

Investing in EE and Renewable Energy in Energy Community
Vienna, March 18th 2010

RENEWABLE ENERGY IN B&H

RERTC INITIATIVE AND TECHNOLOGY PARK

Center for Energy Efficiency (CEEf)
Ms. Lena Bratic

Center for Energy Efficiency (CEEf)

- NGO that grew out of USAID MUNEE Program 2000-2005
- Registered with Ministry of Justice of B&H since 2005
- Profiling in: EE and RE Promotion, capacity building and public awareness

RES Potential in B&H

Small Hydro energy:

- Technical potential - about 24.000 GWh/a
Max. electrical capacity cca. 6.000 MW
- Used potential: about 9.000 GWh (38%) (small HE – only 4,4% of available capacity is used)

Wind energy – economic potential for developing approximately cca. 600 MW (source - GTZ)

RES Potential in B&H

Biomass – the most promising renewable source, unexploited potential of approximately 1 million m³/a of wood waste (source - GTZ)

- Cca. 1600 small sawmills operating in B&H with estimated capacity about 2 mill. m³ of timber per year
- Wood residuals can generate about 5200 GWh of thermal equivalent
- Potential cogeneration can produce cca. 410 MW of heat and cca. 200 MW of electricity per year.

RES Potential in B&H

Solar energy – solar irradiation figures of 1,240 kWh/m²/a in the north of the country and up to 1.600 kWh/m²/a in the south

- solar energy use potential is estimated to 70.5 million GWh

Geothermal energy - Total possible installed geothermal source potential on 42 locations is cca. 9.25 MWt if used only for space heating or 90.2 MWt if used for space heating, recreational needs and bathing.

- potential of 33 MWt only for heating

Renewable energy in B&H

- No strategy for development of renewable energy on state level – type and capacity
- In the scope of Entity energy strategies development of big and small HPP and set of wind mills are planned (6 billion € during next 12 years).
- There is feed-in tariff mechanism for RES (different prices, depending on the location of the RE source), but only for electricity production, not for heat production

RES – Hydro Potential and Projects in B&H

- For small hydro power plants – feed in tariff for capacity up to 5 MW; 0,06 EUR/ kWh
- Feed in tariff for: biogas, biomass, wind (0,055 EUR/kWh)
- New sub-laws are in approval procedure (feed-in tariff increase of ca. 20-30 % is expected depending on RE source).
- There are no other RES support mechanisms in place (tax exemption, investment grant, int. mechanism like CDM)
- There is no Designated National Authority for CDM

RES – Hydro Potential and Projects in

B&H

- Priority is given to HE, ca. 20 SHPP operate in B&H
- Energy Financing Team (EFT) is prepared to invest €100 million to build a hydropower plant: 35-MW project on the Neretva River. The facility, would generate about 76 GWh annually and is expected to begin commercial production in 2013 [\(HydroWorld 6/2/09\)](#)
- Technor Energy ASA, is seeking bids for the construction of seven hydropower projects on Bosnia's Bosna River. [\(HydroWorld 6/2/09\)](#)

RES – Wind Potential in B&H

- Pilot projects of wind energy in development phase about 130 MW (Herzegovina)
- KfW will finance Bosnia's first wind farm with a (EURO)71 million (\$96.4 million) loan and (EURO)1 million grant.
- Wind park of 44MW of wind generation. The farm is expected to generate 115 GWh a year.

RES – Solar Potential in B&H

- The annual average of daily-allocated Sun energy on horizontal surface of B&H is 3.4-4.4kWh/m².
- Theoretical potential of solar energy in territory of B&H is 74.65 PWh per year and technical potential is 685 PJ (Fejzibegović, 2007)

RES - Solar Projects in B&H

- ITM Controls built first two solar power plants: Mostar and Banja Luka
- SOLAR Power plant in Nutricionist park near Sarajevo in preparation
- Nominal Power: 100 kWp. Power plant has been planned as a part of Eco Park Futura
- Estimated investment: ca. 600.000 €
- Estimated investment return: 14-20 years, with present feed-in tariff

RES - Solar Projects in B&H

- It is also planned to build 20 individual houses (no part of this project), where every house will have Solar thermal system for hot water and heating support
- Estimated cost for Solar thermal system is 210.000 € in total

RES – Biomass Potential in B&H

- Increase of biomass fuel (pellet) consumption followed with price increase (risk for investors/project sponsors)
- Biomass used mostly for pellet and briquettes production
- Rarely biomass is used for heating mostly in the industrial production processes

RES Projects in B&H - Barriers

- No target in the state energy policy for RES and EE
- Underdeveloped legislative and institutional framework in the area of EE and RES
- No incentives for RES and EE – there are still incentives for energy consumption
- Relatively cheap coal and electricity

RES Projects in B&H - Barriers

- Lack of appropriate technologies on the market
- Very complicated process for use of international mechanisms for RES and EE promotion
- Farmers – unacceptable risk to start with bioenergy purpose-grown plants
- Way of thinking of decision makers – only large scale power production is feasible

Public Awareness – RERTC Initiative

- Lack of information and understanding
- Public Awareness
- RERTC Initiative (Renewable Energy Resource Training Center and Technology Park in Sarajevo)
- Ministry of Foreign Affairs of Denmark, 2008/09

THANK YOU!

Lena Bratic

Center for Energy Efficiency

lena@rertc.net

www.rertc.net

