

International Energy Efficiency Forum

Workshop on Investments in Energy Efficiency and Renewable Energy Projects

Potential for investments in Energy Efficiency and Renewable Energy in Bosnia and Herzegovina

Presentation prepared by

Biljana Trivanović and Sanja Kapetina

Ministry of Foreign Trade and Economic Relations of BiH

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General information

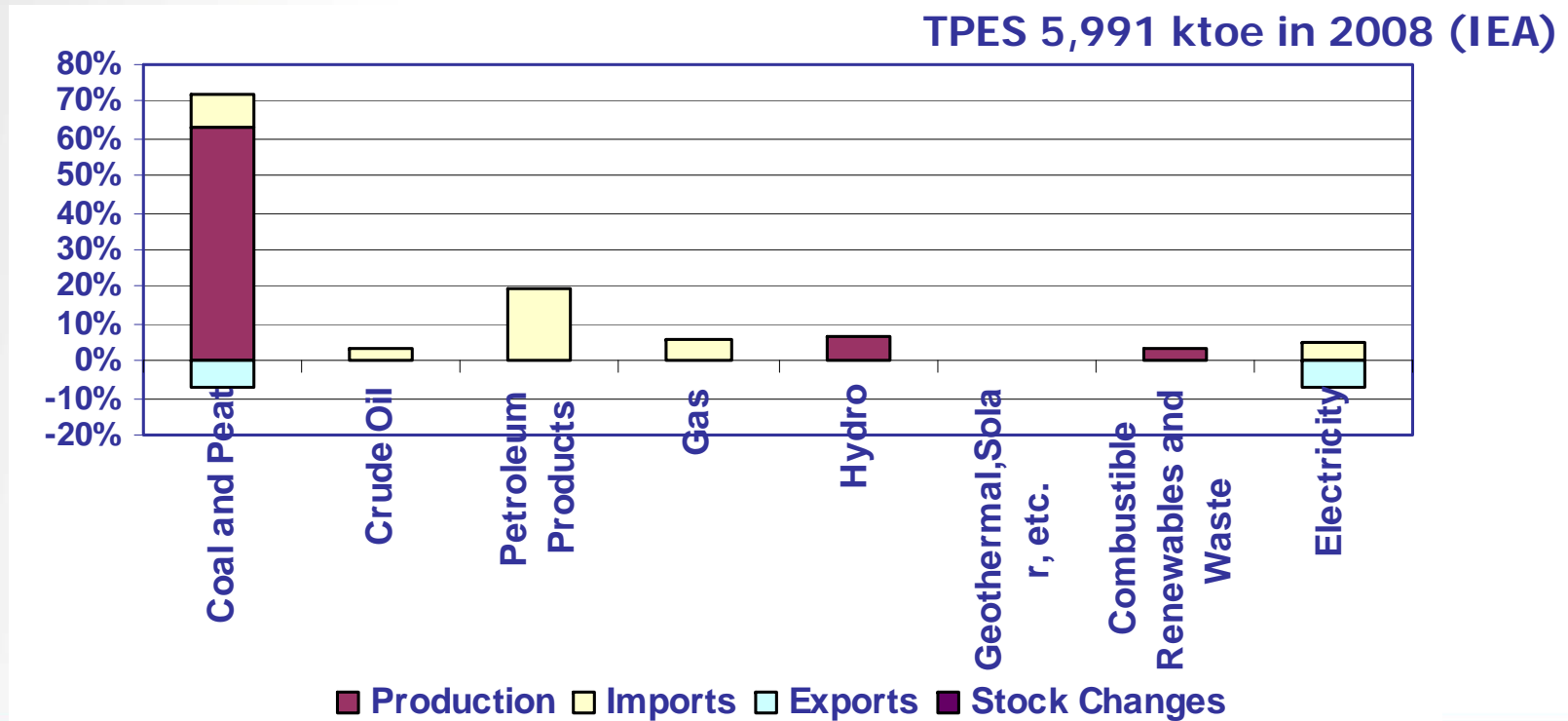
- Area 51.209 km²
- Population 3.8 million
- Capital Sarajevo
- It is composed of two entities: Federation of Bosnia and Herzegovina and Republika Srpska and District Brcko
- GDP 14.025 billion US\$ (2009)*
- GDP p/c 4,431 US\$ (2009)*

* Source : Central Bank of BiH



Overview of Energy Sector

- Significant coal resources - BiH is to a large extent self sufficient from an energy point of view (Coal 63% of TPES)
- Significant Hydro potential - utilization level is 40 %
- All oil and gas are imported



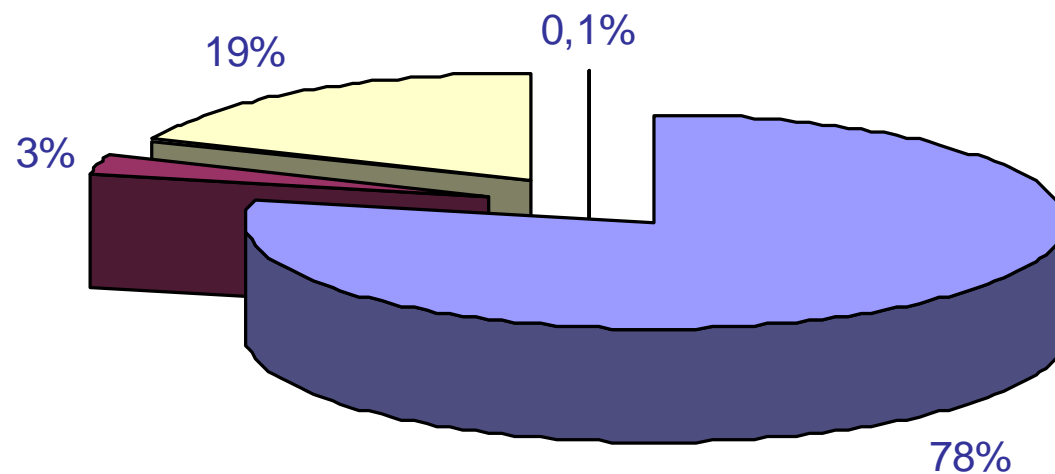
Electricity sector in BiH (1)

- Total installed capacity in BiH is 3845 MW
(4 TPPs with 1745 MW, and 14 large HPPs with 2100 MW)
- Electricity generation in 2009 was 14,561 GWh
(TPPs 65 %, HPPs 34%)
- BiH is exporter of electricity
- In 2009 exported 3900 GWh
- Good interconnection capacities with neighbouring countries



Electricity sector in BiH (2)

- Consumption 11,597 GWh in 2009*



■ Distribution consumption

■ Transmission losses

■ Large customers

■ Pumping and mines consumption

* Source: State Electricity Regulatory Commission



Gas Sector in BiH

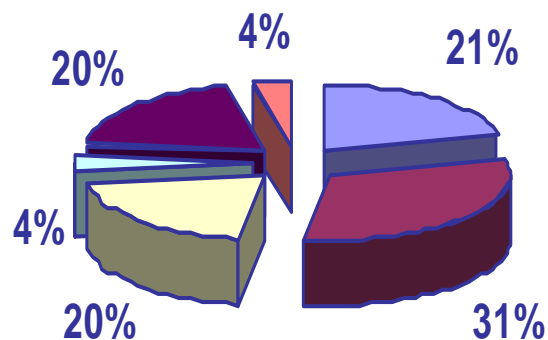
- Gas sector in BiH is limited - only a few parts of BiH have access to the gas supply
- All Gas is imported from the Russian Federation (Russia – Ukraine – Hungary – Serbia – BiH)
- Consumption in 2009 was 230 mcm
- Industrial consumers about 30%
- Length of transmission pipeline is 194 km



Energy demand in BiH

- Main consumer of final energy is Transport sector
- TFC was 2961 ktoe*

TFC in 2008



- Industry sector
- Residential
- Other
- Transport sector
- Commercial and Public Services
- Non energy use

*IEA data



Institutional Framework

State level

- Ministry of Foreign Trade and Economic Relations of BiH
- State Electricity Regulatory Commission (SERC)
- Independent System Operator (ISO)
- Transmission System Company (TRANSCO)

Entity level

- Ministry of Industry, Energy and Mining of the Republika Srpska
- Ministry of Energy, Mining and Industry in Federation of BiH
- Regulatory Commission for Electricity in Federation of BiH (FERK)
- Regulatory Commission for Energy of the Republika Srpska (RERS)
- Three power utility companies



Energy policy and regulatory framework

Relevant Energy laws and regulations in BiH:

- Law on Transmission of Electric Power, Regulator and System Operator of BiH
- Law Establishing the Company for the Transmission of Electric Power in BiH
- Connection Rules
- Grid Code
- Law on Electricity (FBiH and RS)
- Energy Law in the Republika Srpska
- Gas Law in the Republika Srpska

The priorities of BiH in implementing reforms in the energy sector mainly focused on capacity development and institutional strengthening , and in the fulfillment of international obligations and commitments of Bosnia and Herzegovina



International commitments

- **Stabilization and Association Agreement (SAA)** between the EU and BiH - by signing this Agreement, BiH took responsibility to gradually harmonize its legislation with the EU
- **Energy Charter Treaty** and Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects (**PEEREA**)
- **UNFCCC** (United Nations Framework Convention on Climate Change) and **Kyoto Protocol** (as Non- Annex I country)
- **Energy Community Treaty**
 - ✓ EE Task Force
 - ✓ RE Task Force



Why to invest in RES and EE projects

- **Energy sector** in BiH is recognized as an important driving force of the **economic growth**
- BiH has **significant RES and EE potential**
- Only 40% of hydro potential is exploited to date



Investment opportunities in BiH

Investment opportunities in the electricity sector

- projects of construction of **new hydro and wind** power plants
- projects of construction of **new thermal** power plants
- projects of **rehabilitation of existing thermal** (coal, lignite) power plants
- projects of air **emission mitigating** technologies
- projects of construction of new and renovation of **transmission and distribution lines and transformation stations**
- projects of **transmission system operation** development



Investment opportunities in BiH

Investment opportunities in district heating sector

- Projects on expanding heating networks to **new town districts**
- Projects on **replacement of old transport and distribution pipeline network**
- Projects on improving transport and distribution systems
- Projects on **improvement of transmission, distribution, and supply system operation**
- Projects on **installation of new heat metering equipment** and generally on improvement of installations at the building section of district heating systems



Investment opportunities in BiH

Investment opportunities in renewables

Small hydro

- SHPP most promising RES, currently approx. **36 MW** installed
- WB Study identified an economic potential close to **300 MW**, other assessments estimate that can reach even **1000 MW**
- Concessions have been given to many SHPP projects

Wind

- Currently there are no wind power plants installed
- Economic potential for developing approximately **600 MW**
- 12 locations marked as having good potential

Biomass

- Biomass is mainly in the form of fuel-wood and wood waste
- It is used mainly in rural areas for heating and cooking



Investment opportunities in BiH

Investment opportunities in renewables

Solar

- There is theoretically a large potential for solar energy
- There are no solar and PV power plants (apart from a small PV installation) and their penetration is not expected without significant support measures
- Use of solar energy for hot water and heating in the residential sector is insignificant but could be developed

Geothermal

- Geothermal potential of 9.25 MWt for heating in 42 sites
- Significant research is required still, however the temperature at the known locations is too low ($< 90\text{ }^{\circ}\text{C}$)
- No indication for power generation potential



Available funds

The funds available for addressing energy efficiency and renewable energy issues are very limited:

- **The Funds for Environmental Protection**
- **IPA** - the Instrument for Pre-Accession Assistance (EC Project)
- **UNECE** Project Energy Efficiency Investments for Climate Change Mitigation
- Limited funds have been made available through the **UNDP** and **USAID**
- **New EBRD initiative** to lend investment capital through local banks



Main Legislative Framework for Investments

- Foreign Investment Legislation in BiH is based on the State “**Law on Policy of Foreign Direct Investment in BiH**” (1998, 2003) and mutually harmonised “Law(s) on Foreign Investment”

According to this Law and **related Entities’ Laws**, foreign investors are entitled to invest capital and to reinvest profits of such investments into any sectors of the BiH economy (including Energy Sector), without any limitation and under the same conditions and will have the same rights, obligations and benefits as defined for investors - residents of BiH

- **State Law on concessions and Entities’ (FBiH and RS) Law on concessions**
- Other relevant primary and secondary legislation



What we are doing to attract foreign investors in RE and EE projects

- Simplifying of procedures for foreign investments
- Developing of legal framework in accordance with EU directives
- Improvement and development of efficient support schemes



Current projects

In Bosnia and Herzegovina many projects with technical assistance, from the State to the local level, and implementation of demonstration projects in EE and RE and pilot projects with IFIs are in force:

- **UNECE EE 21** Financing energy efficiency investments for climate change mitigation
- **IPA 2007 and IPA 2008** with IFI
- **IPA CBC** – Alterenergy Project
- **USAID 3E** (Economy of Energy Efficiency)
- **GTZ EE** at municipal level



Current projects

- **GTZ ORF** (Open Regional Fund) - Energy – EE
- **Norsk Energy Norway** - CDM Projects
- **USAID and Greek Government Synenergy Project**
- **EBRD: Western Balkans Sustainable Energy Direct Financing Facility**
- **UNDP Biomass and Energy Efficiency Projects**
- **ENSI AS Norway** - Energy audit
- **World Bank Regional Project EE**



Conclusions

- BiH has a significant opportunities for investments in Energy Efficiency and Renewable Energy Projects
- **All investors are very welcomed in BiH**

More information's you can find on

- Ministry of Foreign Trade and Economic Relations of BiH
www.mvteo.gov.ba
- Foreign Investment Promotion Agency (FIPA) of Bosnia and Herzegovina www.fipa.gov.ba
- Ministry of Industry, Energy and Mining of the Republika Srpska www.vladars.net
- Ministry of Energy, Mining and Industry in Federation of BiH
www.fmeri.gov.ba





Thank you for your attention!

Biljana Trivanovic

biljana.trivanovic@mvteo.gov.ba

Sanja Kapetina

sanja.kapetina@mvteo.gov.ba

