

# Energy Efficiency and Renewable Energy Sources in Montenegro

*GFSE Regional Forum*



Montenegro  
Ministry of Economy

Session 2 - Regional Cooperation Approaches for RES and EE

Ministry of Economy  
MONTENEGRO

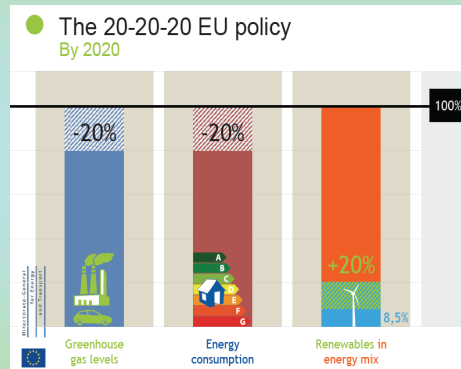
Vienna, April 28- 29th 2011

## Major Strategic Commitments

- Valorization of available potentials
- Balance between energy and environment
- Respect sustainable development and market operation principles – green economy aspects
- Regulatory, legislative and operational integration in **EU in the fields of energy and environment**
- Implementation of obligations under the **Energy Community Treaty**
- Promotion of energy efficiency (EE) and renewable energy sources (RES) incentive schemes, measures and projects
- Ensuring social protection and overall elevation of living standards

## National context

- Main strategic strongholds
- Energy policy of Montenegro by 2030 (2011)
- Energy Development Strategy of Montenegro by 2025 (2007)
- Action Plan for implementation of the Energy Development Strategy for the period 2008-2012 (2008)
- Strategy for Small Hydro Power Plants Development in Montenegro (2006)
- Energy Efficiency Strategy (2005)
- Action Plan for implementation of the Energy Efficiency Strategy for the period 2008-2012 (2007)
- 1st National Action Plan for Energy Efficiency (2010)



## RES framework

- Energy Law stipulates support schemes for use of RES - EU directive 2001/77/EC (feed-in tariffs, preferential producers, guarantees of origin)
- Also in Energy Law EU directive 2009/28/EC partially incorporated – mandatory national RES target
- Preparation of the secondary legislation is underway
  - Eligible producers of electrical energy from RES and HEC
  - Bylaws for using RES and HEC
  - Decree of guarantee of origin
  - Tariffs for electrical energy generated from RES and HEC
  - Support mechanism for production from RES and HEC
- 10-year Programme for RES development and use

## National RES target



- Higher utilization of RES – vast potential
  - Technical (net) usable hydro potential is estimated to be around 400 GWha
  - Potential from wood residue estimated to be around 400 GWh
  - High potential for using solar radiation (number of sunny hours for most part of Montenegro is above 2000 h/year, and more than 2500 h/year on the coast)
- National RES target calculated from electricity and thermal energy production compared to GFEC, as well as RES production in transport
- Renewable Energy Target– Montenegro 29.5 % ( S2005 = 23.0 %, thermal 5% and GDP factor = 1.0 %)

## EE Framework

- Law on Energy Efficiency (“OG of Montenegro”, 29/10)
  - Legal basis for transposition of EU Directives
    - Directive 2006/32/EC on energy services (ESD)
    - Directive 2002/91/EC on Energy Performance of Buildings (EPBD)
    - Energy Labeling Directives (92/75/EEC and subsequent Directives)
  - Adoption of a national indicative energy savings target of 9 % of the FEC for 9 years by 2018 (an average 1 % annually) - energy savings to the amount of 58,9 ktoe of FEC
  - Methodology for calculation of indicative EE target and EE target adopted in Apr 2011
- Law on amendments of the Law on Energy Efficiency to transpose new EU obligations until year 2013
- The EE Law will be applied from May 2011, after 19 legal acts from secondary legislation will have been adopted

## EE Institutional & logistical framework



- Fund for Energy Efficiency established as an independent budgetary account in Dec 2006
- Energy Efficiency Unit elevated to the status of Sector for Energy Efficiency in Dec 2009
- Implementation of 2 strategic goals:
  - Further specification and implementation of the LoEE: development of secondary legislation, setting up implementation mechanisms in public sector organisations and Local Self-Governments, setting up monitoring and EE statistics mechanisms, etc.
  - Implementation of the EEAP Actions: demonstration projects, incentives for EE, targeted information campaigns, etc.

## Important projects

- HPP Moraca
  - Total installed capacity ~ 238.4 MW (4HPPs); Annual production 721 GWh
  - Construction costs approx. 540 million €
- HPP Komarnica
  - Total installed capacity 168 (2 x 84) MW; Annual production 232 GWh
  - Construction costs 160 million €
- 400 kV HVDC Cable Italy – Montenegro
  - 375 km of undersea cable, 1000 MW capacity, 700 million € investment
  - In cooperation with TERNA (Italy) and CES (Prenos Montenegro)
- EU IPA 2007 “TA for implementation of Energy Community Treaty Montenegro”
- World Bank Montenegro Energy Efficiency Project for reconstruction of education and health facilities
- KfW Energy Efficiency in Public Sector Programme for reconstruction of education facilities
- GIZ ASE Advisory Services to Montenegro in Energy Efficiency
- UNEP/IMELS Solar-water Heating Financial Mechanism – MONTESOL
- Small hydropower plants (3 tenders – 30 water streams)
- Wind power plants – 2 farms

## Regional cooperation and Green Economy

- Green Economy results in improved human well-being and social equity, while significantly reducing environmental risks and ecological scarcities
- Low-carbon projects: railroads and mass transit, fuel efficient vehicles, and clean fuels, energy conservation and environmentally friendly buildings.
- Largest contributors to global GHG emissions: building sector and transport
- Largest potentials lie within the RES
- Promotion of “green” energy jobs:
  - SWH technologies distributors, installers,...
  - Energy auditors and energy managers
- Extension towards “green jobs”:
  - Construction companies
  - Construction materials companies
  - Distributors and suppliers of appliances and energy-related products
  - Electricians, other craftsman
- Efficient resource utilization
- Efficient and sustainable production and consumption
- Clean and efficient technologies (especially industry and transport sectors)

## Pivotal Policy Role of Governments



- Innovative and imaginative public policies
- Sound regulatory frameworks, a prioritizing of government spending on EE and RES
- Creating minimum standards & “lead-by-example”
- Procurement and investment in areas that stimulate green economic sectors
- Taxation and smart market mechanisms that shift consumer spending and promote green innovation
- Public investments in capacity building and training,
- Strengthening of international and regional cooperation

## Strongholds of regional cooperation

- What have been the achievements of regional cooperation and policies?
  - Build on experiences from Energy Community
  - Use experience and base from existing structures: RENA, All, SEECP/RCC, CEI, SEDRI, GFSE-complementarity
- How to benefit from regional initiatives?
  - Develop joint projects (EU CBP, IPF-WBIF...)
  - Transfer “know-how” and technologies, capacity building and education



## What can be done?

- Identification of technology options, financing mechanisms and policy interventions
- Economic and market-driven measures and incentives (feed-in tariffs, CDM, white/green certificates)
- Energy market and regional infrastructure projects
- Establish minimum energy standards in addition to harmonization of test procedures and capacity of testing facilities
- National “replication” of successful pilot projects
- Include research institutions, academia, civil society, chambers of commerce



**RES and EE possibilities within the Danube Strategy ?**

**Thank you for your attention!**



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