
WIND FARM
STIP
Clean Energy for a sustainable
future in North Macedonia
ALCAZAR
ENERGY
UNLOCKING SUSTAINABLE INVESTMENT,
ENABLING THE ENERGY TRANSITION

ALCAZAR ENERGY IS DEVELOPING STIP WIND FARM PROJECT

In June 2024, Alcazar Energy, a sustainable infrastructure fund focused on renewable energy backed by Development Banks, announced the launch of the largest wind farm project in North Macedonia with a capacity of up to 396 MW.

The proposed project is mainly located in the Municipality of Stip, with smaller sections in Karbinci and Radovish. It is bordered by Buchim village and mine to the southeast, agricultural land to the west, and Key Biodiversity Areas (KBA) Lake Mantovo and Lakavica River to the south. To the northwest, it is near Stip, while the northern side opens towards Ovce Pole and the Bregalnica River Valley, extending to the Vardar River Valley.

The Project is planned to be developed in three phases (Stip1-3):

- Stip 1 Wind Farm (WF) is comprised of Wind Turbie Generators (WTGs) 1–21, Overhead Transmission Line, substation, and the internal roads and buried cables that will connect the Stip 1 WTGs.
- Stip 2 WF is comprised of WTGs 22–38 and the internal roads and buried cables that will connect the Stip 2 WTGs.
- Stip 3 WF is comprised of WTG 39–54 and the internal roads and buried cables that will connect the Stip 3 WTGs.

Construction of Stip 1 is planned to begin in the second quarter of 2026 and is expected to take around two years, with the wind farm becoming operational by mid-2028. The construction of Stip 2 and Stip 3 is expected to start partly alongside Stip 1 and partly afterwards, meaning that the three phases may overlap during parts of the construction period.

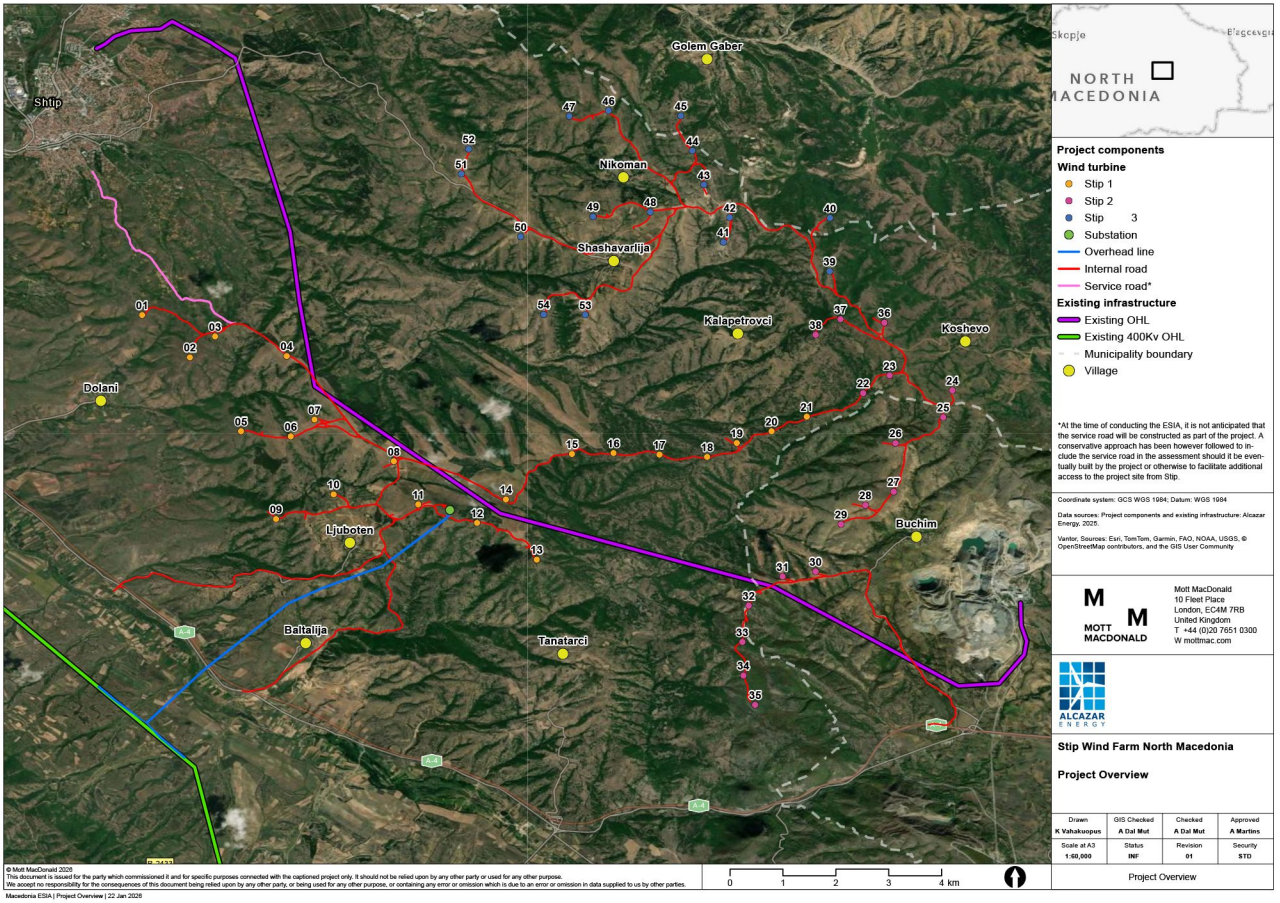
The entire project is expected to be fully operational by 2029 and to remain in operation for 25 to 30 years. The wind farm is expected to produce over 1,340 GWh of electricity annually, with an assumed operational lifetime of 25 years.

The Project area is approximately 335 hectares including a substation that will be built as part of the Project. WTGs will be connected to a 35/400 kV substation to be built for the project, via 35kV buried cables. From the substation, the project will connect to the grid (400kV transmission line) via an approximately 7km long 400kV OHL. The Project will also include the construction or reconditioned of approximately 68km internal roads, for the access and interconnection of the wind turbines.

The design of the Project is finalised, since the combined engineering and environmental studies are completed, the positions of the WTGs and internal roads are confirmed.

Project Highlights

- The Wind Farm will play a pivotal role in advancing North Macedonia's Just Transition Investment Platform, announced at COP28, and make a substantial contribution to reducing the country's greenhouse gas emissions.
- Improved access road and new internal roads will enhance mobility of the local community providing wider and safer roads.



- Temporary employment will be created during the construction phase for relevant roles. A number of long-term employment opportunities will also be created during the operational phase. Alcazar Energy will work with its contractors to maximise local employment as practicably possible.
- Regional and local companies will be involved throughout the project implementation phase providing consultancy / advisory as well as construction and supporting services.
- The Project will apply best international practices to minimise any environmental impacts and promote opportunities for value creation.

Example of a wind project in operation in Montenegro

Pouring concrete in a WTG foundation under construction

Environmental and Social Impact Assessment (ESIA)

An ESIA is an important assessment of the environmental and social aspects of the project, which is conducted prior to commencement of construction. The ESIA aims to prevent or minimise adverse environmental and social risks and impacts that could arise during the construction and operational stages of the Project and to maximize positive impacts to the extent possible. An important aspect of the ESIA process is stakeholder engagement, including engagement with local communities to the Project.

The ESIA completed, in line with applicable national legislation as well as international best practice standards including IFC Performance Standards on Environmental & Social Sustainability, EIB Environmental and Social Policy, EBRD Environmental and Social Policy, and applicable EU regulations.

The full ESIA Disclosure Package, including the Non-Technical Summary (NTS), is available through multiple channels to ensure easy access for all stakeholders:

- **Macedonian:** on the Project and municipal websites, and in printed form at key locations within local authorities and nearby villages.
- **English:** on the Project and municipal websites.
- **Turkish:** shared with the Buchim and Shashavarlija communities.

A Public Disclosure Meeting will be held to present the Project and gather feedback from all interested stakeholders. The ESIA documents and meeting invitation are available on the Project and municipal websites.

Feedback and comments are welcomed through the Project Grievance Mechanism or by contacting the local Environmental and Social (E&S) and/or the Community Liaison Officer (CLO).

STIP **WIND FARM PROJECT**

Stakeholder Engagement

An integral part of the ESIA process is to obtain feedback from people who may be affected by, or who are interested in the Project – the Project's stakeholders. Consultations with stakeholders have been undertaken during the development phase and will be undertaken by will be undertaken through the ESIA Disclosure Period. Stakeholders will be able to:

- Learn about the Project and the future outcome of the ESIA
- Gain an understanding as to how the project impacts will be managed and make comments and suggestions about those issues they are concerned about
- Be provided with contact details to enable them to raise any future concerns using our Feedback Mechanism

Grievances and Feedback

Alcazar Energy is committed to operating with the highest levels of integrity in line with our Code of Ethics and Business Conduct. Alcazar Energy values engagement, transparency, and accountability towards stakeholders that could be impacted by or have an interest in our assets. Alcazar Energy accepts comments concerning the Project, including anonymous submissions. For any concerns or questions about the Project, please refer to :
https://alcazar.integrityline.com

Stakeholder engagement with land users during focus group discussions

ESIA Scoping Report presentation for Stip Wind Farm Project

Frequently Asked Questions (FAQs)

General

Q1: What is the Stip Windfarm Project?
A1: The Project is a wind farm with up to 54 wind turbine generators and a total capacity of up to 396 MW. It is mainly located in the municipality of Stip, with smaller areas in Radovish and Karbinci.

Q2: Who is the developer of this Project?
A2: The Project is being developed by a set of Special Purpose Vehicles (SPVs), or Project Companies, in North Macedonia, fully owned by Alcazar Energy Partners (AEP). AEP will manage the Project's development, construction, and operation.

Q3: Why is the Project needed and what are the main benefits?
A3: The Project will help produce renewable electricity, reduce carbon emissions, support national energy goals, and create local benefits.

Q4: What happens at the end of the Project?
A4: At the end of the Project's life, the wind farm infrastructure will be safely removed and the land will be restored in line with the regulations in place at that time.

Environmental and Social Impact Assessment

Q1: What are the relevant impacts?
A1: The main impacts are expected to be temporary noise, dust, traffic, and some temporary changes in access to land during construction, as well as the visual presence of turbines during operation. No homes are expected to be relocated because of the Project.

Q2: Will the Project affect historical or cultural sites or social habits?
A2: Known archaeological sites have been avoided in the design, and important cultural locations will be protected.

Q3: Will I be able to hear noise from the WTGs?
A3: Noise levels will depend on distance, wind direction, and local conditions. These impacts have been studied, and mitigation measures are included in the ESIA.

Q4: Will shadow flicker affect homes?
A4: A small number of homes may experience limited shadow flicker, and mitigation measures will be applied where needed.

Q5: What is the risk of blade throw and ice throw?
A5: Blade throw is extremely rare, and the risk is considered very low. It may occur in the unlikely event of a structural failure of a WTG, for example as a result of a lightning strike. Ice throw may occur when ice or snow builds up on the blades. WTGs are equipped with systems to detect ice on the blades and mechanisms to support safe operation. However, it is recommended not to stay close to a WTG in winter conditions.

Q6: Will birds, wildlife, and habitats be affected?
A6: Twelve-month surveys have been carried out, and measures will be put in place to reduce impacts, including monitoring and, where needed, stopping some turbines at certain times. The ESIA used the findings of these surveys to assess potential risks to resident and migratory birds, as well as other fauna and flora. Specific protocols will be in place during operation to help prevent impacts on bird species of conservation value. This is usually done through bird observers and the selective stoppage of specific WTGs to help prevent collisions. Sensitive habitats, such as oak woodland and steppe grassland, will be avoided and compensated where needed. Measures include seasonal restrictions, species relocation, habitat restoration, and long-term biodiversity monitoring.

Construction Activities and Logistics

Q1: When will construction start?
A1: Construction of Stip 1 WF is planned to begin in the second quarter of 2026, and the full Project is expected to be operational in 2029.

Q2: Which routes will trucks use?
A2: Most construction traffic is expected to use the main access road from the A4 highway.

Q3: Will there be traffic congestion?
A3: Major traffic disruption is not expected during construction, and a Traffic Management Plan will be prepared to help reduce disturbance.

Q4: What will working hours be?
A4: Working hours will be confirmed once the contractor is appointed.

Q5: Will access be restricted?
A5: Yes. Active construction areas will be clearly marked, and access will be limited for safety reasons.

Employment and Economic Opportunities

Q1: Will there be local employment opportunities?
A1: Yes. Local people may have opportunities to work on the Project during construction, depending on skills, experience, and available roles.

Q2: How long will jobs last?
A2: Job duration will depend on the type of work and may range from a few weeks to over a year.

Q3: Will local businesses benefit?
A3: Yes. Local suppliers and service providers may benefit from opportunities linked to construction and Project activities.

Public Services

Q1: Will nearby communities get better access to electricity?
A1: No. The electricity produced by the wind farm will be supplied to the national grid.

Q2: Will local infrastructure be improved?
A2: Access roads within the Project area may be improved, but wider infrastructure upgrades are not part of the Project.

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