to allow bats to dry safely during migration and to maintain them at a safe distance from FBOs during summer, special indoors outside the wind farm need to be raised. It is appropriate to lift a minimum of 9 inches, bringing them in 3 to one tree (1 inching area) giving priority to the area of Akmenė district. Monitor bats during breeding and migration for 3 years after the installation of the wind farm. In addition to observations/arrivals, data on bat fatalities must be recorded. Decide on the need for further monitoring following the assessment of the data from the 3rd year of monitoring and adapt the revised necessary measures to reduce the impact on bats.

6.9. Local roads are expected to be used for access to wind turbines during and after the implementation of the PSE. The access routes to be used during the construction of the wind turbines will be coordinated with the Ministry of Transport and Communications or its subordinate authorities and with the local administration of Akmenė district and the communities concerned before the implementation of the PSE starts. Before construction starts, the parties' representatives will record the status of all planned roads using video recording devices (photographs and/or videos). In addition, it will record specific existing road infringements in a joint protocol. After completion of the construction, the parties' representatives will re-use video recording devices to record the actual state of the roads used and to identify the road infringements that UAB Windfarm Akmenė Two undertakes to remedy. This method will ensure that all road damage caused by UAB Windfarm Akmenė Two is restored or otherwise compensated. In order to reduce the negative impact on environmental components, there are no plans to use the Schapnag g. road 153 from Joniškis-Žagare-New Akmene to mid-Sharnage, as the community has already expressed its position in 2020 that this section is recently cleaned and the community fears that the road will be damaged. It should be noted that roads will not change the capacity of existing drainage ditches.

6.10. Underground power cables may be built through public (in coordination with the National Land Office) or private (subject to consent) plots of land. It is envisaged that underground power lines will be run along existing forest paths.

6.11. An anti-flickering system is intended to be used. The anti-flickering system ensures that the firing of shadows in the living environment does not exceed 30 hours per year.

7. Brief description of the environmental monitoring (monitoring) measures, if applicable.

The monitoring of birds and bats will be carried out in accordance with the data provided in Chapter 2.11 'Monitoring' of the environmental impact assessment report.

8. The conclusions of the subjects of the environmental impact assessment (nature, date, letter ref.) were submitted.

8.1. By letter ref. S-1800 of 19 August 2022, Akmenė District Municipal Administration (hereinafter 'the Municipality') concluded that it did not agree with the environmental impact assessment report of the PSA, since one wind farm was planned to be built less than 1 km from the individual residential buildings of the villages. In accordance with point 2.3 of Decision No T-150 of 27 June 2022 of Akmenė District Municipal Council amending Decision No T-146 of 28 June 2021 of Akmenė District Municipal Council on the installation of wind turbines in a potential part of the demarcated area for the installation of wind turbines ('the municipal decision'), which states that wind turbines may be installed at a distance of at least 1 km from the residential buildings of individual gardens in the villages, unless there is consent from the owner of the plantation to reduce the distance. In accordance with Article 11(6) of the EIA Law, the Environmental Protection Agency invited the participants in the environmental impact assessment process to participate in a consultation to discuss the opinion of the municipality prior to the adoption of a decision on the environmental impact of the FEA. A meeting with representatives of the

responsible authorities, the environmental impact assessment entities, the drafters of the environmental impact assessment report, the sponsor of the FEA took place at 24.8.2022, 10 a.m. via web-streaming. During the remote consultation, the Municipality clarified its conclusion by stating that it was in agreement with the PMO and the environmental impact assessment report, provided that the requirements laid down in the municipal decision were met before the building permit was issued.

8.2. The Šiauliai Fire Rescue Board of the Fire and Rescue Department under the Ministry of the Interior concluded by letter 9.4-6-594 of 22 June 2022 that it was harmonising the environmental impact assessment report and agreed with the PSA.

8.3. By letter ref. (6-11 14.3.3 Mr)2-35134 of 7 July 2022, Šiauliai Department of the National Public Health Centre under the Ministry of Health concluded that it was in agreement with the FBO and the environmental impact assessment report.

8.3. At the stage of the examination of the environmental impact assessment programme, Šiauliai Division of the Cultural Heritage Department under the Ministry of Culture stated that it would coordinate the environmental impact assessment programme without comment and would not examine the environmental impact assessment report.

8.5. By letter ref. V3-1070 of 18 July 2022, the State Service for Protected Areas under the Ministry of the Environment (hereinafter 'WSTT') concluded that it was in agreement with the quality of the environmental impact assessment report and that it did not object to the implementation of the SEA in accordance with section 2.5.4 of the environmental impact assessment report. Measures to mitigate significant adverse effects. The measures must be carried out at the expense of the sponsor of the FEA.

9. Public information and participation (where, when, when the public is informed and involved, the nature of the proposals from the public concerned by the subject matter is summarised).

Information on the public awareness of the environmental impact assessment report was published on the notice board of Akmenė District Municipal Administration on 21 April 2022, on the notice board of Akmenė District Municipal Administration of Kruopiai on 22 April 2022, on the website of UAB Nomine Consult, the author of the environmental impact assessment documents, on the website <https://nomineconsult.com/> (21 April 2022) and on the 'Unilament' newspaper (23 April 2022). A public presentation of the environmental impact assessment report took place on 24 May 2022, in the meeting room of the Cruopiai Department (2nd century), Vytauto G. 4, Kruopiai mstl. The meeting was attended by representatives of the author of the environmental impact assessment documents, the organiser of the FEA (the commissioner) and the public.

The Environmental Protection Agency has made the environmental impact assessment report available to the public on its website aaa.lrv.lt on 20 July 2022. The Environmental Protection Agency did not receive proposals from the public concerned regarding the environmental impact assessment report and the environmental impact of the FEA within the prescribed time limit. In accordance with Article 11(6) of the EIA Law, the Environmental Protection Agency invited the participants in the environmental impact assessment process to participate in a consultation to discuss the opinion of the municipality prior to the adoption of a decision on the environmental impact of the FEA. A meeting with representatives of the responsible authorities, the environmental impact assessment entities, the drafters of the environmental impact assessment report, the sponsor of the FEA took place on 24 August 2022 at 10 a.m. via web-streaming.

10. Transboundary consultation (where, when, how the consultation took place, the nature of the proposals received).

FeV is located around 0.8 km away from the Lithuanian-Latvian border. The PSE was subject to a transboundary environmental impact assessment procedure with the Republic of Latvia. By letter ref. D8(E)-4826 of 20 September 2022, the Ministry of the Environment informed the Environmental Protection Agency that the Latvian State Environmental Protection Bureau by letter No 5-05/921/2022 of 12 September 2022 (hereinafter 'the letter') informed the Republic of Lithuania of cross-border consultations on PŪV – UAB 'Windfarm Akmenė Two' up to 6 wind parks Akmenė r. Municipality,

Kruopiai old. Completion of the transboundary environmental impact assessment in zone C1. The Latvian State Environmental Protection Bureau has requested to provide information on the monitoring carried out in the course of the activity.

11. Conditions for the implementation of the proposed economic activity in relation to the environmental impact assessment carried out:

11.1. The developer of the PSA is required to implement and implement, at its own expense, the measures referred to in the environmental impact assessment report and paragraph 6 above to prevent, reduce, compensate for or eliminate adverse effects on the environment.

11.2. If, in the course of the activity carried out, it appears that the environmental impact is greater than the indicators set out in the environmental impact assessment report or laid down in the legislation, the operator will be obliged to immediately apply additional measures to reduce the environmental impact or to reduce the volume of the activity/discontinue the activity.

11.3. Activities must be carried out in accordance with the provisions of the Law of the Republic of Lithuania on Special Land Use Conditions, the Forestry Law of the Republic of Lithuania and the provisions of other legal acts.

11.14. The conditions set out in the VSTT's letter No V3-1070 of 18 July 2022 must be fulfilled.

11.15. It is envisaged to use an anti-flickering system to reduce shadow friction in living environments.

11.16. The requirements laid down in the Municipal Decision must be met before the building permit is issued.

11.17. Local roads are expected to be used for access to wind turbines during and after the implementation of the PSE. The access routes to be used during the construction of the wind turbines will be coordinated with the Ministry of Transport and Communications or its subordinate institutions and with the municipality of Akmenė district and the communities concerned before the implementation of the PSE starts. Before construction starts, the parties' representatives will record the status of all planned roads using video recording devices (photographs and/or videos). In addition, it will record specific existing road infringements in a joint protocol. After completion of the construction, the parties' representatives will re-use video recording devices to record the actual state of the roads used and to identify the road infringements that UAB Windfarm Akmenė Two undertakes to remedy. This method will ensure that all road damage caused by UAB Windfarm Akmenė Two is restored or otherwise compensated. In order to reduce the negative impact on environmental components, there are no plans to use the Schapnag g. road 153 from Joniškis-Žagare-New Akmenė to mid-Sharnage, as the community has already expressed its position in 2020 that this section is recently cleaned and the community fears that the road will be damaged. It should be noted that roads will not change the capacity of existing drainage ditches.

11.18. The electricity generated by wind turbines will be connected via underground power cable lines to the connection point specified in the grid operator's connection conditions. Underground power cables may be built through public (in coordination with the National Land Office) or private (subject to consent) plots of land. It is envisaged that underground power lines will be run along existing forest paths.

11.19. For the implementation of environmental mitigation measures, see Annex 9 "Expert Assessment Reports of Landscape and Biodiversity Experts" of the Environmental Impact Assessment Report.

11.20. Monitor birds and bats. Provide summaries of the annual bird and bat monitoring report in English to the Ministry of the Environment of the Republic of Lithuania.

12. Reasons on which the decision on the environmental impact of the proposed economic activity was based:

12.1. The environmental impact assessment entities which examined the environmental impact assessment report and submitted the conclusions: Akmenė District Municipal Administration, Šiauliai Department of the National Public Health Centre under the Ministry of Health, Šiauliai Fire Rescue Board

of the Fire and Rescue Department under the Ministry of the Interior issued positive conclusions on the environmental impact assessment report and the environmental impact of the FSA in accordance with the provisions of Article 10 of the EIA Law.

12.2. According to the solutions of the mapping of the visual aesthetic potential of the landscape in the landscape plan, part of the site of the FEA falls within the visual structure type of the landscape, as indicated by the V1H2-d indices. The landscape of this visual structure type is dominated by a weak vertical patch (the landscape of the valleys of the plated valleys with two layered videotopes complexes). The horizontal visual strata of the landscape is with the landscape of the predominance of semi-open spaces for the vast majority of viewable spaces. The spatial structure of the landscape, without clear vertical and horizontal interest.

On the basis of the landscape impact assessment carried out, it was found that according to the map of the most valuable points of view of Lithuanian landscape panorama (Appendix to Annex 1 to the Procedure), the closest point of view of the landscape panorama is the location of the Severe Average Review, which is approximately 34 km away from the FEA. Due to the extreme distance between the above-mentioned survey point and the planned wind turbines, the assessment of the impact on the landscape found that the closest view point of the landscape panorama, the location of the view of the highway, would not have a visual impact. The vertical angle of vision would be approximately 0,4 degrees and would not be less than 2,80 degrees vertical angle.

12.3. The FeV area is not included in reserves, reserves, Natura 2000 or other protected areas. The nearest Natura 2000 Important Bird Area (SAA) – Forest near Dillbinge – is approximately 8 km away from the analysed site. Zagaré Regional Park, approximately 8 km away from PSA. By letter No V3-1070 of 18 July 2022, the SSTT stated that it was in favour of the quality of the environmental impact assessment report and that it did not object to the implementation of the PMO in accordance with section 2.5.4 of the environmental impact assessment report. Measures to mitigate significant adverse effects. The measures must be carried out at the expense of the sponsor of the FEA.

12.4. The waste generated will be managed in accordance with the provisions of the waste management legislation.

12.5. Only non-exhaustible wind energy will be used during the PMO implementation. The use of raw materials, substances and preparations (mixtures), including hazardous substances and preparations, radioactive substances, hazardous waste and non-hazardous waste is not intended.

12.6. The WindPRO programme has been calculated on the basis of nine variants. The noise emission calculations carried out show that the noise level of planned wind turbines in the immediate residential environment may be between 11.1 and 37.8 dBA for all daily periods, while the total noise level may be between 30.9 and 41.1 dBA and shall not exceed the noise limit values set out in point³ 7 of the Hygiene standard (L_{days} 55 dBA, L_{evening} 50 dBA, $L_{\text{night}_{45}}$ dBA).

The Shadow Dissemination calculations were performed using WindPRO for nine variants. Estimates of the spread of shadowing show that in the immediate living environment, shadowing can range from 00:00h/m to 10:37 h/m and will not exceed 30 hours/m, and the cumulative assessment carried out showed that there is a risk of overshooting of 30 hours/m, therefore mitigating measures are adapted to limit the shadowing to 30 hours/m. An anti-flickering system will be introduced to ensure that the implementation of the FEA does not exceed 30 hours per year. The anti-flickering system ensures that the firing of shadows in the living environment does not exceed 30 hours per year. This control system stops wind turbines when the sensors installed exceed the applicable values. Wind turbines shall be started automatically at least 10 minutes after shutdown, when the current lighting conditions do not allow for intense shadow flicker.

³ Lithuanian Hygiene Standard HN 33:2011 ‘Noise limit values in residential and public buildings and their surroundings’, approved by Order No V-604 of the Minister for Health of the Republic of Lithuania of 13 June 2011 approving Lithuanian Hygiene Standard HN 33:2011 ‘Noise limit values in residential and public buildings and their surroundings’ (hereinafter ‘the Hygiene Standard’).

12.7. The planned activities for the installation of wind turbines in Area C1 will not have a negative impact on bats during breeding, summer feeding and migration due to the absence of bat breeding colonies in the HEAV area. Area C1 of wind turbines is not important for bats as feeding areas, as the area of agriculture with monocultures predominates: rapeseed, various types of cereals. These habitats are not attractive to bats due to the rich diversity and abundance of the species of Lepidoptera, Diptera, Coleoptera, etc. There are also no larger water bodies in the FeV area that are essential for bat breeding colonies. Therefore, the negative impact on bats during the breeding and migration periods will not be, or will be minimal, due to the installation of up to 6 wind farms in the FeV area.

12.8. The assessment of the impact of wind turbines on biodiversity was carried out on an expert basis, analysing all information on the state of biodiversity in the wind farm and adjacent areas. The impact of wind turbines on birds is likely to occur in breeding birds in the FEAV area, for grazing birds in adjacent surroundings, for birds of prey flying during breeding to the planned wind farm sites or via the FeV area. Negative impacts may occur on species in the vicinity of wind turbines, during migration, during migration, in the form of stockpiles in wind turbines, and for migratory bird species passing through wind turbines. During the construction of wind turbines, the noise factor is expected to increase due to construction due to construction, but outside the transition, the noise factor is not classified as a significant factor with potential adverse effects, it is temporary and the ornithophones of the FEAV area will not be significantly affected. The HEAV area is home to anthropogenic species, farm machinery is periodically employed in the field, and agricultural machinery is fed by birds working on the farmland, adapted to anthropogenic pressures. Geese, cliffs and crabs do not have adequate habitats for breeding, feeding and feeding in the FEAV area. Geese do not constitute accumulations of geese during migration, as there are no larger surface water bodies and transit during migration. A geese flying passes through wind turbines, which may have a negative impact on the flow of geese during migration, and it is therefore necessary to regulate the operation of wind turbines during migration. The cold buckworm berry trees in the Bay area are not attractive to the geese birds. White storms in adjacent environments did not pass, one socket was abandoned and the other was visited but did not pass. After the start of operation of wind turbines, parts of feeding areas for white pastures may be lost when they are built with statics, but there are alternative feeding points for birds with roughness, and there are sufficient distances between the white storm pairs and the planned wind turbines. The observations of the black storm are exceptional, which has been resting in the FEAV area, but is not exposed to the impact area of the wind turbines, but which has been observed below the BAU site in the Dabiki River, which extends above the Kwichlauki forest and the adjacent woodland within 1.8 km of the 36 wind farm. The grey winch is a common species in Lithuania, but is sensitive to the effects of wind turbines, collisions and disturbances. In the PSE area, where wind farms are planned, breeding habitats are not adequate, individual winches in these areas may feed, move more frequently between foraging areas or from one foraging area to another, and only be observed during migration in the adjacent area. At the time of observation, the winches fly to the rotor blades and there are alternative areas to build up the winches and therefore no significant impact on the winches is expected as a result of the FBO. For partridges and quails, a typical species adapted to the existing utilised agricultural area and anthropogenic practices will not be adversely affected by the FBO. There are no water bodies, gulls and trails in the HEAV area, only single crossings are monitored and no significant adverse effects are expected. Peppers and soil seedlings are widely received during migration and visit the territory of the FEA, but only to a limited extent. The larger stockings of common sponges and soil seedlings occur in the adjacent area, but the species is not very vulnerable to the effects of wind turbines, so the expected negative effects will be minimal. Migrating finches are common to migratory species, the most abundant species of finches, and several less frequent northern species have been observed in the FeV area. The average flight height below the shoulders of finches, pigeons flying in the Akmenė district will not have a significant impact on the migration of finches and horses. There is no high abundance in the area of the FEAV. There will be no significant adverse effects on the ornithofauna in the location and adjacent area of the FeV due to the application of additional protection or compensatory measures.

12.9. All requirements applicable to PSE will be implemented before the building permit is issued, i.e. including the relevant requirements adopted by the Municipal Decision.

12.10. The Environmental Protection Agency did not receive proposals and an environmental impact assessment report from the public concerned within the legal deadline.

12.11. According to the information provided in the environmental impact assessment report, the use of environmental mitigation measures and the fulfilment of the conditions set out in paragraph 11 of the Decision would not result in significant adverse impacts on the soil, the surface and its subsoil, water, material assets, immovable cultural assets, biodiversity, landscapes and interactions between these elements. Significant adverse effects on public health from biological, chemical and physical factors caused by FBOs; the risk of significant adverse effects on the environment and public health due to the risk of FEA Events and Situations.

13. Nature of the decision on the environmental impact of the proposed economic activity (indicating whether the proposed economic activity complies/does not comply with the requirements of legislation on environmental protection, public health, protection of cultural heritage, fire protection and civil protection).

In the light of the foregoing, and in accordance with Article 11(1)(2) of the EIA Law, a decision is taken as follows: UAB “Windfarm Akmenė Two” PŪV – up to 6 wind farm Akmenė r. Municipality, Kruopiai old. In zone C1, subject to compliance with the measures and conditions set out in paragraphs 6 and 11 of this Decision, shall comply with the requirements of legislation on the protection of the environment, public health, the protection of immovable cultural heritage, fire protection and civil protection.

The decision on the environmental impact of FEAs is based on the submission of the Environmental Impact Assessment Report, which is published on the Environmental Protection Agency’s website <https://aaa.lrv.lt/> under the Environmental *Impact Assessment (EIA)* > 2022 year > 9. *Information on decisions taken on the environmental impact of planned economic activities in 2022*, and is an integral part of this Decision.

14. Specify the procedure for appealing against the decision on the environmental impact of the proposed economic activity.

You have the right to appeal against this decision to the Lithuanian Administrative Disputes Commission (Vilniaus g. 27, 01402 Vilnius) in accordance with the procedure laid down by the Law on the procedure for the pre-trial examination of administrative disputes of the Republic of Lithuania or to Vilnius Regional Administrative Court (Žygimantų g. 2, 01102 Vilnius) in accordance with the procedure laid down by the Law on Administrative Proceedings of the Republic of Lithuania within one month of the date of notification of this Decision.

General Manager

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**DECISION OF THE ENVIRONMENTAL PROTECTION AGENCY CONCERNING UP TO 6
WIND FARMS IN AKMENĖ R. SAV., CRUOPLE SEN. IN ZONE C1
LIST OF ADDRESSEES OF ENVIRONMENTAL IMPACTS**

Akmenė District Municipality Administration
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National Public Health Centre under the Ministry of Health
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Fire and Rescue Department under the Ministry of the Interior
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Cultural Heritage Department under the Ministry of Culture
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Lithuanian Ministry of the Environment
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