

# **POSSIBILITIES AND LIMITATIONS OF LOCATING WIND FARMS IN SERBIA**

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- Participation of renewable energy in the total energy is negligible in Serbia, and Serbia's obligation is to increase it.
- In recent years, the topic of renewable energy is integrated into spatial plans, either in a separate sector (eg in the Spatial Plan of the Republic of Serbia) or within the energy sector.
- Although there is no unique way to solve the conflicts in spatial utilisation requirements, good examples from practice can help.

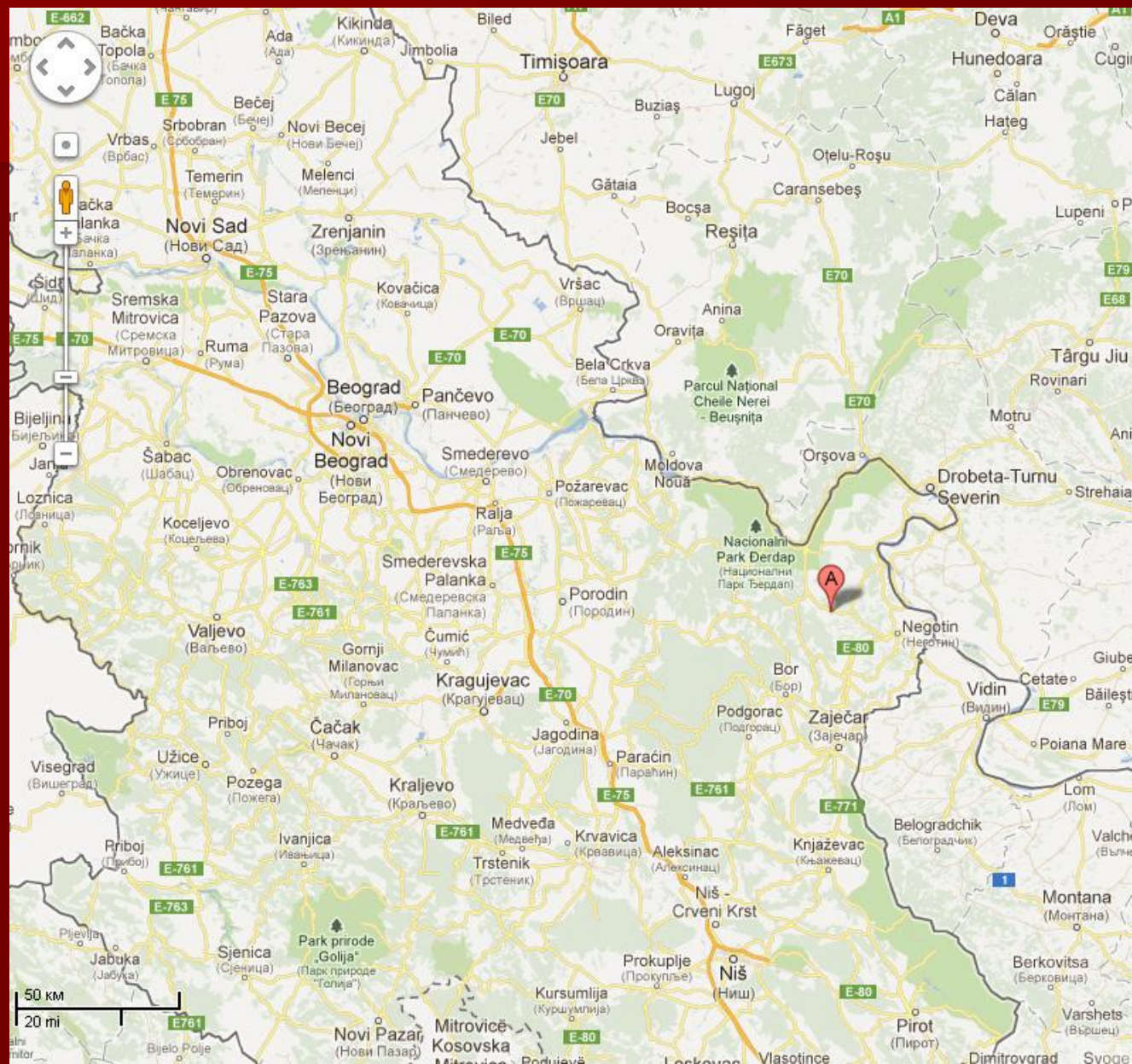
The biggest problem in the procedure of obtaining the necessary permits and approvals is the length of waiting for:

- conditions of access to the electricity transmission system (energy licence)
- conditions of Institute for Nature Conservation of Serbia (monitoring the flight path of birds and bats).

# Negotin – Eastern Serbia Region

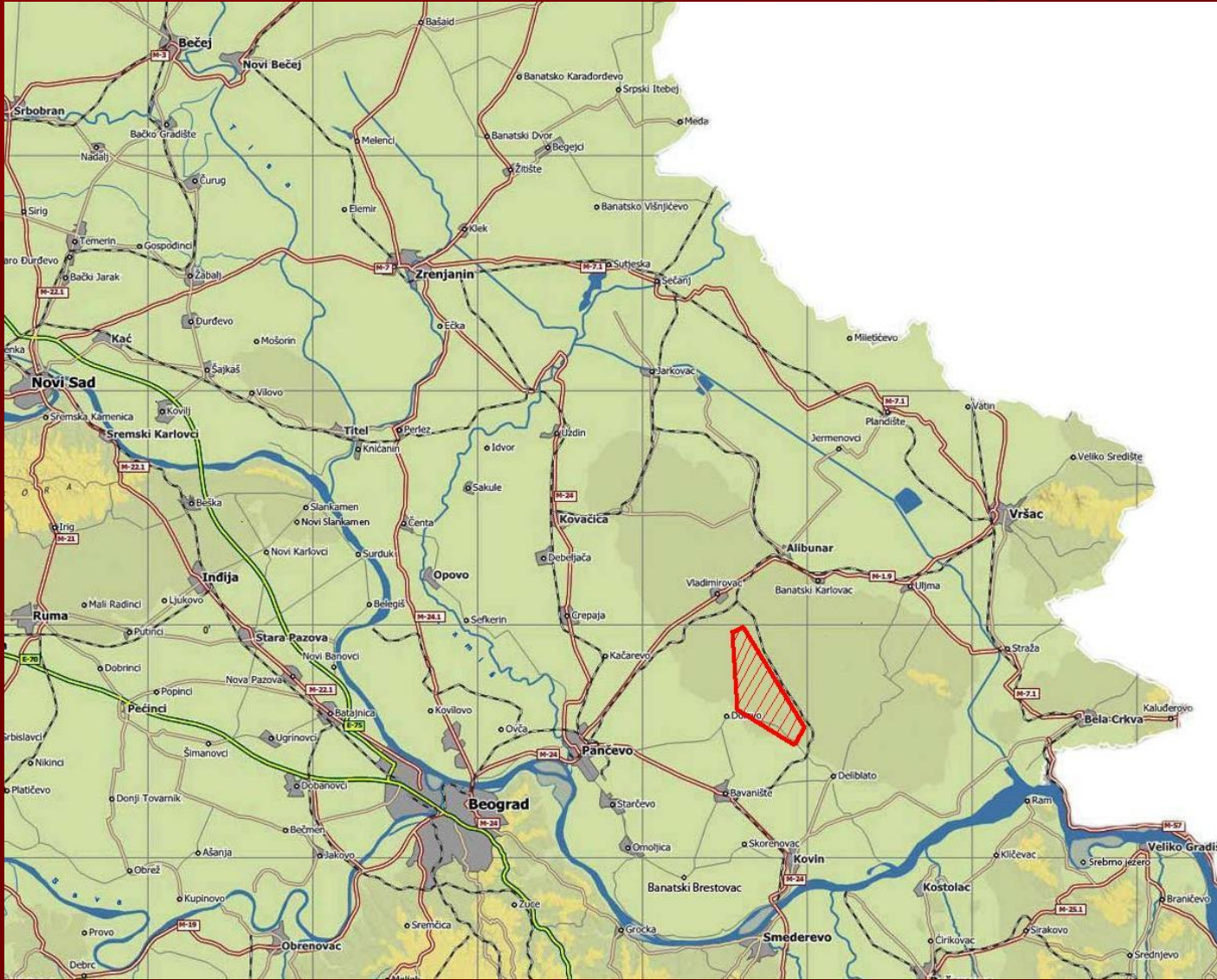
- Good example of cooperation between local government and investors (5% of investments go to the local).
- Investor – *Vat Energija*, EUR 60 million
- Location: Nikine vode – Popadija – Plavna in the municipality of Negotin
- 18 wind generators with the total capacity of 45 megawatts (18 x 2.5 MW)
- Planning/project basis make: the Municipal spatial plan of Negotin, Detailed regulation plan of wind farm, Strategic environmental assessment (SEA) and Environmental impact assessment (EIA) of the wind generators/wind farm.

# Location of the wind farm in the municipality of Negotin (Nikine vode – Popadija – Plavna)





# Wind farm in Čibuk – Kovin, Vojvodina



Investors: Vetroelektrane Balkana Ltd. (WEBG) and its strategic partner, the Continental Wind Partners (CWP LLC, USA) operating through the Continental Wind Serbia (CWS)

- The Cibuk wind park will be developed at the distance of about 50 kilometers from Belgrade, in the Kovin municipality, on the territory of Autonomous Province of Vojvodina.
- The first stage of wind park (Cibuk 1) foresees the installation 57 wind turbines with capacity of 3 MW each. When wind turbines start operating, follows the second stage. The second stage (Cibuk 2) foresees the installation of another 43 wind turbines so that this wind park will finally have 100 wind generators with total installed power of 300 MW.
- Detailed regulation plan of the wind park was managed by the Faculty of Geography.
- The Environmental Impact Assessment Study was conducted by the British company Atkins, which worked together with the local partners InSitu and Link 011. Monitoring of birds and bats population during three years was carried out by the independent expert teams from Ecoda (Germany) and Atkins (Great Britain), so that both the English and German methodology was used and the results subsequently compared.
- The first measurements were conducted in 2008 and they confirmed the project feasibility.

# **Resolving the first conflict:**

## **Nature protection**

- Cibuk is near a well-known location of Deliblatska Pescara (Special Nature Reserve). The conditions of the Institute for Nature Conservation of Serbia demanded the relocation of the wind park about one kilometer away from the border of the protected area.
- The number of the wind generators and their energy capacity was reduced (First stage: 171 instead 200 MW).
- The EIA Study shows that in the area of the Cibuk wind park there are no green corridors or bird passages so that danger of accidents due to collision with turbines is eliminated. As regards bats it is recommended to stop turbines periodically in order to reduce danger of collision with turbines to minimum.



# Resolving the second conflict: Agriculture

- The land on which the wind park will be erected is purchased from owners, but they will continue to cultivate it except a very small percent of land used for erection of turbines.
- Damage caused to crops and plants during construction will be paid.
- Upon the termination of wind park operation, former land owners will have the opportunity by contract to buy their land back for just one Euro.