



Regional Cooperation Council

# **Energy Efficiency and Renewable Energy Sources in the RCC members from SEE**

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## EE LEGAL AND REGULATORY FRAMEWORK

- **Law on EE:** partially developed or under preparation
- **Regulations on power generation (support for CHP and RES):** implemented or under implementation
- **EE standards, labeling, building codes and certification:** have started but needs more development
- **Heat metering and consumption based billing:** implemented in very few members
- **Energy audits:** not mandatory yet in most members
- **Social safety mechanism for vulnerable residential customers:** subsidies for heat and electricity bills not well targeted
- **Energy Taxes to fund programmes:** almost non existent
- **ESCOs:** enabling legislation not implemented

## EE POLICIES AND PROGRAMMES

- **EE policies and strategies:** mainly developed EE strategies and some members also prepared action plans
- **Economic and financial incentives:** very few have incentives for EE investments
- **EE funds:** many under preparation or foreseen by laws, but very few in place and effective
- **Voluntary agreements:** none have voluntary agreements in place or enabled by policy measures
- **Programs and provisions for promoting EE in the public sector at national and municipal level:** in some members legislation is in place, but is fairly recent and implementation is pending
- **Public information campaigns promoting EE:** only Croatia has a fully implemented campaign; others are either partially implemented or not at all

## EE INSTITUTIONAL FRAMEWORK

- **Government institutions:** all members have fully or partially implemented a government organization or unit for energy efficiency
- **Energy Efficiency/Conservation Agency:** very few established government agencies
- **National energy institutes:** are only partially developed in very few members
- **Energy efficiency centers (NGOs):** most members have active or partially active centers
- **Municipal or mayors' associations that focus on energy, heat and EE:** most members have these under implementation

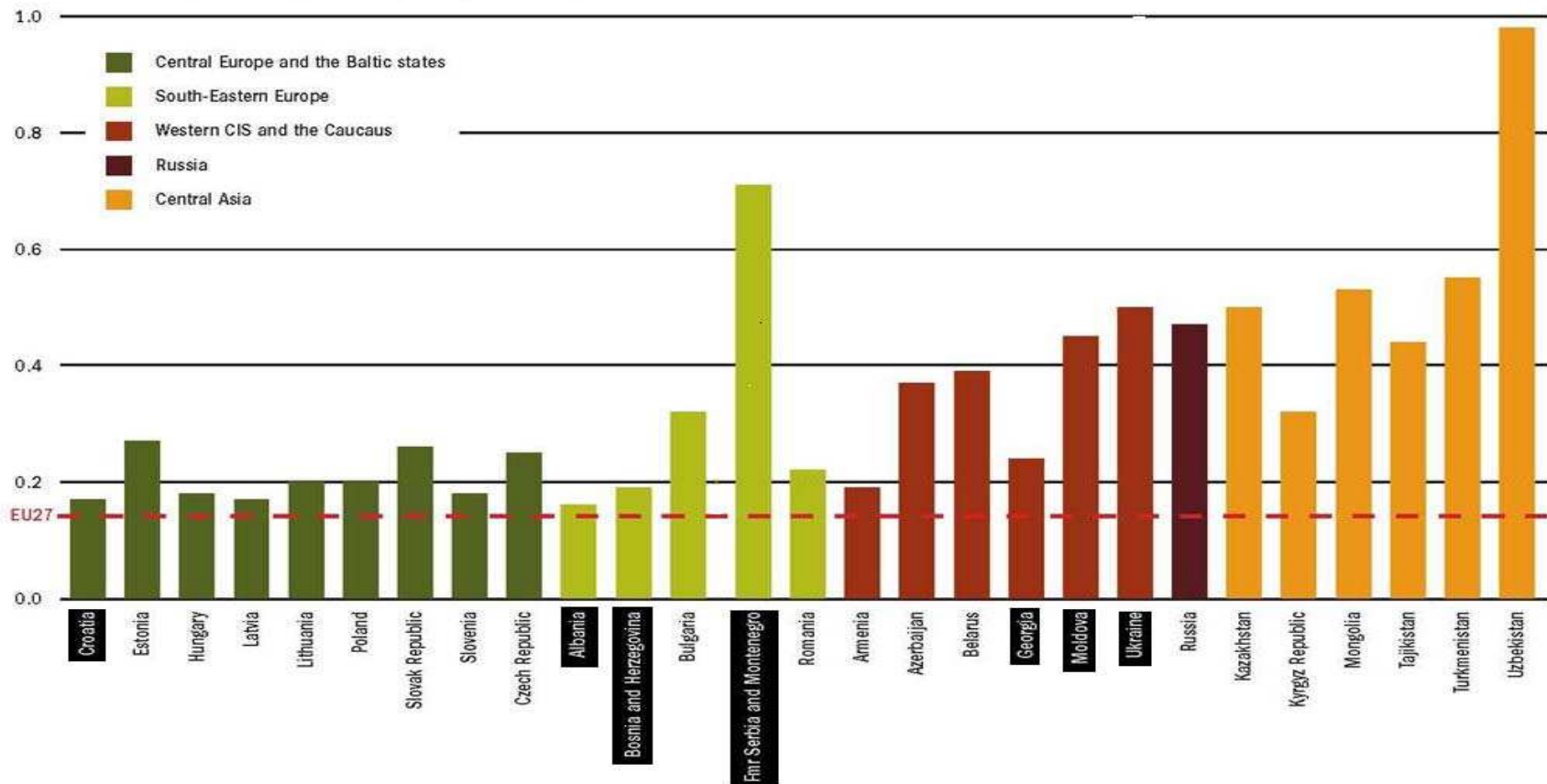
## EE SITUATION IN RCC AREA

- **In spite of huge EE potential (20%-60%), energy intensity high (mainly due to poor insulation in buildings, old car fleet, inefficient appliances and huge losses in networks)**
- **Necessary to upgrade policy framework, fill legal and regulatory gaps, encourage PSP, introduce incentive and investment mechanisms and improve institutional structure**

## EE SITUATION IN RCC AREA

### Energy intensity in EBRD countries of operations

2005 - Energy intensity in TPES/GDP (PPP) (toe/thousand 2000 USD PPP)



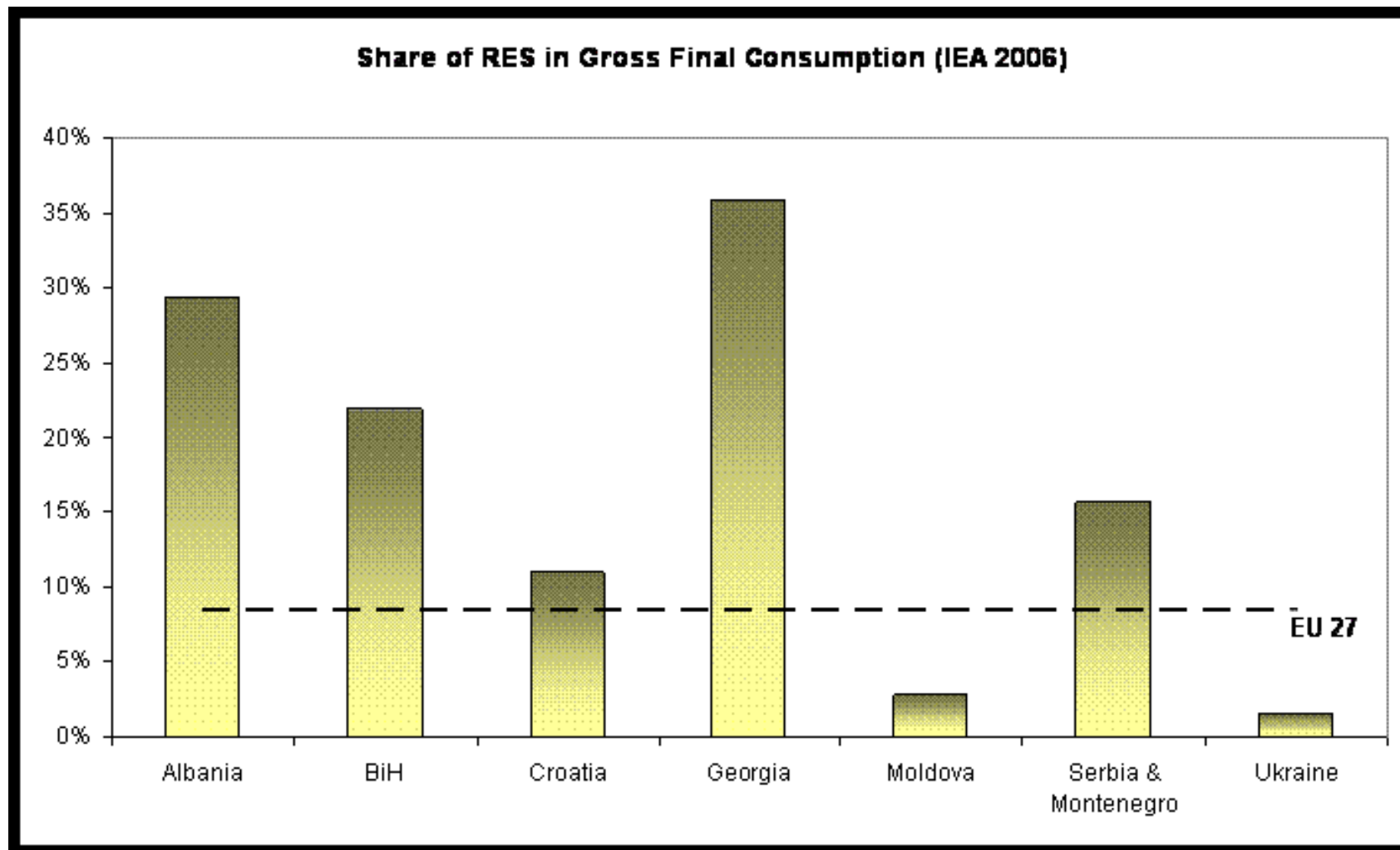
## WHY GREENING THE RCC AREA

- **EU prospect of the RCC members and impressive EU 20-20-20 targets**
- **RES are main tools for achieving environmental targets**
- **RES contribute to the SoS**
- **RES attract investments in short time period**
- **RES investments offer secured capital returns**
- **RES create significant new employment**
- **Globally 2.3 m people employed in RES; EU is global leader with 450 t current jobs and an annual turnover of 40 b EUR**
- **New USA administration`s ambitious plan (10% of electricity from RES by 2010 and 25% by 2025)**

## RECENT STEPS IN THE PROMOTION OF RES

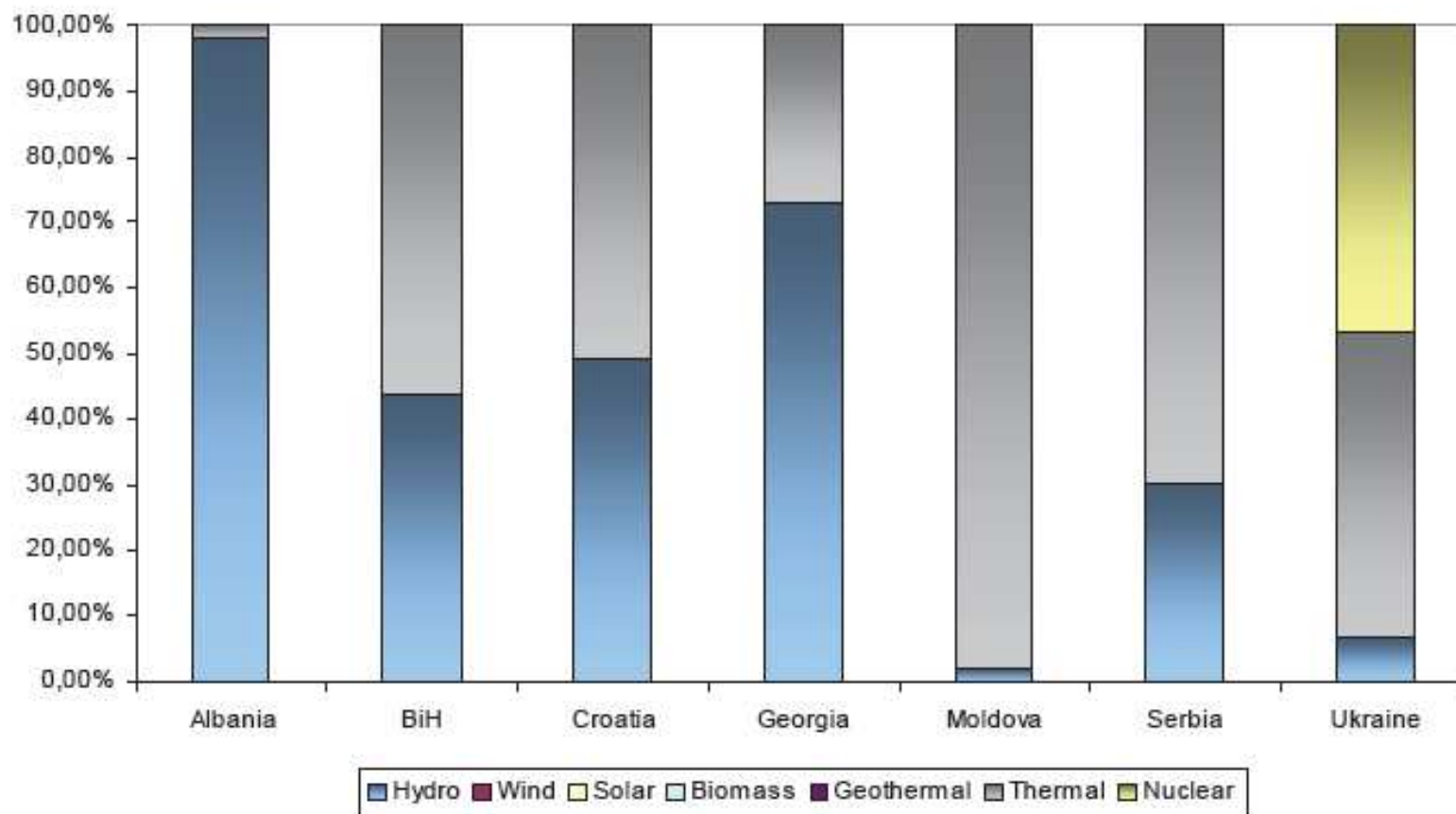
- **Study on the implementation of the new EU RE Directive in the EnCo (review the current status of development of RE; assess the impact of the new EU RE Directive, calculate the targets to be achieved by 2020; evaluation of costs, investment opportunities, GHG savings and decrease of fossil fuels consumption)**
- **Establishment of EnCo RE TF**
- **Support by the WB, GTZ and SYNENERGY Program**

## RES SITUATION IN RCC AREA



## RES SITUATION IN RCC AREA

Electricity Generation by Type (IEA 2006)



## **RES POLICY, LEGISLATIVE AND REGULATORY FRAMEWORK**

- **Only Croatia has primary legislation with specific articles dealing with RES issues**
- **Secondary legislation to establish rules and procedures for implementation of grid access; support mechanisms; guarantees of origin; tariffs, duties and taxes; standard PPAs; needs significant improvement with the exception of Croatia**
- **Indicative targets for RES clearly defined only in Croatia**
- **Feed-in tariff for RES has been adopted or is in the process of being adopted**

## ESTIMATES OF RES POTENTIAL

Country	Small Hydropower	Wind	Solar	Biomass	Geothermal
Albania	180 MW	No data. 400GWh envisaged by 2020.	1500 kWh/m <sup>2</sup> /yr	46 PJ/yr (128 TWh/yr)	Potential in specific locations, but no overall data.
Bosnia	2500 GWh/yr	2000 MW (600MW economically feasible)	1240 -1600 kWh/m <sup>2</sup> /yr	~14 PJ (3.9 TWh)	40.5 GWh
Croatia	177 MW for SHPP	1.3 GW and 3 TWh/yr potential. Current system limitation at 320 to 400 MW.	1,450 to 1,600 kWh/m <sup>2</sup> /yr	Total potential 39 PJ (11 TWh)	1170 MWt (839MWt with temp. above 50oC)
Georgia	5 TWh/yr economic potential	1450 MW producing ~5 TWh/yr	~1500 kWh/m <sup>2</sup> /yr	10.9 GWh/yr (2.7 GWh wood, 1.3 GWh agr residues, 6.9 GWh animal waste)	Technical Potential of 100MW producing an Achievable Potential of 700-800 GWh
Moldova	200 kW of medium and small HPPs	1.0 GW and 11 TWh/yr	1250 kWh/m <sup>2</sup> /yr	34.2 PJ/yr (9.5 TWh/yr)	No data
Montenegro	800-1000 GWh/yr	100 MW economic potential	1400 kWh/m <sup>2</sup> /yr	More than 40% of country covered by forests; currently using (2.8 PJ/yr).	Not significant
Serbia	500 MW (1.8 TWh/yr)	2.3 TWh/yr	1400 kWh/m <sup>2</sup> /yr	105 PJ/yr (29 TWh/yr)	2.1 TWh/yr
Ukraine	12.5 TWh/yr (3.7 TWh/yr economically feasible)	16 GW – 30 TWh/yr	1070 – 1400 kWh/m <sup>2</sup> /yr	628 PJ/yr (174 TWh/yr)	438 TWh/yr

## **ACTIVITIES TO IMPROVE RES UTILIZATION**

- **Policy, legislative, institutional and regulatory frameworks establishment and improvements**
- **Project Development & Finance (appropriate resource measurement and mapping; economic assessment of different RE technologies; identification and pre-feasibility studies of potentially attractive projects)**
- **Lack of reliable data or unclear data on resource potential leads to investor reluctance**
- **Comprehensive information needed to reduce investment risk**

# Thank you for your attention

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