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TAIEX-ECRAN Sub-Regional Workshop on Appropriate Assessment of the Okanj bara/Rusanda Pilot Site (Natura 2000)

Workshop II: Main Assessment

Topic: Appropriate Assessment of a gas pipeline project - I

Belgrade, Serbia 15 – 16 October 2015



This Project is funded by the European Union



A project implemented by Human Dynamics Consortium

1 a. What is necessary to know for AA

1a data from developer

1b data concerning the assessed area

2. Field survey

3. AA findings and results



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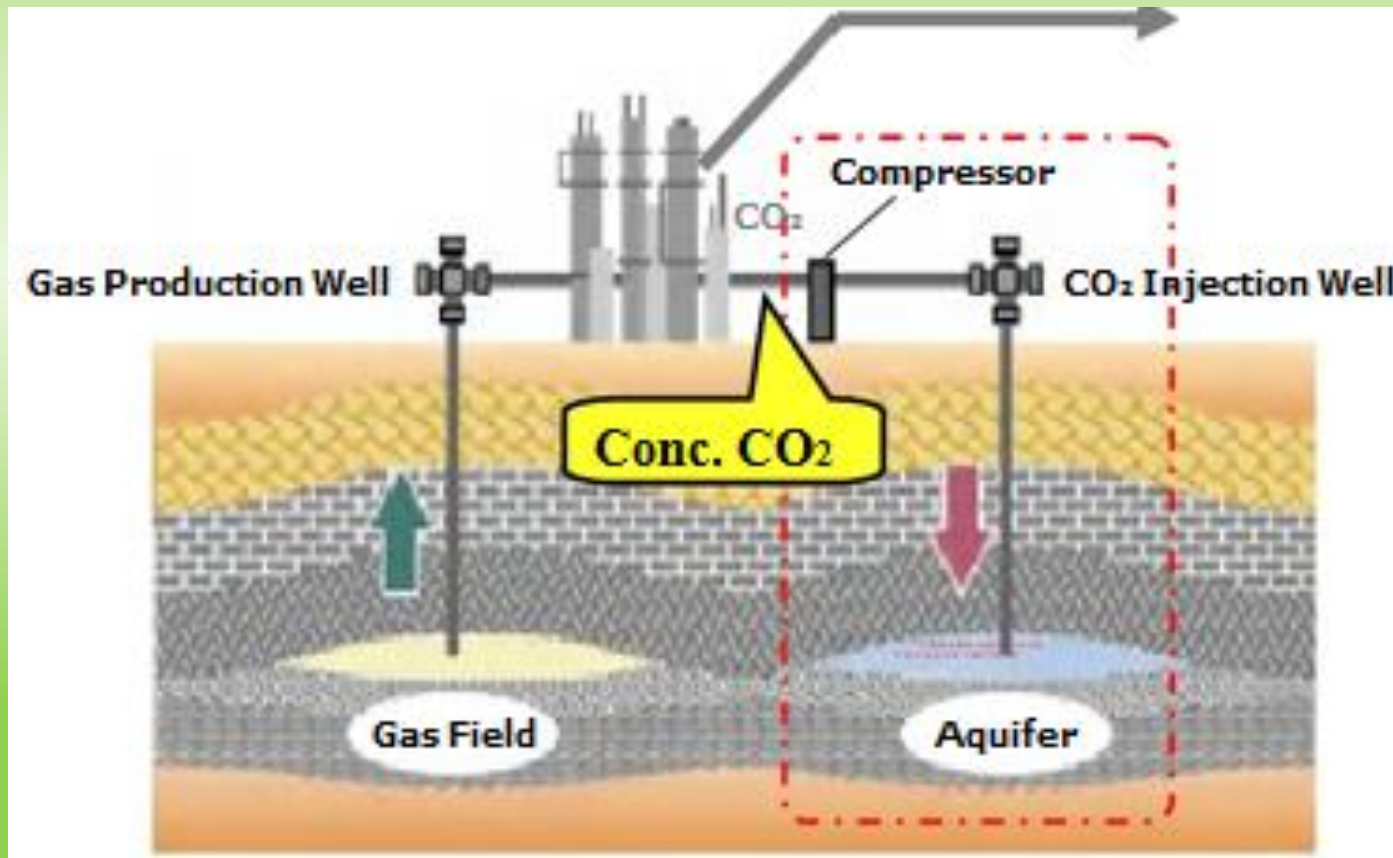
1 a. What is necessary to know for AA

(data from developer)

- Principles of the assessed project
- Location of the assessed project
- Landtake
- Technologies used during construction (inputs and outputs)
- Technologies used during operation (inputs and outputs)
- Infrastructure and logistics for project construction
- Infrastructure and logistics for project operation
- Duration of project operation
- Technologies used for project termination

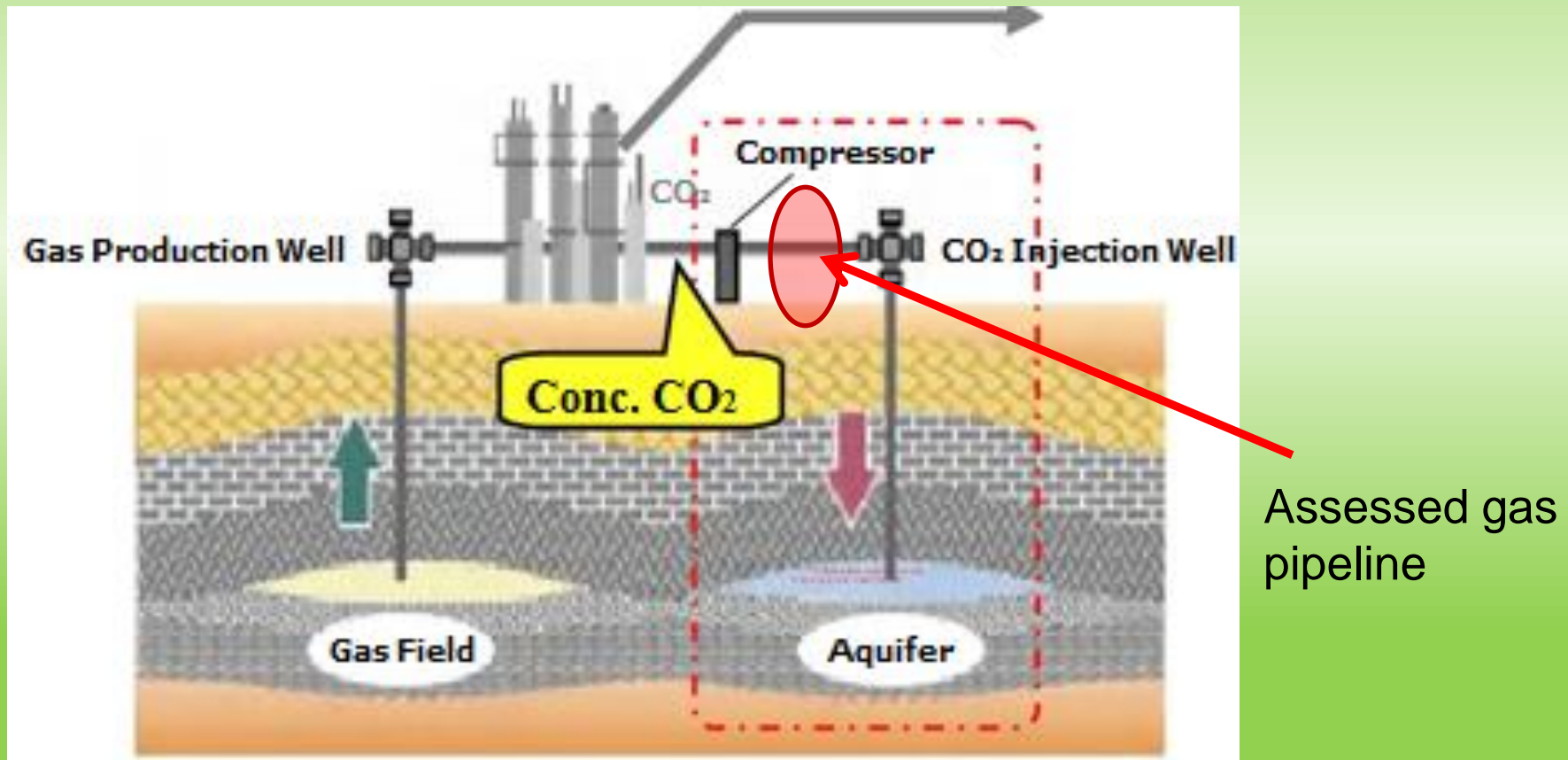
1 a. What is necessary to know for AA (data from developer)

- Principles of the assessed project
- HiPACT (High Pressure Acid-gas Capture Technology)



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1 a. What is necessary to know for AA (data from developer)

- Principles of assessed project
- HiPACT (High Pressure Acid-gas Capture Technology)

Design Data for HiPACT Facility at Elemir Gas Processing Plant

	Inlet NG		Outlet NG		Outlet CO2
	mol%		mol%		mol%
N2	2.87		3.91		0.01
H2S	0.00		0		0
C3H8	0.65		0.97		0.02
CO2	29.29		3		99.57
C2H6	4.12		5.4		0.03
CH4	63.07		86.72		0.37
Total	100.00		100.00		100.00
P (barg)	35.00		33.00		3.40
T (°C)	15.00		46.00		40.00
V (Sm ³ /h)	33333.33		25623.7		9613.3
n (kmol/h)	1487.25		1084		406
m (kg/h)	37687.00		19920		17705.24
M (kg/kmol)	25.34		18.38		43.89
LHV (kJ/Sm ³)	26152.65		33541		0

Assessed gas pipeline

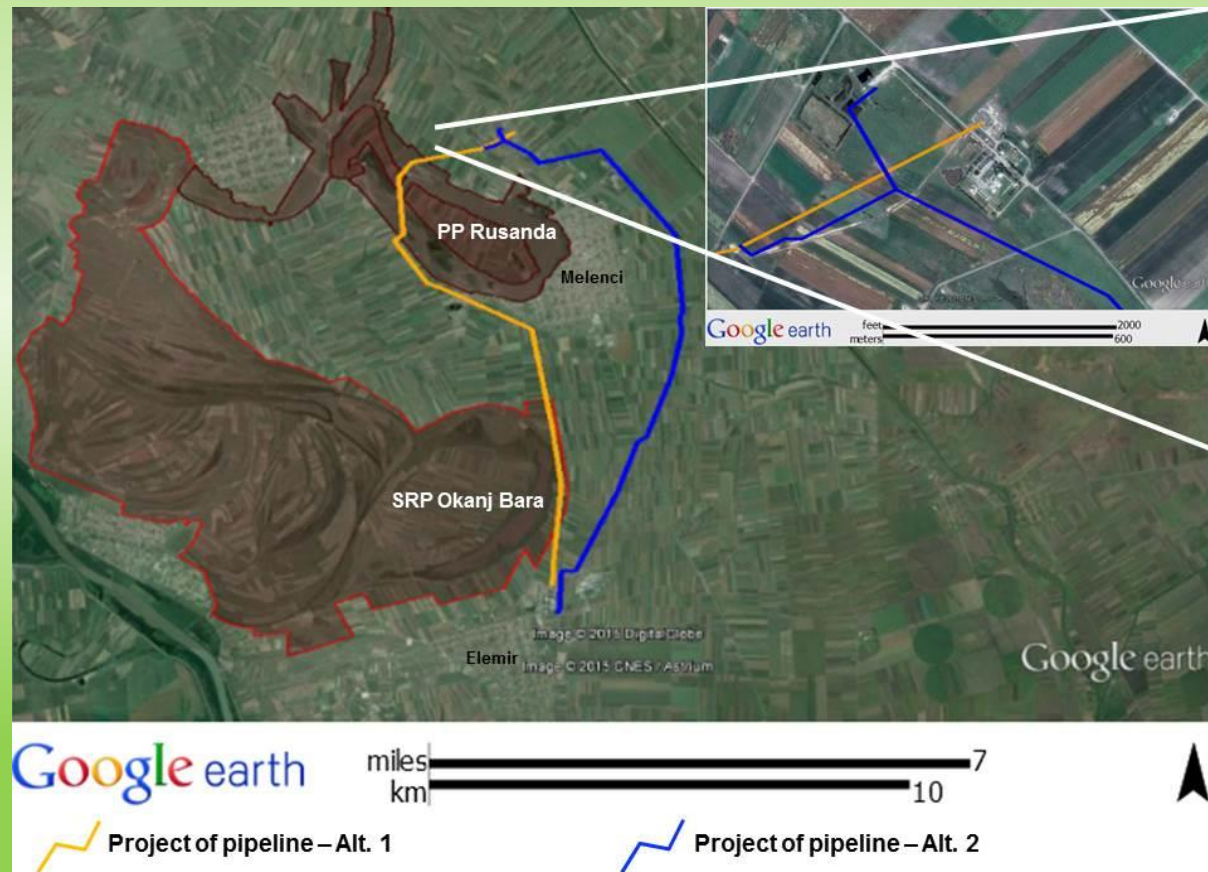
1 a. What is necessary to know for AA (data from developer)

- Location of the assessed project (key project components)



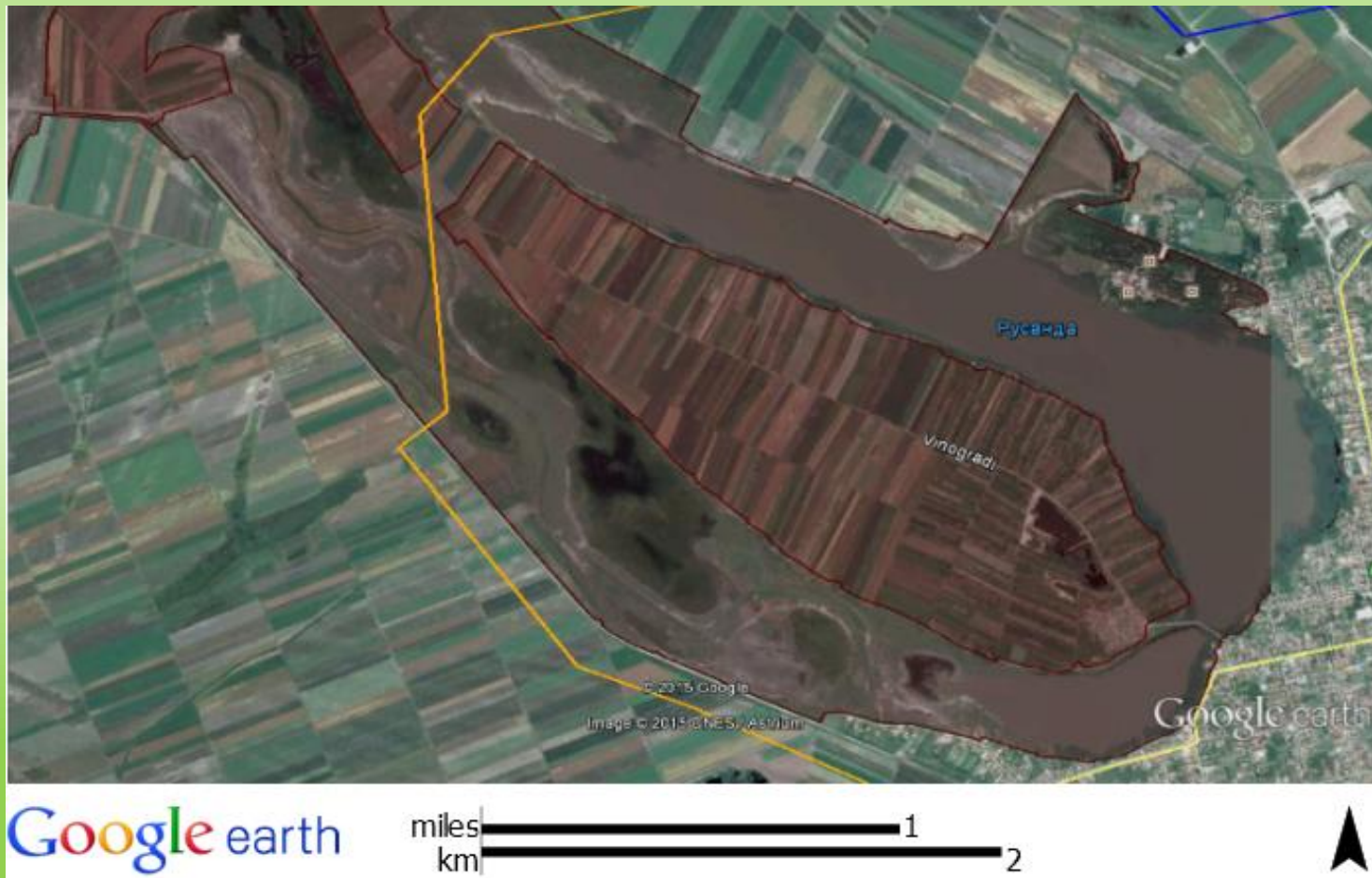
1 a. What is necessary to know for AA (data from developer)

- Location of the assessed project (key project components)
- Gas pipeline between the gas refinery near Elemir and the gas field near Melenci
- Alternative 1 intersects both reserves (Okanj Bara and Rusanda)
- Alternative 2 avoids any direct interference with the protected areas.



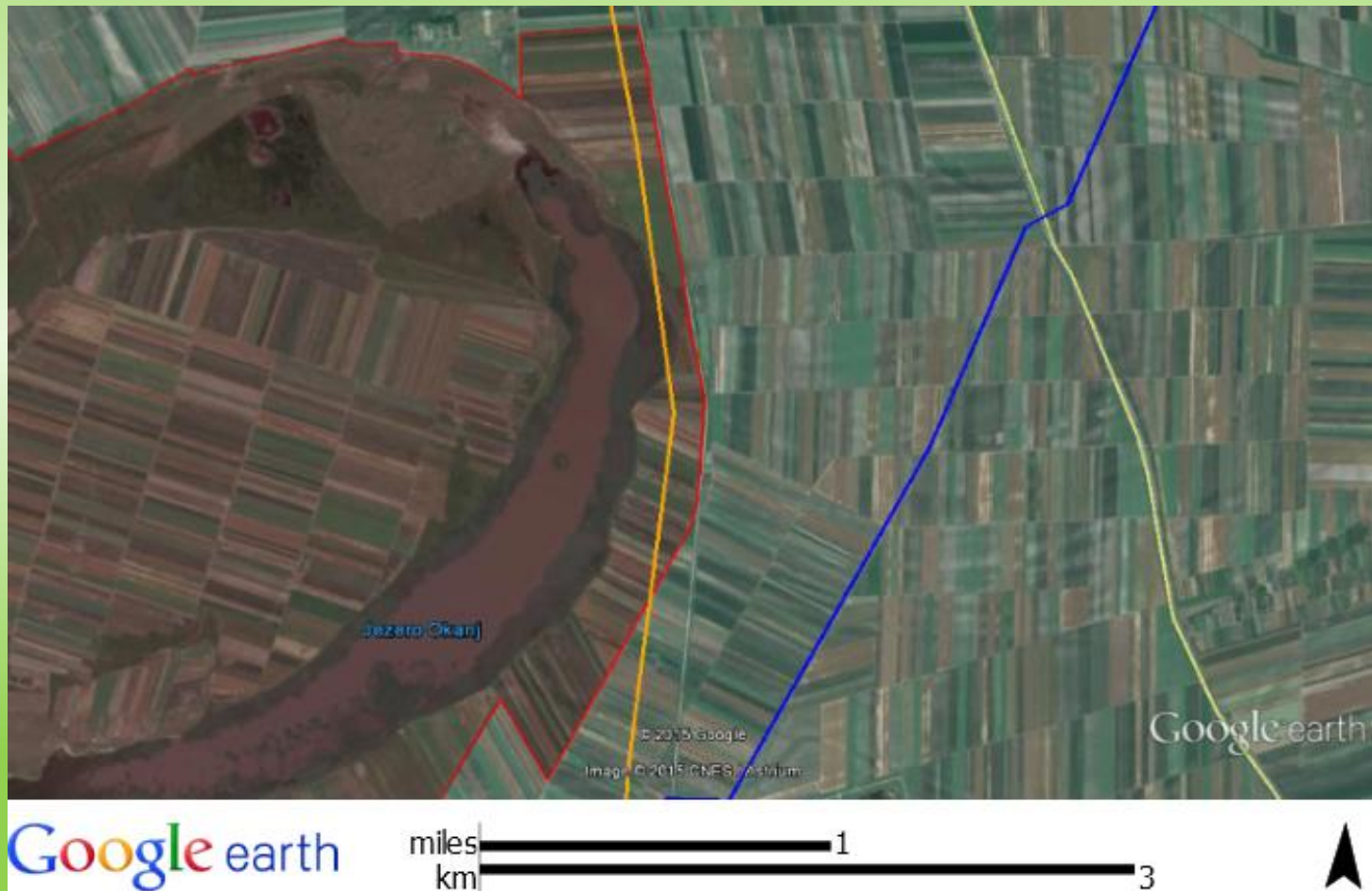
1 a. What is necessary to know for AA (data from developer)

- Location of the assessed project (key part of alt. 1)



1 a. What is necessary to know for AA (data from developer)

- Location of the assessed project (key part of alt. 1)



1 a. What is necessary to know for AA

(data from developer)

- Landtake – both alternatives
- No permanent land take
- Short time temporary ditch, on average 1.5 m deep and 0.5 m wide
- Channels under water (existing or planned) - the tubes should be placed at least 1.5 m under the bottom of the channels and covered with ferro-concrete slabs of dimension 1.0 x 0.5 x 0.1 m.

1 a. What is necessary to know for AA

(data from developer)

- Landtake – both alternatives
 - Temporarily excavated soil will be deposited separately and returned back on top of the soil layer poured on the pipeline
 - Corridor needed for movement of building machines (excavators, cranes, transport trucks driving the pipes) alongside the ditch as well.
- The corridor influenced by digging will be 3 m wide and the corridor for machinery is calculated to be approximately 9 m wide.

1 a. What is necessary to know for AA

(data from developer)

- Landtake – alternative 1
- Short time temporary ditch 12,900 m long, on average 1.5 m deep and 0.5 m wide
- Pipeline Ø 168.3 mm
- It intersects 1,970 m of Rusanda PP and 2,650 m of Okanj Bara SRP

1 a. What is necessary to know for AA *(data from developer)*

- Landtake – alternative 2
- Main pipeline 13,600 m long Ø 168.3 mm
- Two side branches 450 m long Ø 114.3 mm
- No intersection with reserves



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1 a. What is necessary to know for AA

(data from developer)

- Technologies used during project implementation (inputs)
 - Vehicles and other transportation machines used for building
 - Volume and type of materials used for building
 - Transportation of building materials

1 a. What is necessary to know for AA

(data from developer)

- Technologies used during project operation (outputs)
 - Noise

For the construction of the pipeline heavy machinery will be used (excavators, cranes laying the tubes down to the ditch, and trucks transporting the tubes, workers and necessary equipment for works).

1 a. What is necessary to know for AA

(data from developer)

- Technologies used during project implementation (outputs)
 - Noise
 - Machines used for soil excavation and tubes transportation and laying them into the ditch
 - Sound protection limit is 82 dB
 - Noise reduction is quoted between 20–22 dB per each 100 m of distance from the source
 - Significant decrease of noise up to 200 m from the construction site can be expected

1 a. What is necessary to know for AA

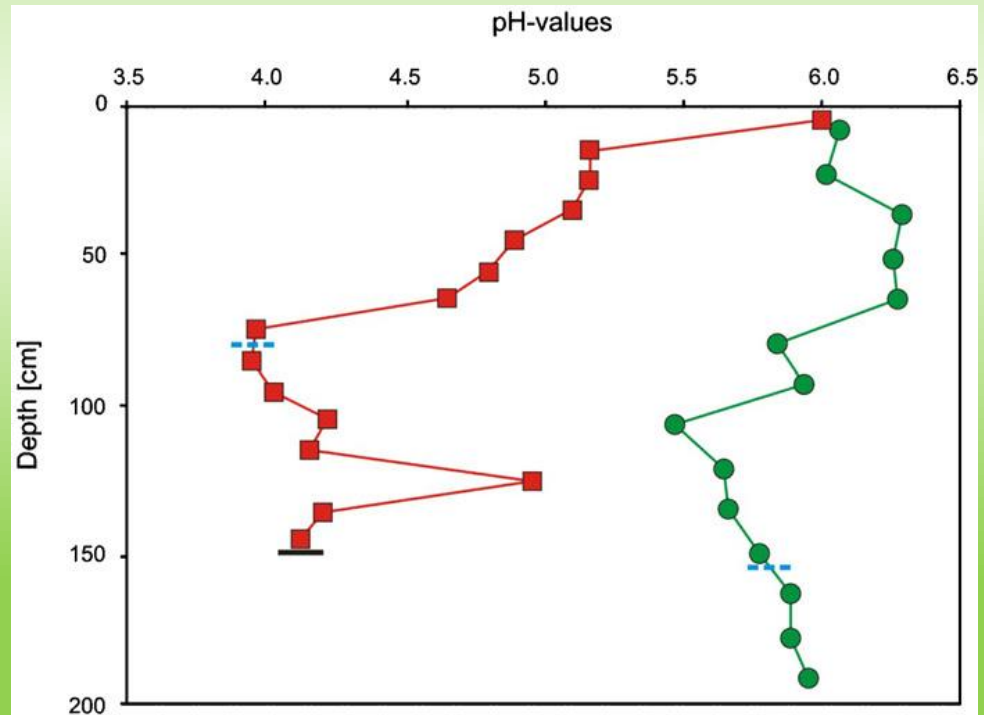
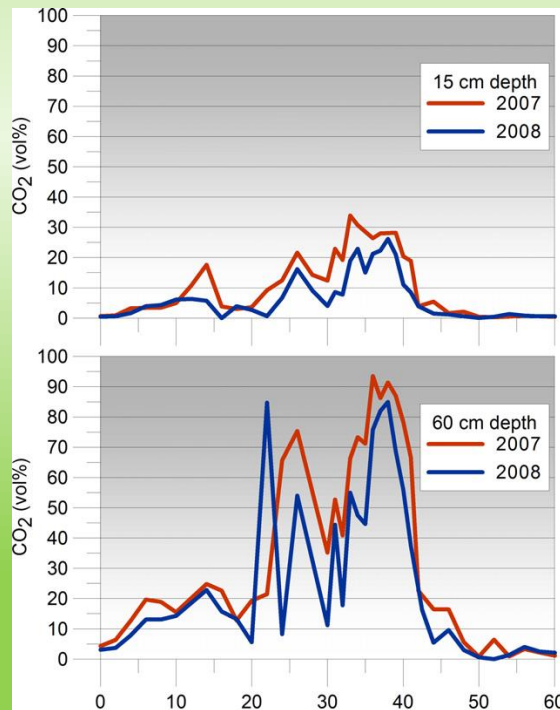
(data from developer)

- Technologies used during project implementation (outputs)
 - Emissions
 - Emissions from heavy machinery (excavators, cranes laying the tubes down to the ditch, and trucks transporting the tubes, workers and necessary equipment for works).

1 a. What is necessary to know for AA

- Technologies used during project operation (outputs)
 - Emissions

The risk of CO₂ emissions from broken tubes rises due to the specific weight of this gas – change of pH and habitats at area about 5,000m² near the outflow



1 a. What is necessary to know for AA

(data from developer)

- Technologies used during project implementation (outputs)
 - Waste
 - Risk of oil pollution by oil spills from machines during the construction
 - No other waste will be produced

1 a. What is necessary to know for AA

(data from developer)

- Technologies used during project operation (outputs)
 - Waste
 - No waste will be produced during operation

1 a. What is necessary to know for AA

(data from developer)

- Technologies used for project termination
- Gas pipeline will be used for long time (tens of years)
- After its lifespan it could be excavated by the same technology as during laying

1. b What is necessary to know for AA (data concerning the assessed area)

- Ecological characteristics of the area
- Basic data about SPA/SCI likely to be affected by the project
- Quantitative data about target features within possibly affected SPA/SCI
- Quantitative data about target features found within possibly affected SPA/SCI in the framework of the country and biogeographical region
- Current field data concerning target features within possibly impacted SPA/SCI ^{*1}
 - Quantification of target features
 - Ecological relations among the target features, in relation to habitats and ecological functions including traditional landuse
-

**1 One of the reasons why data from SDF are insufficient*

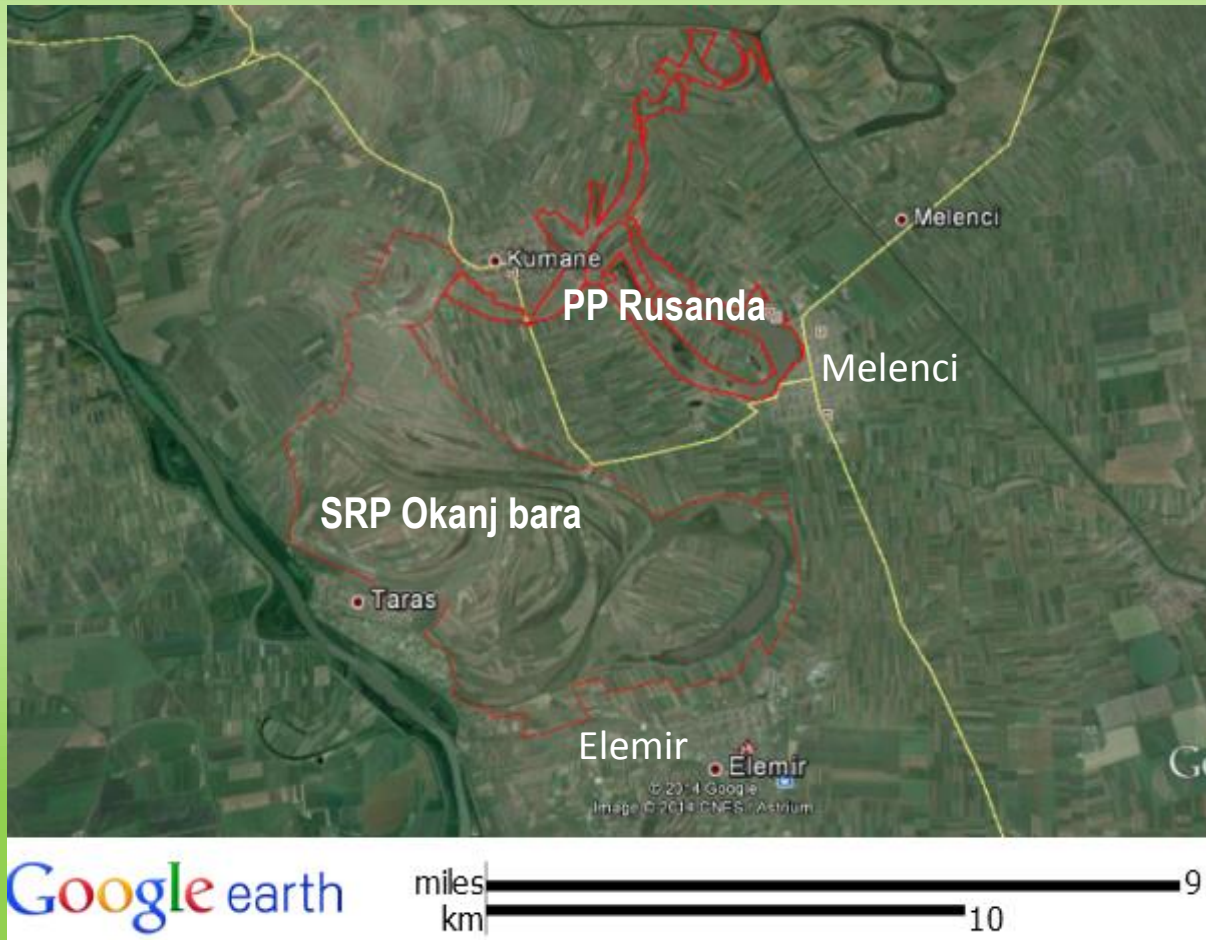


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1. b What is necessary to know for AA (data concerning the assessed area)

- Basic data about SPA/SCI possibly affected by the project



- Okanj bara Special Nature Reserve

(SRP - specialni rezervat prirode).

Area: 54.80 km²
Declared 2013.

- Rusanda Nature Park

(PP - park prirode).

Area: 11.6 km²
Declared 2014.

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Basic data about SPA/SCI possibly affected by the project
- Both sites have not been classified as SPA/SCI yet as Serbia is not an EU MS
- Both sites are covered by Important Bird Area (IBA) RS038 RS010 IBA Okanj and Rusanda, (101.9 km²)
- Both sites (Okanj Bara SRP and Rusnada NP) are proposed as SCIs
- Target bird species for proposed SPA haven't been listed yet
- Target habitats and target species for both SCIs haven't been listed yet either

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Biological characteristics of the area – Rusanda PP

Within Rusanda PP there were described altogether:

- 235 plant species
- 5 amphibian species
- 3 reptilian species
- 31 mammalian species
- 211 bird species recorded since 1950
 - o 171 protected bird species
 - o 82 nesting bird species
 - o important staging post along bird migration route

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Biological characteristics of the area – Okanj Bara SRP

Within Okanj Bara SRP there were described altogether:

- 400 plant species
- 8 amphibian species
- 6 reptilian species
- 24 mammalian species (no bat species are included in this overview)
- 186 bird species recorded
 - o 156 protected bird species
 - o 7 bird species from IUCN World red list
 - o important staging post along bird migration route

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Biological characteristics of the area necessary for AA

If the habitats, plants and/or animals are not listed in national reference lists as well as listed as target features of the assessed site, they cannot be subject of any assessment !!!

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Biological characteristics of the area
- Target bird species of proposed SPA Okanj and Rusanda used for pilot AA :
 - Black-winged Stilt (Common Stilt) (*Himantopus himantopus*) – nesting 14 – 16 pairs
 - Eurasian Bittern (Great Bittern) (*Botaurus stellaris*) – nesting 3 pairs
 - Pied Avocet (*Recurvirostra avosetta*) – nesting 10 pairs
 - Red-footed Falcon (*Falco vespertinus*) – nesting 8 – 16 pairs
 - Saker Falcon (*Falco cherrug*) – nesting 2 pairs
 - Common Crane (*Grus grus*) - migrating

1. b What is necessary to know for AA (data concerning the assessed area)

- Biological characteristics of the area
- Target features of proposed SCI Okanj Bara, used for AA purpose:
- Target habitats (Annex I of HD):
 - Pannonic salt steppes and salt marshes (code 1530), priority habitat type
 - Inland salt meadows (code 1340), priority habitat type
- Target species (Annex II of HD):
 - Glasworth (*Salicornia europaea*)
 - *Basia sedoides*
 - *Scorsonera parviflora*
 - Souslik (*Spermophilus citellus*)
 - European Fire-bellied Toad (*Bombina bombina*)

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Biological characteristics of the area
- Target features of proposed SCI Rusanda, used for AA purpose:
- Target habitat (Annex I of HD):
 - Pannonic salt steppes and salt marshes (code 1530), priority habitat type
- Target species (Annex II of HD):
 - Glasworth (*Salicornia europaea*)
 - *Basia sedoides*
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 - Souslik (*Spermophilus citellus*)
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1. b What is necessary to know for AA *(data concerning the assessed area)*

- We can calculate that the total area of habitat type # 1530 within Rusanda and Okanj (together) is about 1,877 ha (938 ha each).

1. b What is necessary to know for AA (data concerning the assessed area)

- Available quantitative data on the target features within possibly affected SPA/SCI
- Black-winged Stilt (Common Stilt) (*Himantopus himantopus*) – nesting 14 – 16 pairs
- Eurasian Bittern (Great Bittern) (*Botaurus stellaris*) – nesting 3 pairs
- Pied Avocet (*Recurvirostra avosetta*) – nesting 10 pairs
- Red-footed Falcon (*Falco vespertinus*) – nesting 8 – 16 pairs
- Saker Falcon (*Falco cherrug*) – nesting 2 pairs
- Common Crane (*Grus grus*) - migrating
- No other quantitative data from the areas are available

1. b What is necessary to know for AA *(data concerning the assessed area)*

- Recent field data concerning target features within the possibly impacted SPA/SCI ^{*1}
 - Verification of published data in field
 - Quantification of target features affected by the project
 - Ecological relations among the target features and in relation to habitats and ecological functions including traditional landuse

**1 One of the reasons why data from SDF are insufficient*