COST-EFFECTIVE RENEWABLE ENERGY IN SOUTH EAST EUROPE
-Workshop-

Financing wind projects-case study: Montenegro

Presented by:
MSci Milica Dakovic
Executive director at E3 Consulting Montenegro

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Energy Community

IRENA
International Renewable Energy Agency

Financing wind projects

Case study: Montenegro

Invest in Montenegro

Three long-term strategic goals:

- Tourism
- Energy
- Agriculture

Leading country in the region in terms of investment incentives:

- Corporate profit tax – 9%
- VAT – 19%
- Business zones (local and of national priority)
- Business incentives for new investors

Financing wind projects

Case study: Montenegro

Montenegrin Energy Sector

Energy sector towards EU integration process

Current capacities:

- HPP Piva 344MW (installed power)
- HPP Pericuca 307MW installed power
- TPP Pljevlja 201MW (installed power)
- 7 small HPPs

New investment opportunities:

- HPP Moraca (238MW-693GWh/year)
- Komarnica (168MW-231GWh/year)

Total planned investments are estimated to be 565 million EUR by 2025.

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Case study: Montenegro

Renewable energy

- Hydropotential, wind, solar and biomass
- To reach 20% energy production based on renewables by 2020
- Mostly succeded in investments such as new small HPPs and wind power

Name	Installed capacity [MW]	Annual production [GWh]	Year
HPP Jezerština	0.844	3,00	2013
HPP Orah	0.878	3,90	2014
HPP Rmuš	0.474	1,85	2014
HPP Spaljevići	0.598	2,70	2014
HPP Bistrica	5.622	19,56	2014
HPP Šekular	1.700	4,80	2015

Financing wind projects

Case study: Montenegro

Wind energy

- Estimated technical potential – 100MW
- In 2007 started process of wind power measuring
- Identified two locations for potential investments

Location: Krnovo (5.5-6.5m/s)

Location: Mozura (6-7m/s)

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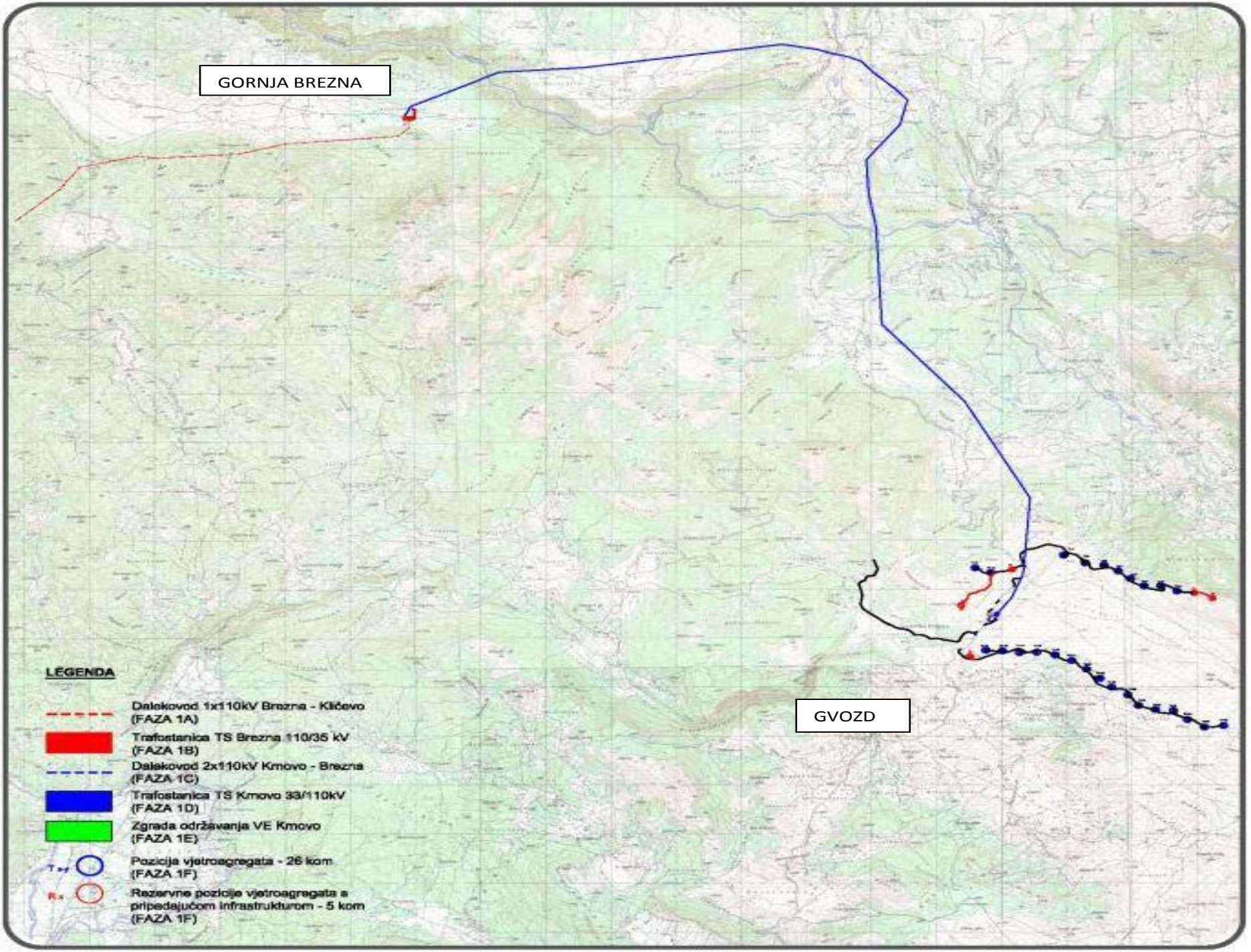
Case study: Montenegro

Krnovo Wind Energy


GORNJA BREZNA
GVOZD
LEGENDA
Dalekovod 1x110kV Brezna - Kličevo (FAZA 1A)
Trafostanica TS Brezna 110/35 kV (FAZA 1B)
Dalekovod 2x110kV Kmovo - Brezna (FAZA 1C)
Trafostanica TS Kmovo 33/110kV (FAZA 1D)
Zgrada održavanja VE Kmovo (FAZA 1E)
Pozicija vjetroagregata - 26 kom (FAZA 1F)
Rezervne pozicije vjetroagregata s pripadajućom infrastrukturom - 5 kom (FAZA 1F)

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Krnovo wind energy

Location: Krnovo
Municipalities: Niksic, Savnik, Pluzine
Initial wind measurements: 2007-2008 (5.5-6.5m/s)
Environmental impact assessment approved: 2012
Construction started: June 2015 (after 6 years of preparation)
Facilities: Besides wind power plant it will require construction of 2 transmission lines and 2 substations as well as the building for maintanence of the wind power plant
Installed power: 72MW
Annual production: 220-223GWh
Amount of investment: 120 milion EUR
Years for concession: 17
Number of wind generators: 26
Construction period: 18 months
Contruction company: POR
Electro works: Siemens
Equipment: General Electric
Supervision: Ivicom Austria

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Krnovo wind energy/financing

Investor: Austrian Ivicom Consulting and French Akuo energy
Financed by: EBRD, KfW, French investment company for promotion of economic cooperation (Proparco)
EBRD loan: 48.5 million eur
KfW IPEKS – Bank GmbH: 48.5 million

In June 2015 signed the agreement between Government of Montenegro and EBRD about the financing of construction of Krnovo wind energy plant

Credit user: Krnovo Green Energy
Price: Guaranteed for the first 12 years of operation

- The first investment in energy production after 1980 of that scale.
- After it is put in the system it will represent 8% of the total installed power and 6% of the total energy production in Montenegro.
- It is the first such investment in the region that is ever supported by EBRD.

Financing wind projects

Case study: Montenegro

Krnovo wind energy/main goals

- Increase % of the energy supply based on renewable energy sources
- Decrease % of CO2 emissions
- Increase energy supply safety in Montenegro
- Improve local infrastructure

Krnovo wind power plant is setting up the standards for construction of other wind power plants in the region.

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THANK YOU FOR YOUR ATTENTION

milica.dakovic@e3consulting.co.me

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