

Case study analysis
AA within EIA
Energy infrastructure example:
Gas pipeline Bosiljevo – Sisak , Croatia

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The project

- National gas pipeline with a length of 10 km
- Follows existing path of national pipeline except for the last 3 km
- Working corridor width is 22 m (in forests 18 m)
- After construction there is permanently maintained corridor of 10 m width
- Two ways of construction
 - placed in a ditch
 - drilling under obstacles – micro tunneling

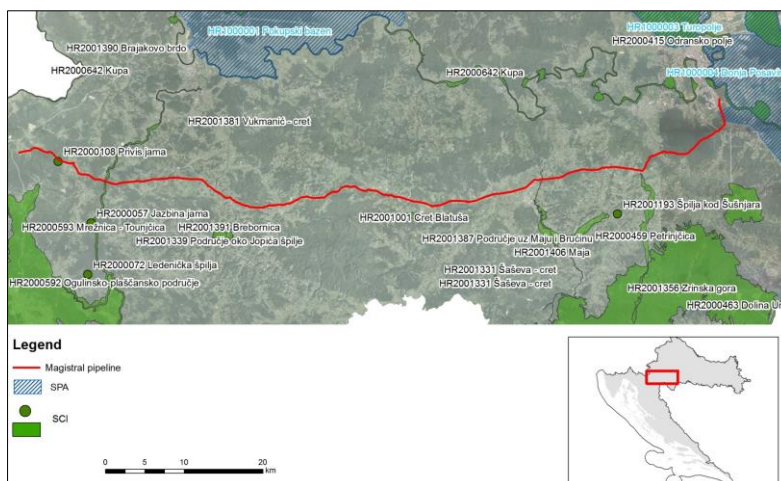


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Gas pipeline Bosiljevo – Sisak



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The N2K sites

- Within the route:
 - **SCI HR2000593 Mrežnica – Tounjčica** – karst river
 - Fish, crayfish, water plants, otter
 - 32A0 Tufa cascades of karstic rivers of the Dinaric Alps
 - 3260 Water courses of plain to montane levels with the *Ranunculus fluitantis* and *Callitriche-Batrachion* vegetation
 - **SCI HR2001406 Maja** – karst river
 - Species: thick shelled river mussel (*Unio crassus*)
 - **SPA HR1000004 Donja Posavina** – large wetland area
 - numerous bird species
- In the vicinity:
 - **SCI HR2000108 Privis jama**
 - 8310 Caves not open to the public
 - **HR2001001 Cret Blatuša** – Mire site, habitat types:
 - 7150, Depressions on peat substrates of the Rhynchosporion
 - 7140 Transition mires and quaking bogs,
 - 7110 Active raised bogs



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The study

- Prepared by Dvokut Ecro, Croatian Institute for Civil Engineering, Oikon, Ekonerg
- 26-member team
 - team leader - biologist + 7 biologists; within the team 2 foresters, landscape architects and civil and mechanical engineers
- The length:
 - EIA study – 280 pages
 - AA chapter – 25 pages



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AA- HR1000004 Donja Posavina

- Assessment of Donja Posavina site was excluded in the screening stage since the path followed closely existing pipeline
- In the EIA phase the project has changed and the path was shifted from existing pipeline
- However, it was still very close and only marginally within the site so the impacts were considered nonsignificant after mitigation measures



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The AA - HR2000593 Mrežnica – Tounjčica

Environment and Climate
Regional Accession Network **ECRAN**

- The documentation could not define precisely how river Mrežnica will be crossed
- Provided two options with no significant impact after mitigation
 - Digging of the ditch
 - Microtunnelling
- Microtunneling was the preferred option for nature protection authority
- If digging a ditch the study proposed that the works should be carried out from March 1 to July 15 to avoid spawning period of one target fish species *Cottus gobio* (February – May)
 - This condition by opinion of CAEN had to be amended in regards to spawning period of two other target fish species, *Barbus balcanicus* (May – June) and *Rutilus virgo* (April – May)



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Additional mitigation measures suggested by CAEN

Environment and Climate
Regional Accession Network **ECRAN**

- SPA HR1000004 Donja Posavina - birds
 - removal of vegetation and corridor maintenance should not be carried out between August 15 and March 15 (only outside bird nesting period)
- SCI HR2001406 Maja – mussel (*Unio crassus*)
 - No paving of the stream Maja when crossing or if necessary with minimum possible length
 - On river Maja work should be carried out in dry period and with least possible disturbance of the sediment (mussels)
- HR2000593 Mrežnica
 - River Mrežnica should be passed by microtunneling unless it is technically impossible
 - the works on Mrežnica should be carried out outside spawning period of all target fish species February 1 to June 15



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Conclusions of the AA

- Impacts given by scale for each target species and summarily for the site (-2 significant negative impact, -1 acceptable negative impact, 0 no impact)
- Mitigation measures proposed - 7 measures specific for target features or sites.
- The conclusion also lists by code environmental measures from EIA that are important for AA
- Conclusion states that the project is acceptable for N2K



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Conclusions of the EIA

- Impacts scaled to descriptive scale with I-IV (from small to big impact) but the scale does not relate directly to decision if project is acceptable or not
- All elements of the environment are considered as well as cultural heritage
- Biodiversity chapter has more general character
 - It gives the list of the species in the region
 - Habitat data are interpreted based on the habitat map of larger scale
 - Forest communities are described
- In total 66 protection measures are defined for all elements of environment



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AA vs. EIA

- For such a complex project with specific technical characteristics it would not make sense to perform EIA and AA separately
- Descriptions of the project and project effects serve both assessments
- Environmental measures are the basis for the AA mitigation measures
- However due to its general character EIA (biodiversity – good example) could not replace AA



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