

# **The Seventh International Forum on Energy for Sustainable Development International Conference on Renewable Energy**

Regional Seminar on:

«Enabling Policies to Promote Financing Renewable energy Investments»

19-20 October 2016, Baku, Azerbaijan

## **Case Study of Serbia**

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# Scope of presentation

**1. Serbian energy polisy**

**2. The key barriers for implementation of RES Projects**

- **Lack of reliable data**
- **Economical barriers**
- **National investment uncertainty**

**5. Other activities**

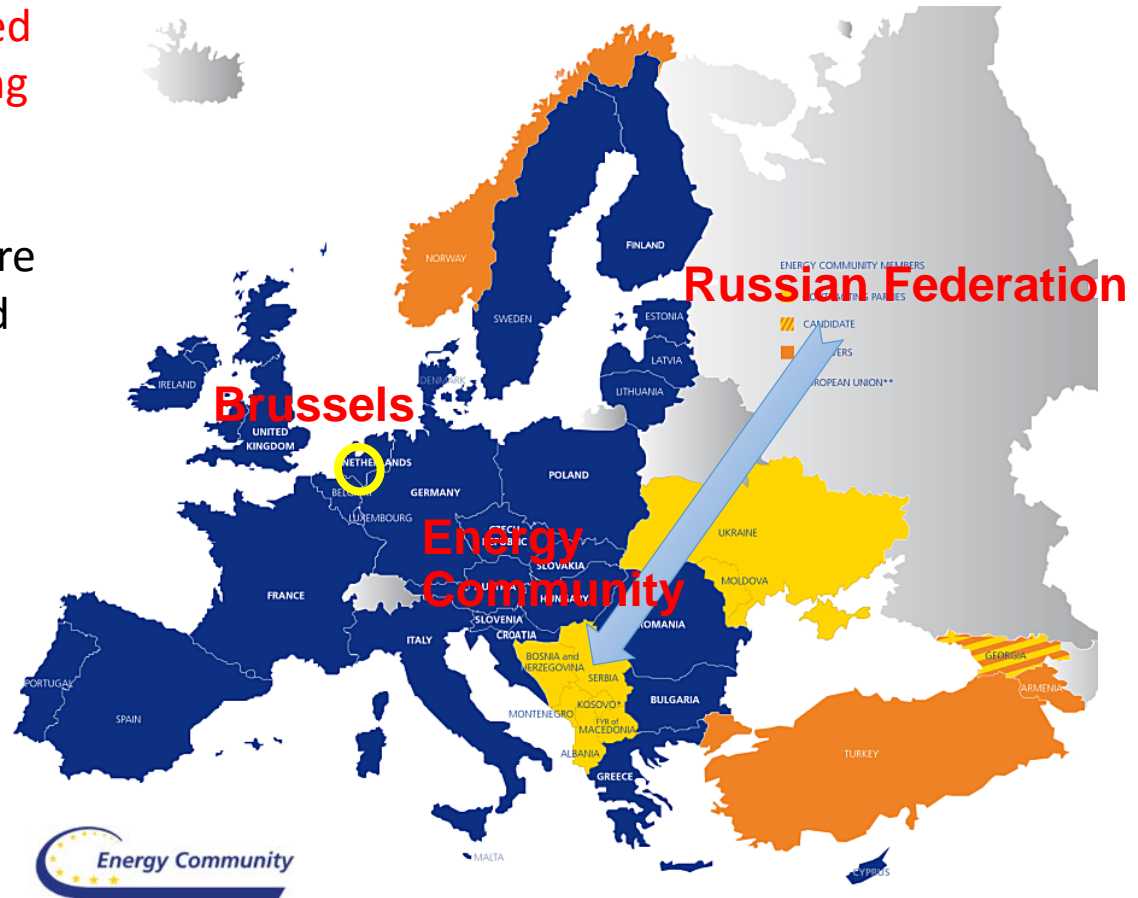
**6. Conclusion**

# 1. Serbian energy polisy (on the EU road)

2006 - Republic of Serbia ratified the Treaty on establishing the Energy Community

Signatories to the agreement are  
European Commission (EU) and  
Albania,  
Bosnia and Herzegovina,  
Croatia,  
Former Yugoslav Republic of  
Macedonia,  
Serbia,  
UNMIK,  
Montenegro ...

Moldova,  
and Ukraine



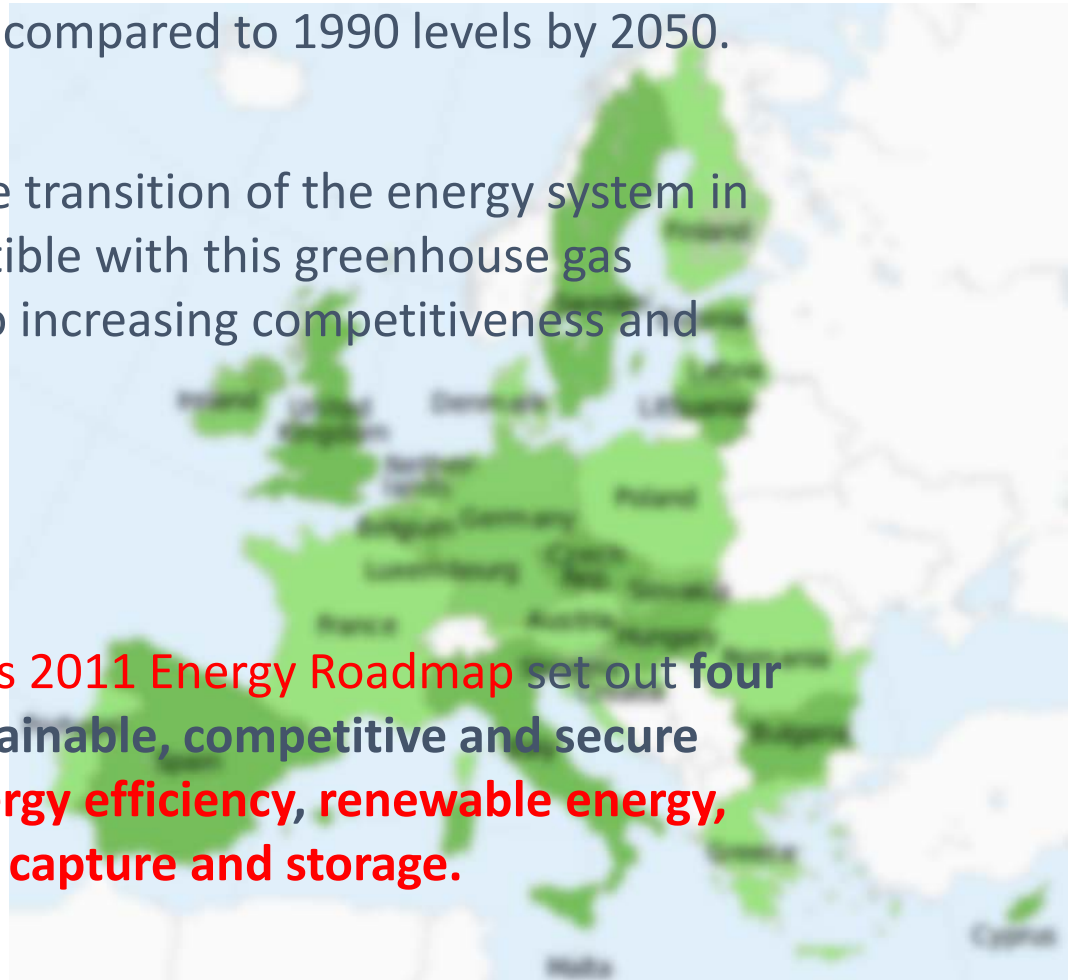
# 1. Serbian energy polisy (on the EU road)

## 2050 Energy strategy

- The EU has set itself a long-term goal of reducing greenhouse gas emissions **by 80-95%** when compared to 1990 levels by 2050.  
The Energy
- Roadmap 2050 explores the transition of the energy system in ways that would be compatible with this greenhouse gas reductions target while also increasing competitiveness and security of supply.

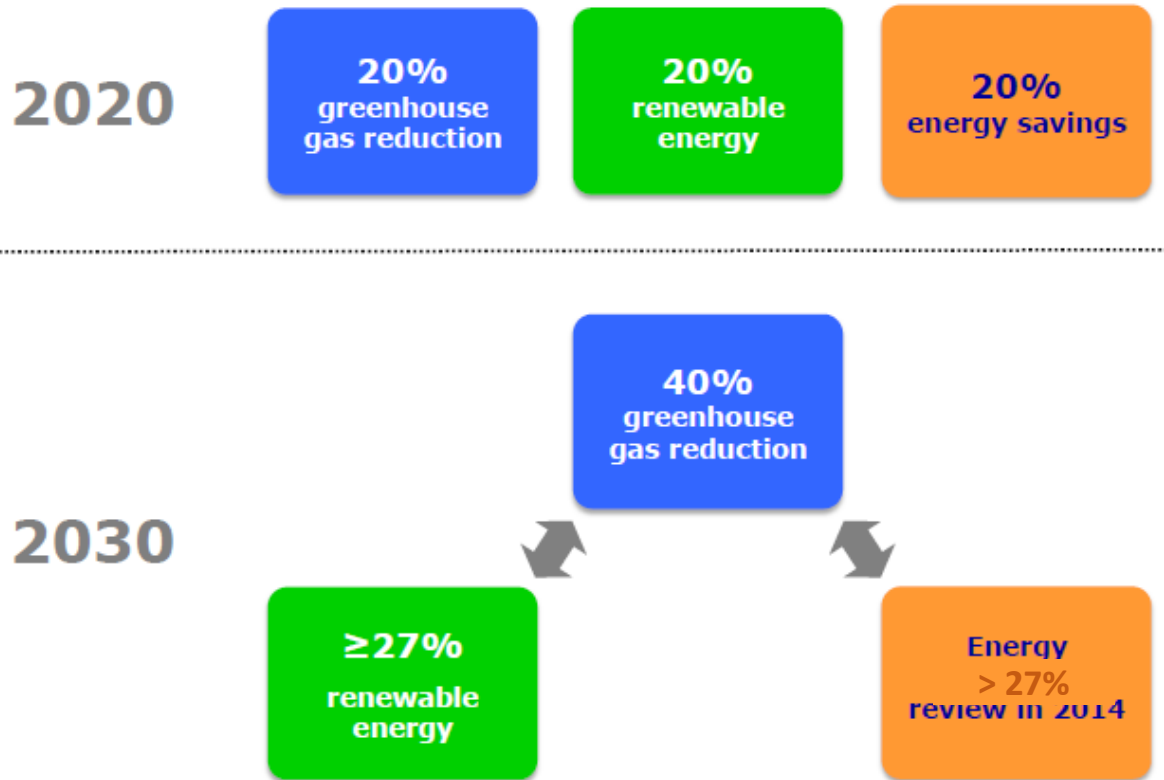
## Energy Roadmap

- The European **Commission's 2011 Energy Roadmap** set out **four main routes to a more sustainable, competitive and secure energy system in 2050: energy efficiency, renewable energy, nuclear energy and carbon capture and storage.**



# 1. Serbian energy polisy (on the EU road)

## 2030 Energy Strategy Target



# 1. Serbian energy policy (on the EU road)

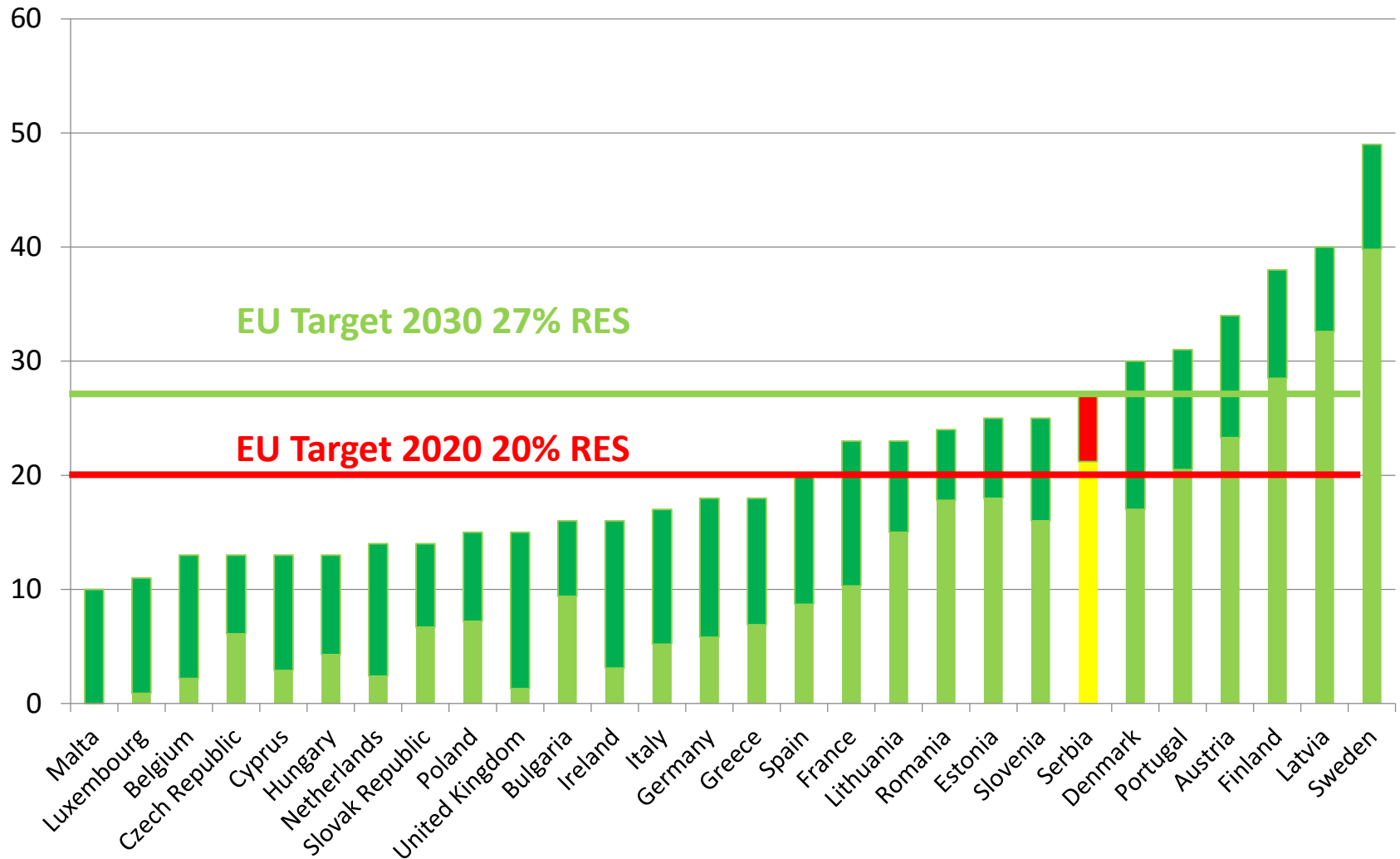
## Commitments for RES

According to decisions of the Energy Community Ministerial Council meeting held in Budva on 18 October 2012, the Republic of Serbia is committed to:

- Increase the share of RES in consumption from 21.2% in 2009 to 27% in 2020. (5.8%)
- Increase the share of biofuel consumption in the transport sector from 0% in 2009 to 10% in 2020.

# 1. Serbian energy polisy (on the EU road)

## Commitments for RES - Comparison of RES % with EU Member States

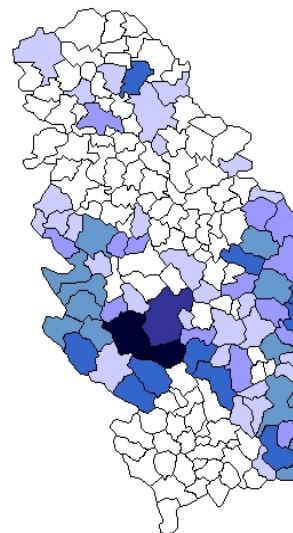
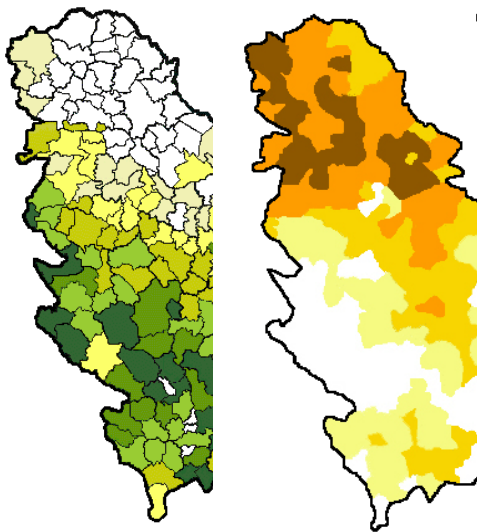


# 2. The key barriers for implementation of RES Projects

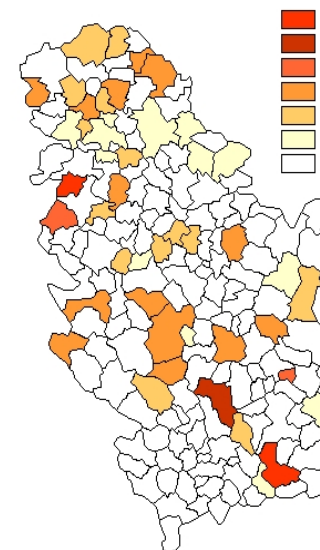
## 2.1. Lack of reliable data

- where are and how big are economically viable RES potential
- Planning documents - that determined the mode how to use of land (Spatial Plan of the Republic of Serbia, Regional Spatial Plans, Spatial Plans of the unit of local administration, General Urban Plan, General Regulation Plan ...

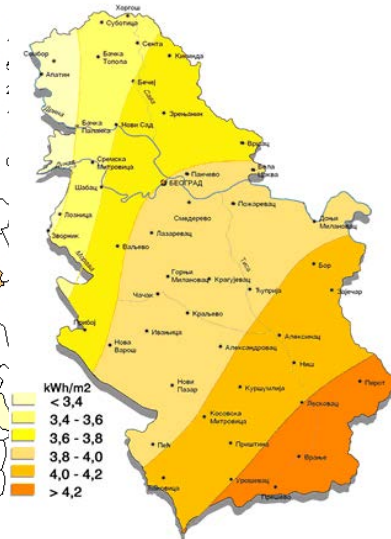
SHARE OF FORESTS IN TOTAL AREA OF COMMUNITIES, 2007



Total MW from Small Hydro Power



Total TJ / year from Geothermal Energy



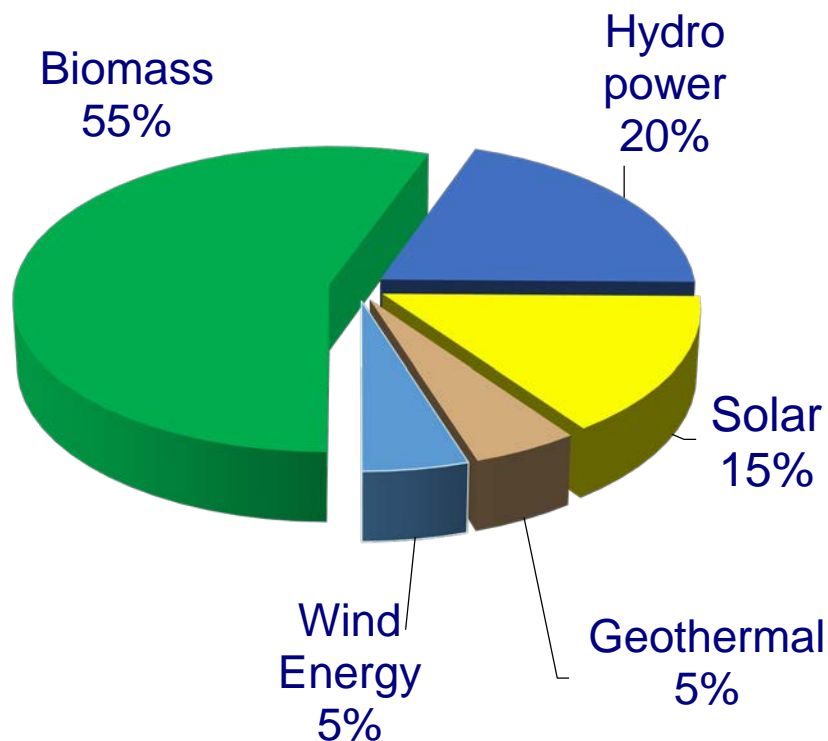
DAILY MEANS OF GLOBAL SOLAR IRRADIATION ON THE HORIZONTAL PLANE (ANNUAL)



## 2. The key barriers for implementation of RES Projects

### Estimated potential of RES

- The total technical potential of RES is about 5,65 Mtoe
- We already use 33% of the available technical potential (0.9 Mtoe we used hydropower and 1.06 Mtoe of biomass potential )



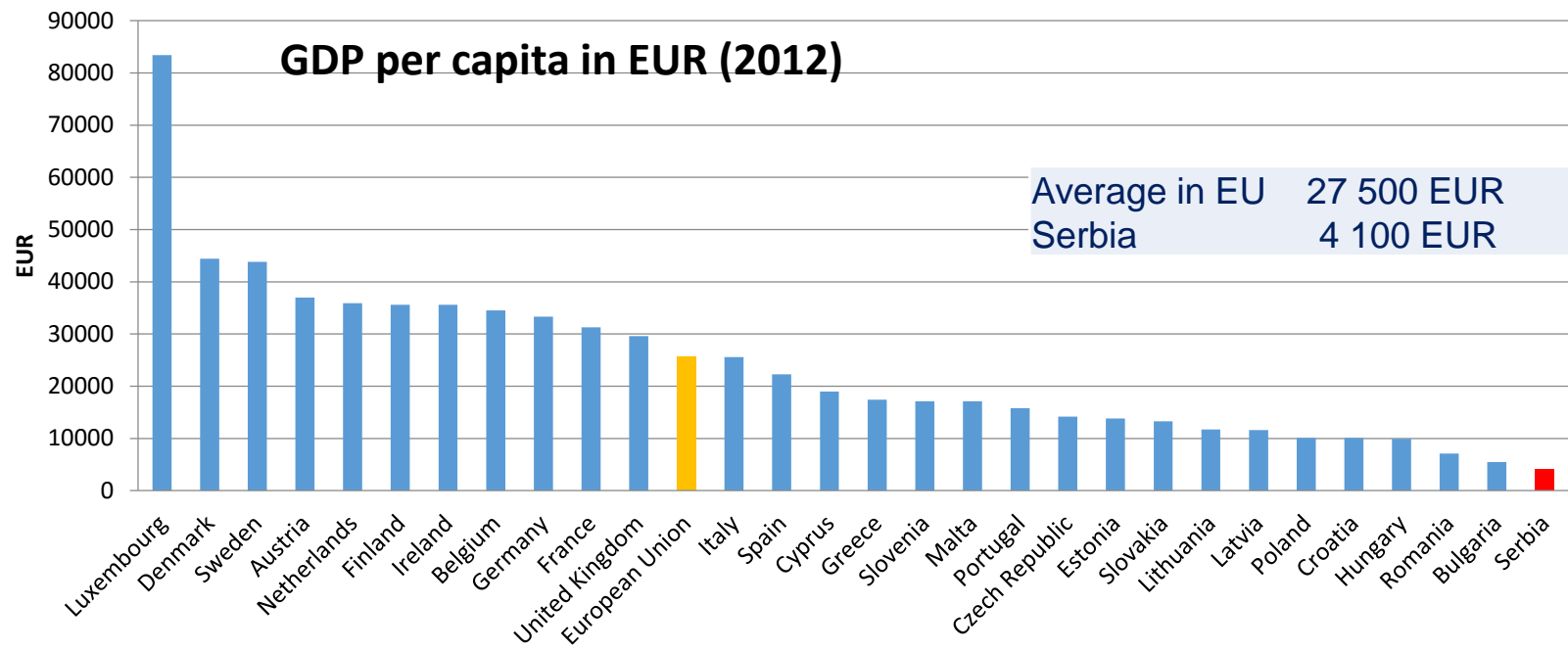
Remaining potentials (Mtoe)	
<i>Biomass (unused)</i>	2,24
<i>Hydropower (unused)</i>	0,80
<i>Solar</i>	0,60
<i>Geothermal</i>	0,20
<i>Wind Energy</i>	0,20
<b>Total</b>	<b>4,04</b>

- Primary energy production and net imports of energy 14.626 Mtoe (in 2014 )
- Total consumption of final energy 7,67 Mtoe (in 2014 )

## 2. The key barriers for implementation of RES Projects

### 2.2. Economical barriers

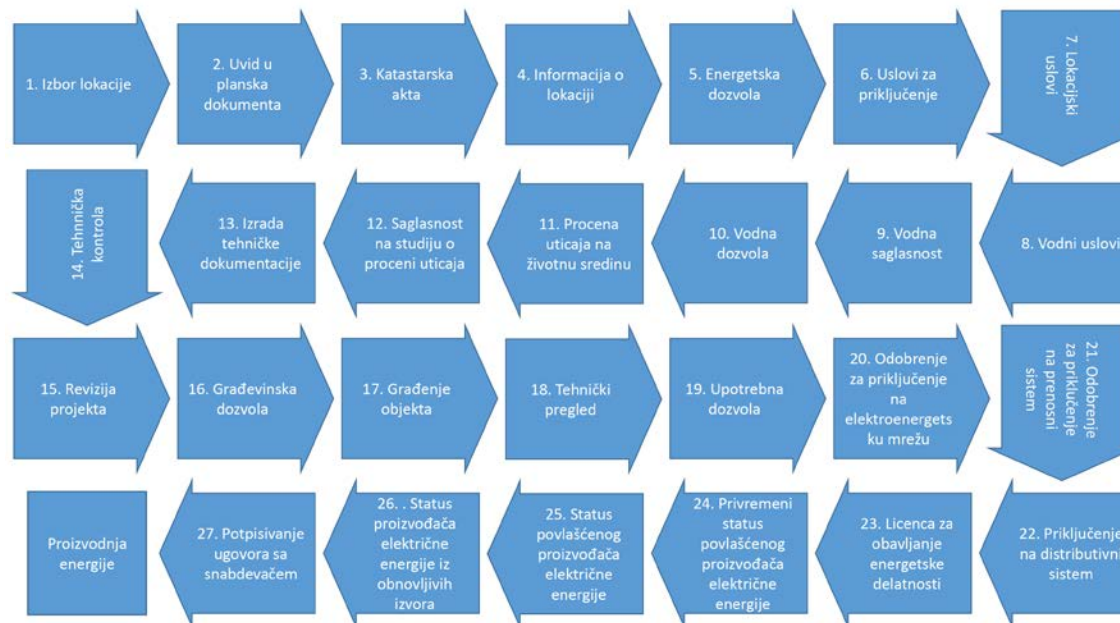
- Price of electricity from RES are still more expensive than from classical sources
- Small GDP and GDP per capita,
- Political challenges (price of electricity is very small - 6,45 c€/kWh)



# 2. The key barriers for implementation of RES Projects

## 2.2. Administrative procedures

- Lack of legal procedures
- or extremely complicated legal procedures (The process of issuing installation and operation license requires the involvement of several different public authority and is therefore extremely complicated and time consuming)



## 2. The key barriers for implementation of RES Projects

### Legal Framework

2005 – Energy Sector Development Strategy of the Republic of Serbia until 2015

2004 – Energy Law

**2009 - Introduced Feed-in Tariffs** for production of electricity from renewable energy sources

- **The Decree procedure for the acquisition**, duration and termination of the status of a **privileged producer**
- **The Decree of the incentive measures** for the production of electricity from RES (Feed-in tariffs system)
- According to the Decree on Feed-in Tariffs, the Electric Company of Serbia (EPS), acting as single buyer, is obliged to offer a **12-year contract** with guaranteed price to all investors who have privileged producer status.
- Feed-in tariffs for new plants range from **6.7 to 23.00 €/kWh**.

**2011 – Energy Law - the status of privileged producer**

- New **Decree on incentive measures** for privileged power producer
- New **Decree on conditions and procedure for acquiring the status of privileged power producer**
- Model of a Power Purchase Agreement (up to 5 MW, over 5MW and over 50 MW installed capacity (it was not be acceptable to institutional lenders for financing - it was not "bankable"))

## 2. The key barriers for implementation of RES Projects

### 2.3. National investment uncertainty

- **Not enough high Credit Rating** (2016, Moody's, B1, positive, Fitch, BB-, stable ) macroeconomic performances, political stability, banking sector stability (**SPECULATIVE GRADE**, Capacity to meet financial commitments, risk of changes in business environment and economic conditions, **significant credit risk**)
- **Lack of confidence of investor in the national legal system**

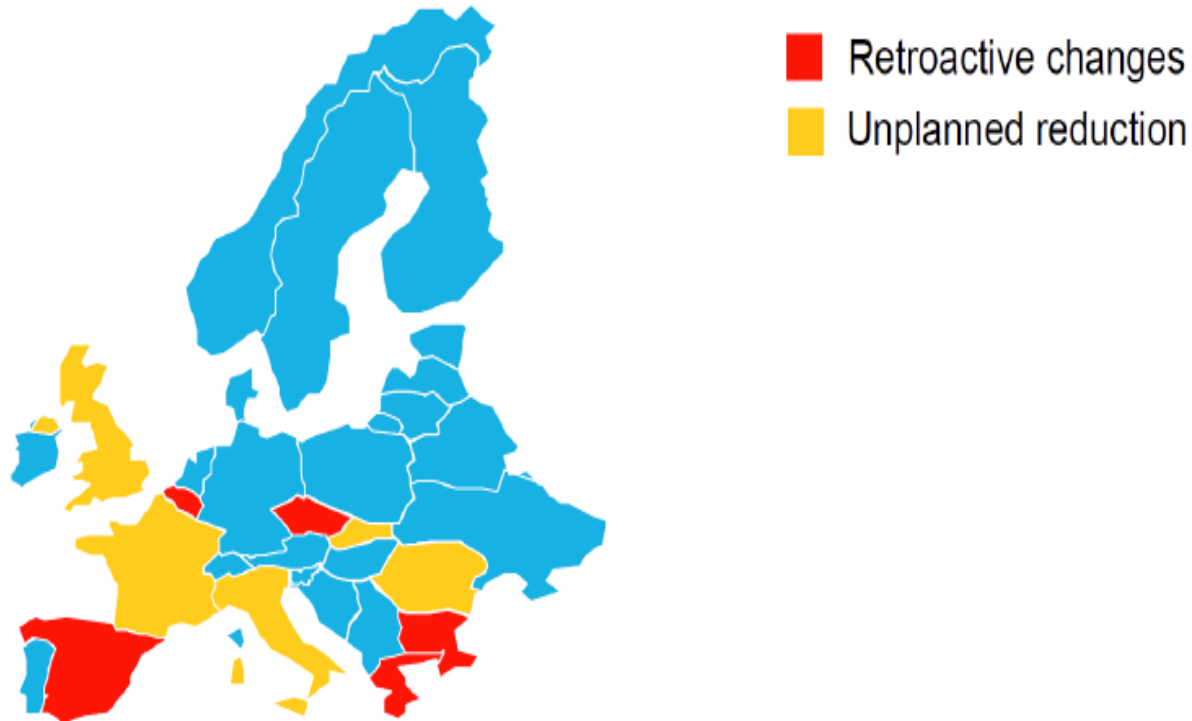


## 2. The key barriers for implementation of RES Projects



### EUROPE - POLICY UNCERTAINTY

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Source: Bloomberg New Energy Finance

## 2. The key barriers for implementation of RES Projects

### ● The Reform Process

EU Overview of Retroactive changes, moratoria or other changes in national RES legislations: **TO BE COMPLETED/ADJUSTED**

Country	RETROACTIVE CHANGE	OTHER LEGAL CHANGE
AUSTRIA		X (Jul/2012)
BELGIUM	X (Jul/2012)	X (2013)
BULGARIA	X (Jul 2012)	X (May/2011)
CZECH REPUBLIC	X (Sep/2013)	X (Sep/2013)
ESTONIA	X (Jan/2013)	
GERMANY		X (2010 + June/2012)
GREECE	X (Nov/2012)	X (Aug/2012)
FINLAND	X (2012)	
FRANCE	X (Oct./2012)	X (Dec/2010)
ITALY	X (Jul/2012)	
NETHERLANDS		X
NORWAY		X (Jan/2012)
POLAND	X (Oct/2012)	X (Sep/2013)
PORTUGAL		X (Oct/2012) X (Oct/2012)
SLOVAKIA	NA	NA
SPAIN		X (Jan./2012) X (2010 + Feb/2013)
SWEDEN		X (Jan/2012)
TOTAL	10 MS	5 MS with Moratoria

Legend:

	New legislation or Amendments
	Retroactive change
	Moratorium (= Suspension of support)

## 2. The key barriers for implementation of RES Projects

### Updating Legal Framework

2013 – National Action Plan for RES

2014 – New Energy Law

- Directive 2009/28/EC (RES Directive)
- Status of temporary privileged power producer together with Status of privileged power producer
- Feed-in tariffs not financed from Budget of RS, but from special fee payed by all final electricity consumers

### 2016 – updating By-laws

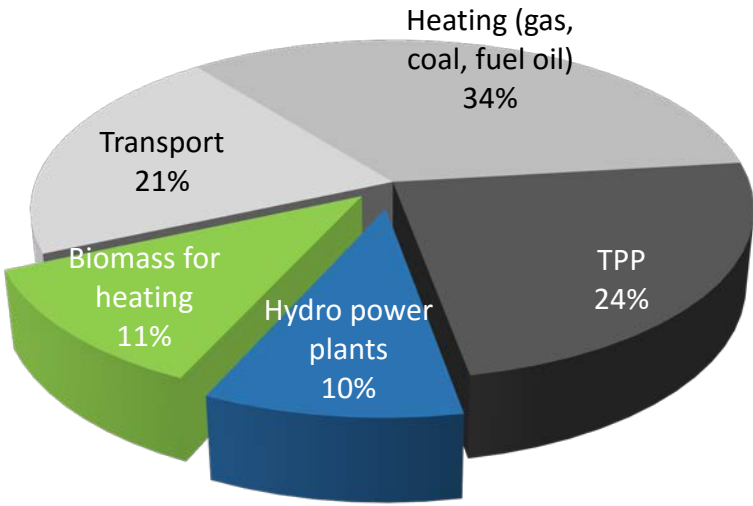
- **New Decree on incentive measures** for privileged power producer
- **New Decree on conditions and procedure for acquiring the status of privileged power producer**
- **New Model of a Power Purchase Agreement**



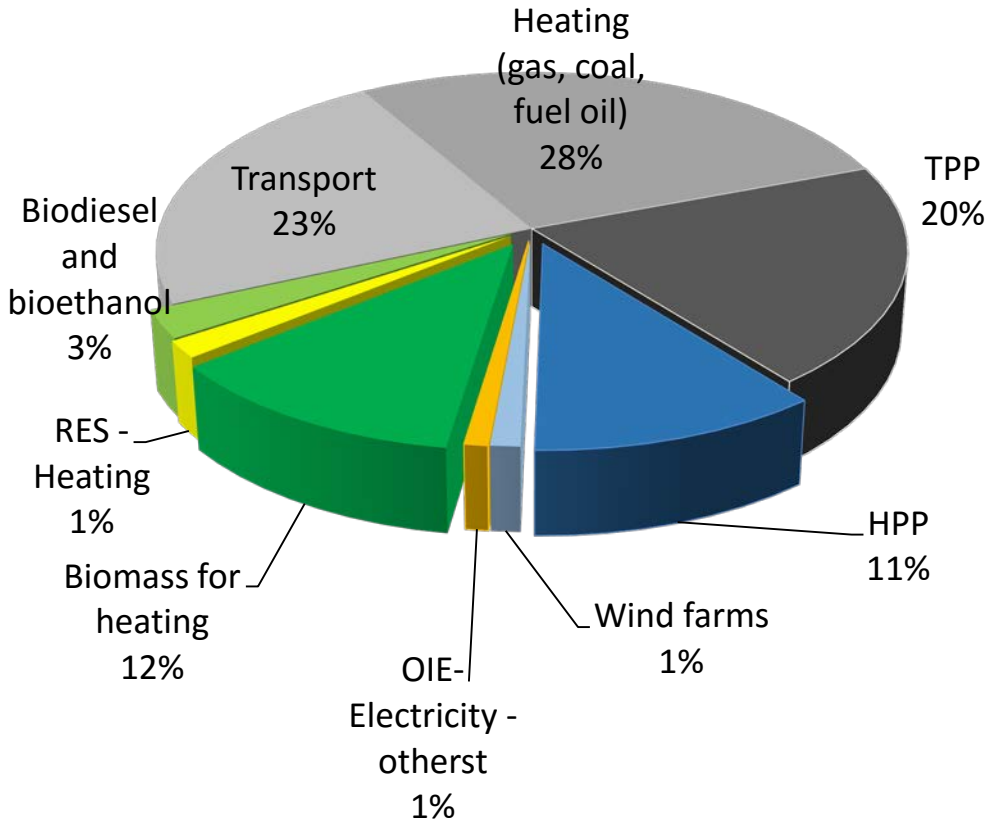
# 2. The key barriers for implementation of RES Projects

## National Action Plan for RES

### Final energy consumption 2009



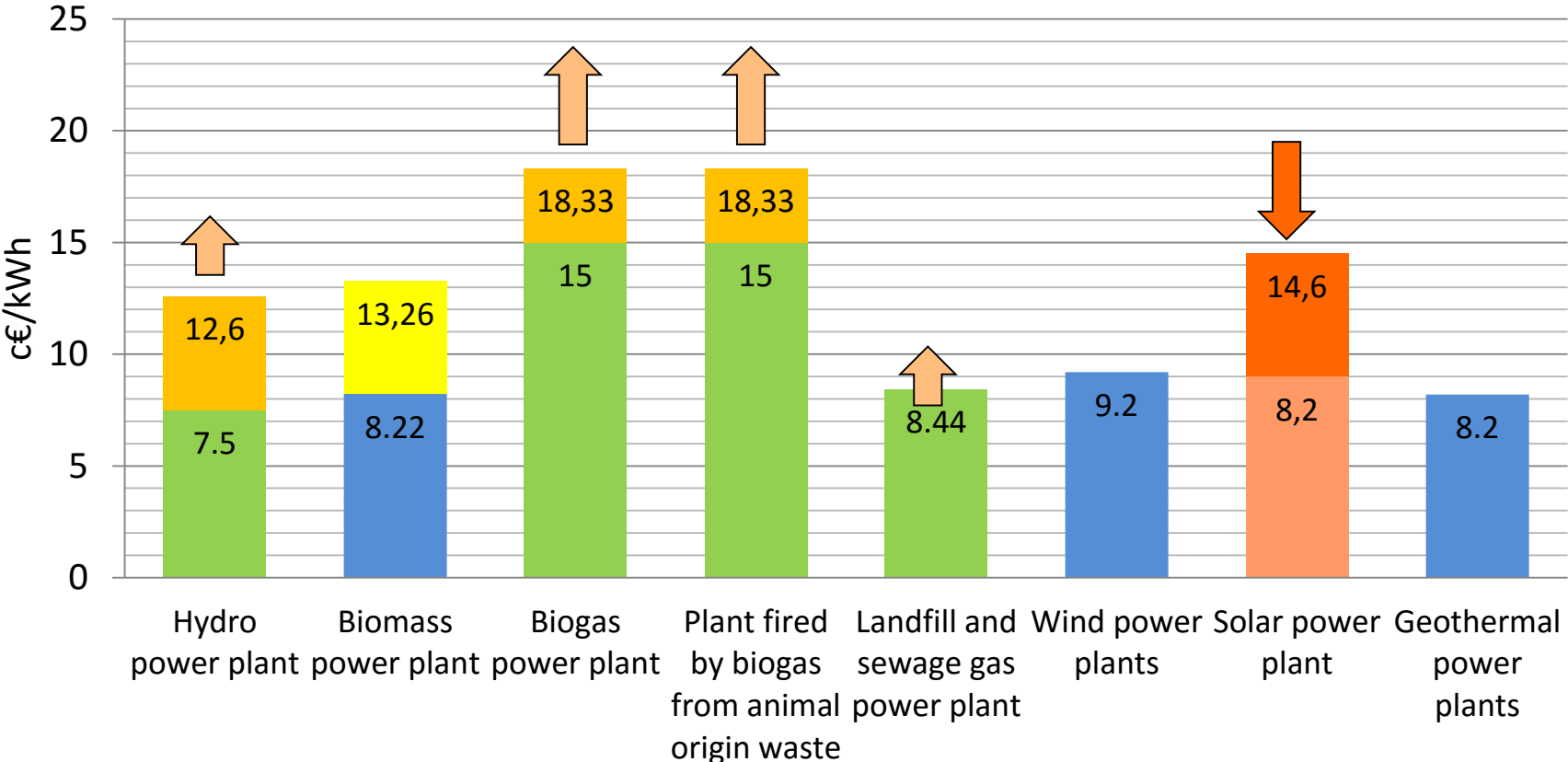
### Final energy consumption 2020



# 2. The key barriers for implementations of RES Projects

## New Decree on incentive measures

New Feed in prices for RES electricity



## 2. The key barriers for implementations of RES Projects

### New Model of a Power Purchase Agreement

1. **„Force Majeure“** - Political and Natural and effects of the Force Majeure  
*In case of the occurrence of a Force Majeure the PPA shall remain in force but its legal effects shall be suspended for the period of duration of the Force*
2. **„Change in Law“** - the coming into force of new regulations after the date of coming into force of the PPA  
*On the request of Privileged producer Government can adopt proposal of a regulation that would recuperate the loss suffered by the privileged producers*
3. **„Payment security instruments“**, maintenance and enforcement of the payment security instruments  
*„Three blank promissory notes, for 3 months, by own property guaranteed Serbian Electric Power Company*
4. **„Contract termination“** – define all possible circumstances when privileged producer can terminate PPA and charge the entire loss
5. **Risk of electricity not received by the system operator**
6. **Method of settlement of disputes**
7. **....**

## 2. The key barriers for implementations of RES Projects

### New Model of a Power Purchase Agreement

#### Method of settlement of disputes

Competence for the resolution of any disputes arising from, or in connection with the Agreement have

The Commercial Court in Belgrade  
or  
Permanent Court of Arbitration &  
Chamber of Commerce of Serbia in Belgrade  
(National legal system)



International Chamber of Commerce

*The world business organization*

The international court of arbitration of  
the International Chamber of Commerce  
(ICC) in Paris

**VIAC** || Vienna International  
Arbitral Centre

The International Arbitral Centre of  
the Austrian Federal Economic  
Chamber in Vienna (VIAC)

## 2. The key barriers for implementations of RES Projects

### New Model of a Power Purchase Agreement

#### WIND POWER MONTHLY

First due diligence assessment very positive by C.M.S

*“ It was worth the wait!!!”*

*“ The result is a consistent, comprehensive and, at least on the face of it, bankable set of regulations to govern the renewable sector in Serbia in a manner which appears to be unmatched in the entire Western Balkan region in terms of both the quality of drafting and the completeness of the solutions implemented. ”*

*“ Overall, the newly adopted PPA Package is a great step forward for renewables in Serbia.”*

<http://balkangreenenergynews.com/long-awaited-ppa-package-finally-adopted-in-serbia/>

*“You can clearly see they are the result of lengthy discussions with the international financial institutions, which is important, but something you don't see very often.”*

[http://www.windpowermonthly.com/article/1403500/new-legislation-paves-500mw-wind-farms?utm\\_source=Viber&utm\\_medium=Chat&utm\\_campaign=Private](http://www.windpowermonthly.com/article/1403500/new-legislation-paves-500mw-wind-farms?utm_source=Viber&utm_medium=Chat&utm_campaign=Private)

# 3. Other activities

## 6 +1 Guidelines for Investors



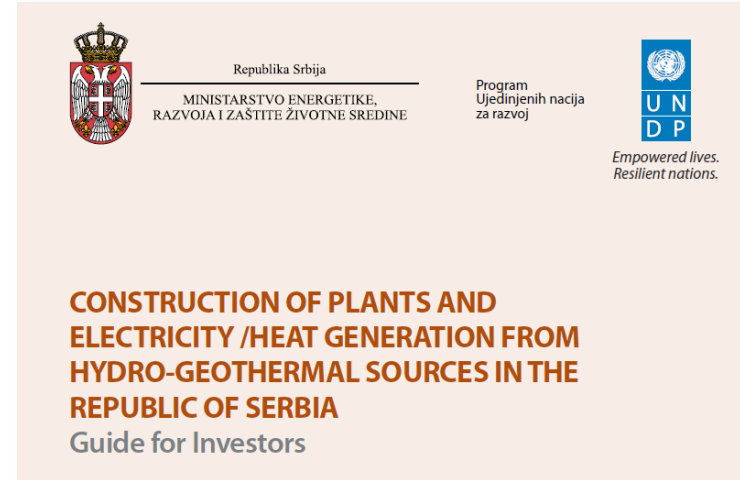
Republika Srbija  
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RAZVOJA I ZAŠTITE ŽIVOTNE SREDINE

Program  
Ujedinjenih nacija  
za razvoj




*Empowered lives.  
Resilient nations.*

**CONSTRUCTION OF PLANTS AND  
ELECTRICITY/HEAT GENERATION FROM  
BIOMASS IN THE REPUBLIC OF SERBIA**  
Guide for Investors



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HYDRO-GEOTHERMAL SOURCES IN THE  
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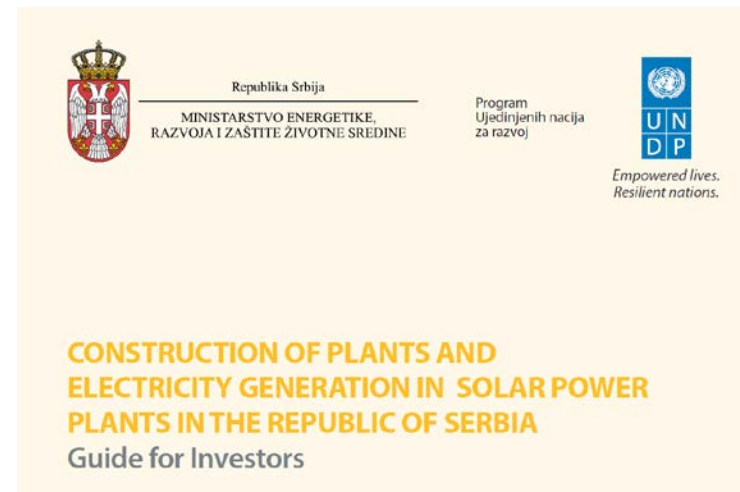
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**CONSTRUCTION OF PLANTS AND ELECTRICITY  
GENERATION IN SMALL HYDROPOWER  
PLANTS IN THE REPUBLIC OF SERBIA**  
Guide for Investors



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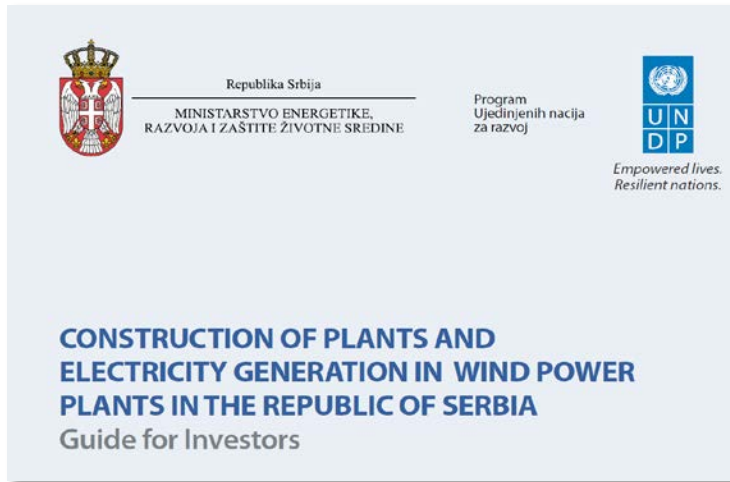


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Resilient nations.*

**CONSTRUCTION OF PLANTS AND  
ELECTRICITY GENERATION IN SOLAR POWER  
PLANTS IN THE REPUBLIC OF SERBIA**  
Guide for Investors

# 3. Other activities

## 6 +1 Guidelines for Investors



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**CONSTRUCTION OF PLANTS AND  
ELECTRICITY GENERATION IN WIND POWER  
PLANTS IN THE REPUBLIC OF SERBIA**  
Guide for Investors



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MINISTARSTVO ENERGETIKE,  
RAZVOJA I ZAŠTITE ŽIVOTNE SREDINE

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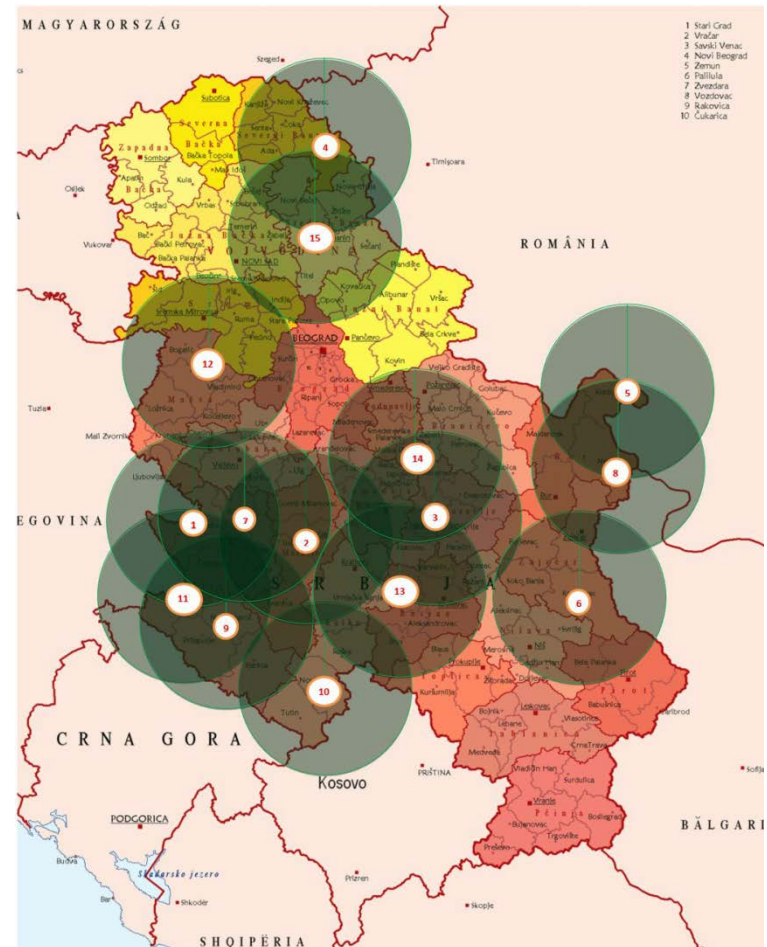
**IZGRADNJA SOLARNIH GREJNIH  
SISTEMA U REPUBLICI SRBIJI**  
Vodič za investitore



# 3. Other activities

## Ongoing projects

- 2011 - KfW and GIZ "Promotion of RES - development of biomass market in Serbia"
- Budget: 20+5+2 million EUR
- The goal: switch the operation of district heating to CHP and shift from traditional energy sources to biomass
- Pre-feasibility study -15 cities (10 -80 MW),
- Cost effectiveness is only in case the heating plants do not change the purpose and use heavy fuel oil
- Novi Pazar, Prijepolje, Mali Zvornik, Nova Varos and Becej (1-6 MW)





# 3. Other activities

## Ongoing projects

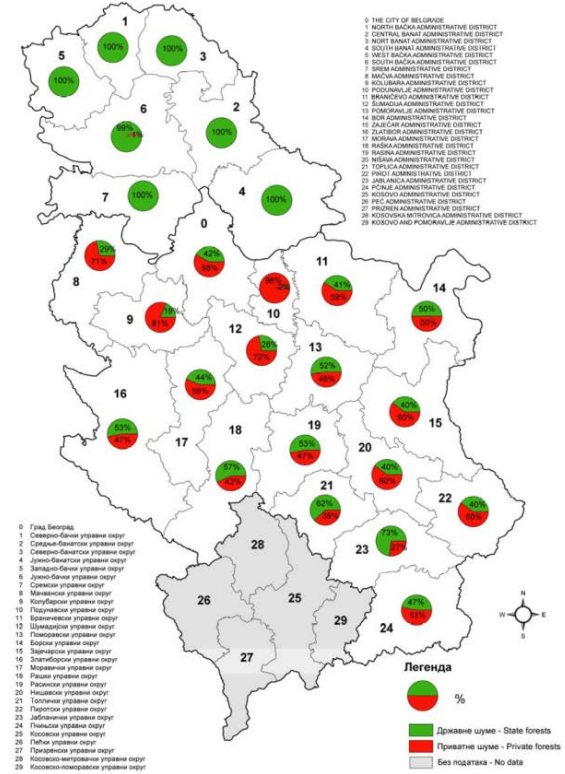
### UNDP/GEF project "Reducing barriers to accelerated development of the market of biomass in Serbia,,

- Budget: \$ 2.85 million US
- Including co-financing of 30 million USD.

#### Goals:

- Co-financing to build 6 CHP plants
- Pre-feasibility study for further 12 similar projects
- Internet platform for biomass market
- Training programs ... etc.

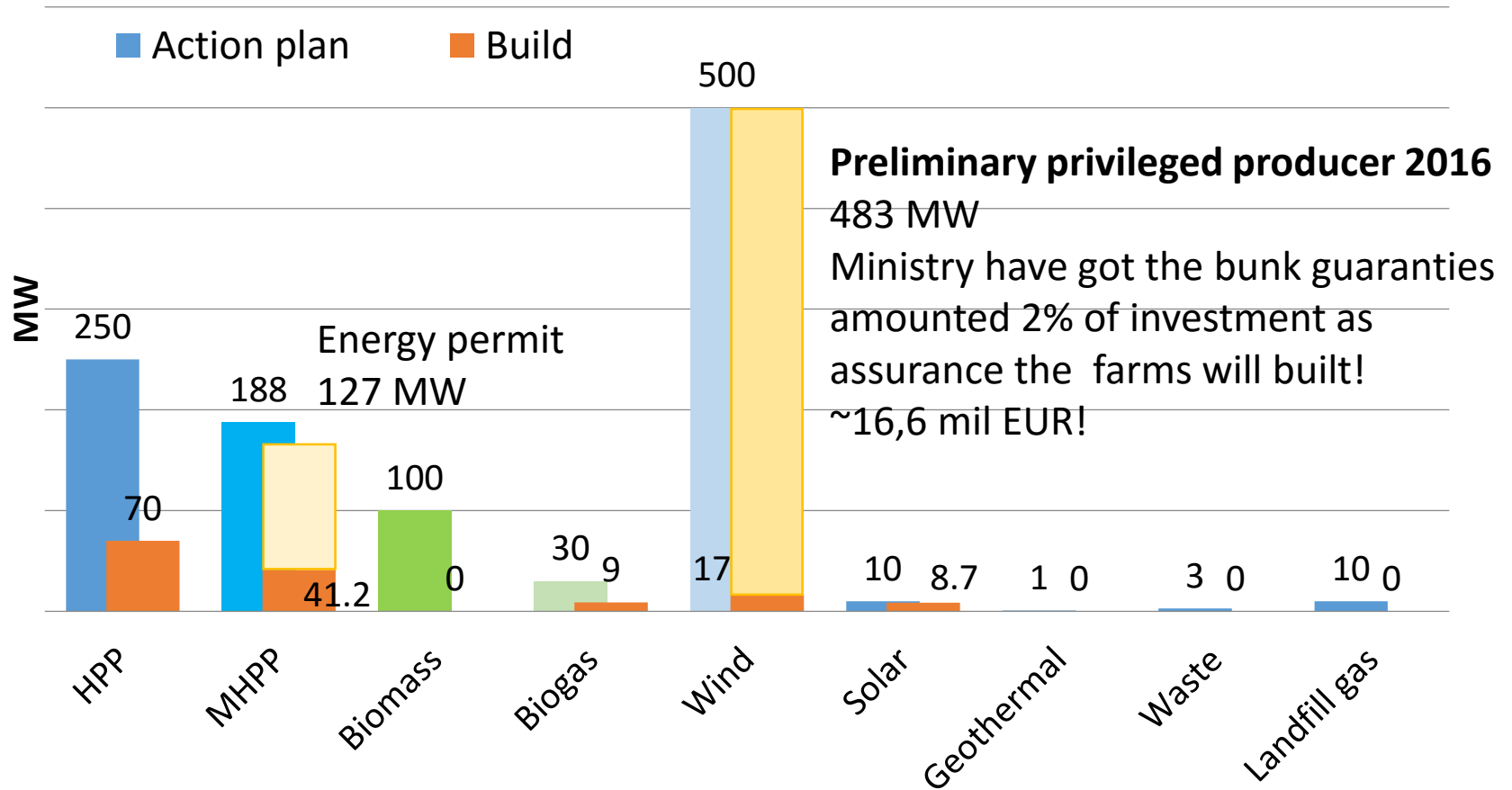
ОДНОС ДРЖАВНИХ И ПРИВАТНИХ ШУМА ПО УПРАВНИМ ОКРУЗИМА У РЕПУБЛИЦИ СРБИЈИ  
STATE AND PRIVATE FORESTS' RATIO BY ADMINISTRATIVE DISTRICTS IN THE REPUBLIC OF SERBIA



# 4. Conclusion

Plans (new 1092 MW) and Realization (electricity)

2016



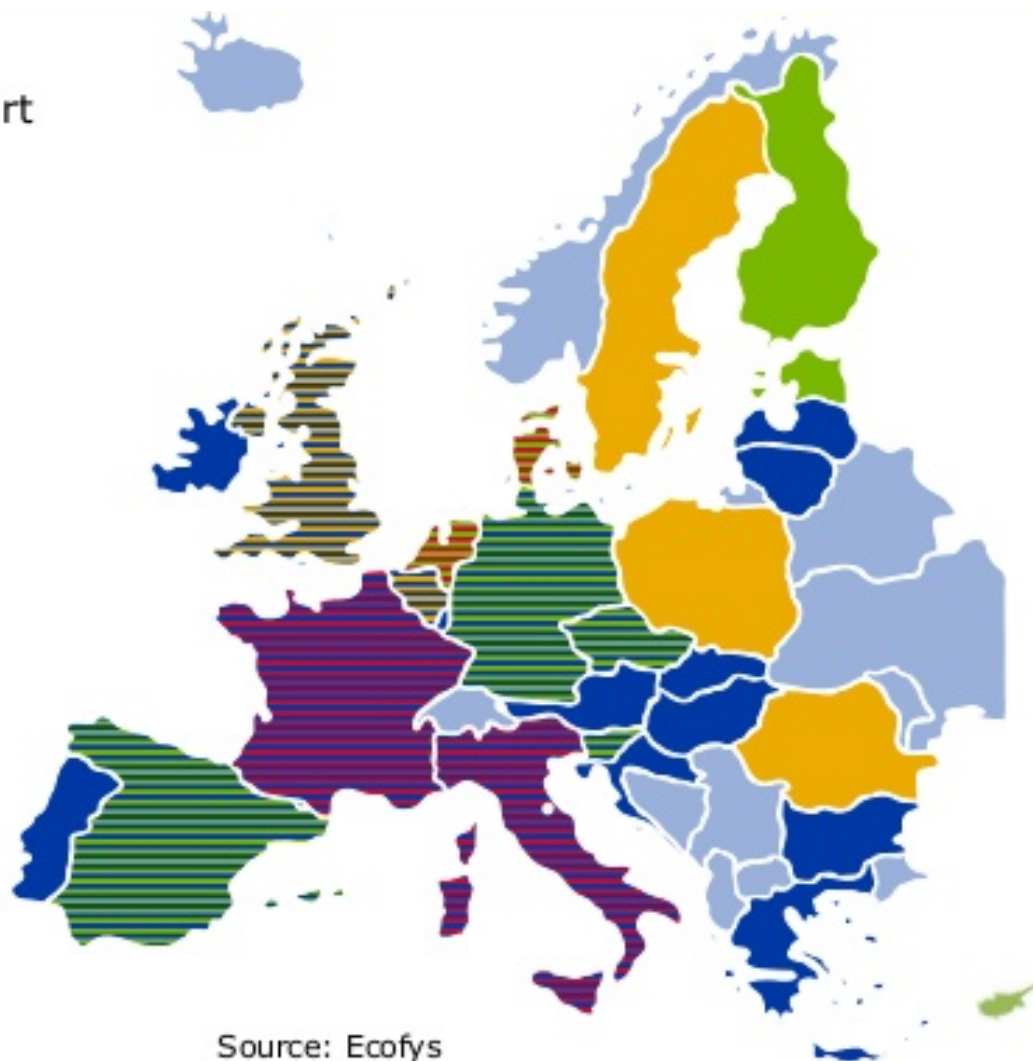
## 4. Conclusion

### Future plans

Diversity of RES-E support schemes in the EU-28

- Feed-in tariff (FIT)
- Feed-in premium (FIP)
- Quota
- Tenders

Note: This map does not include secondary support instruments like tax incentives, investment grants, etc.



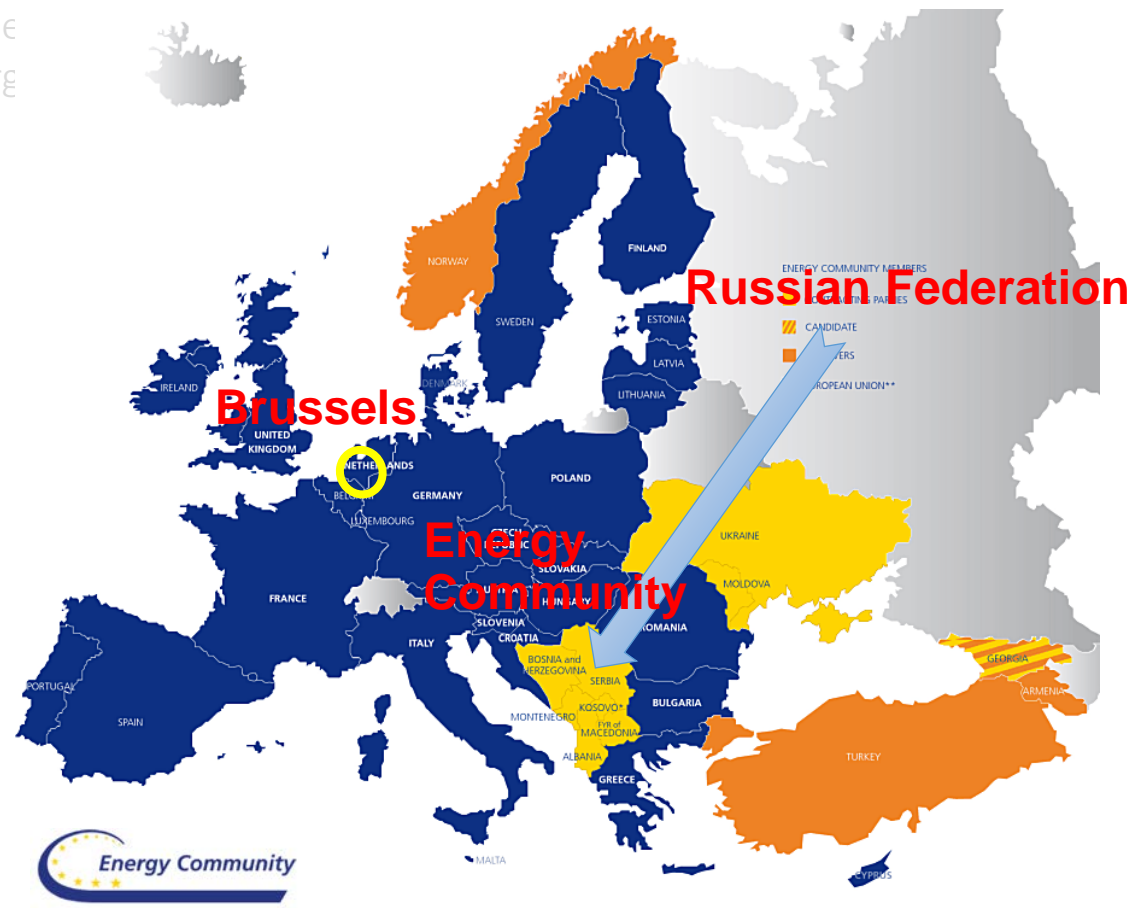
Source: Ecofys

# 4. Conclusion

2006 - Republic of Serbia ratified the Treaty establishing the Energy Community - takes over obligations

Signatories to the agreement are **European Commission (EU)** and Albania, Bosnia and Herzegovina, Croatia, Former Yugoslav Republic of Macedonia, **Serbia**, UNMIK, Montenegro ...

Moldova, and Ukraine



Thank you for your attention!

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