



21 - 22 MARCH 2019

**New Possibilities for  
Developing Renewable Energy  
Sustainably in Serbia**  
in the framework of the Drina Nexus Follow-up Project



**HARDTALK**

**RES development challenges and possible national policies**

Miloš Banjac, assistant minister



# Content of the presentation

- Current situation in the EU
- Current situation in RS
- It feeds on tariffs
- New EU requirements
- Conclusions

# Current situation in the EU

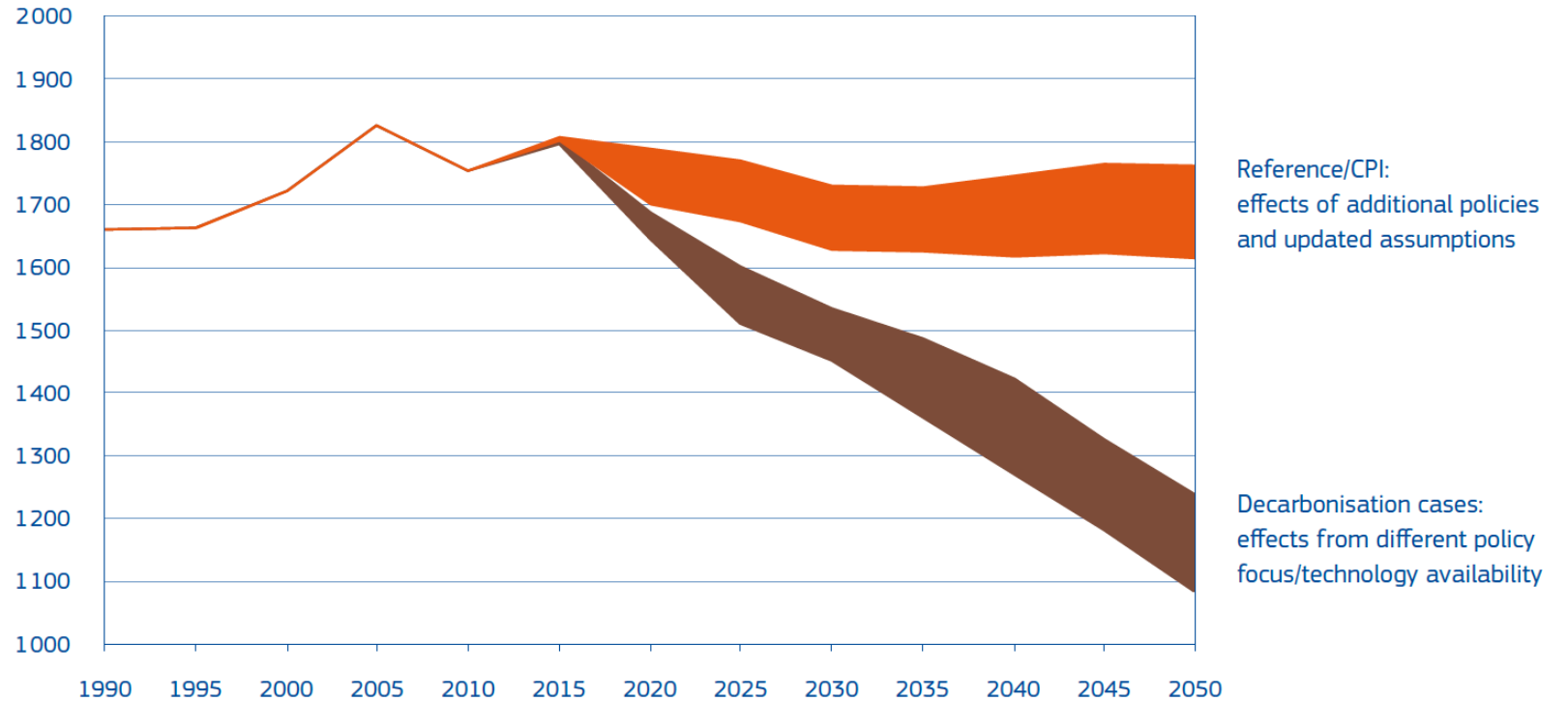


## 2050 Energy Strategy

- The EU set the long-term goal of reducing greenhouse gas emissions by 2050 by 80-95% compared to the 1990 emissions

## The Energy Roadmap 2050

- Offered a model of transition of the energy system in ways that would be compatible with the goal of reducing GHG emissions while enhancing competitiveness and security of supply.



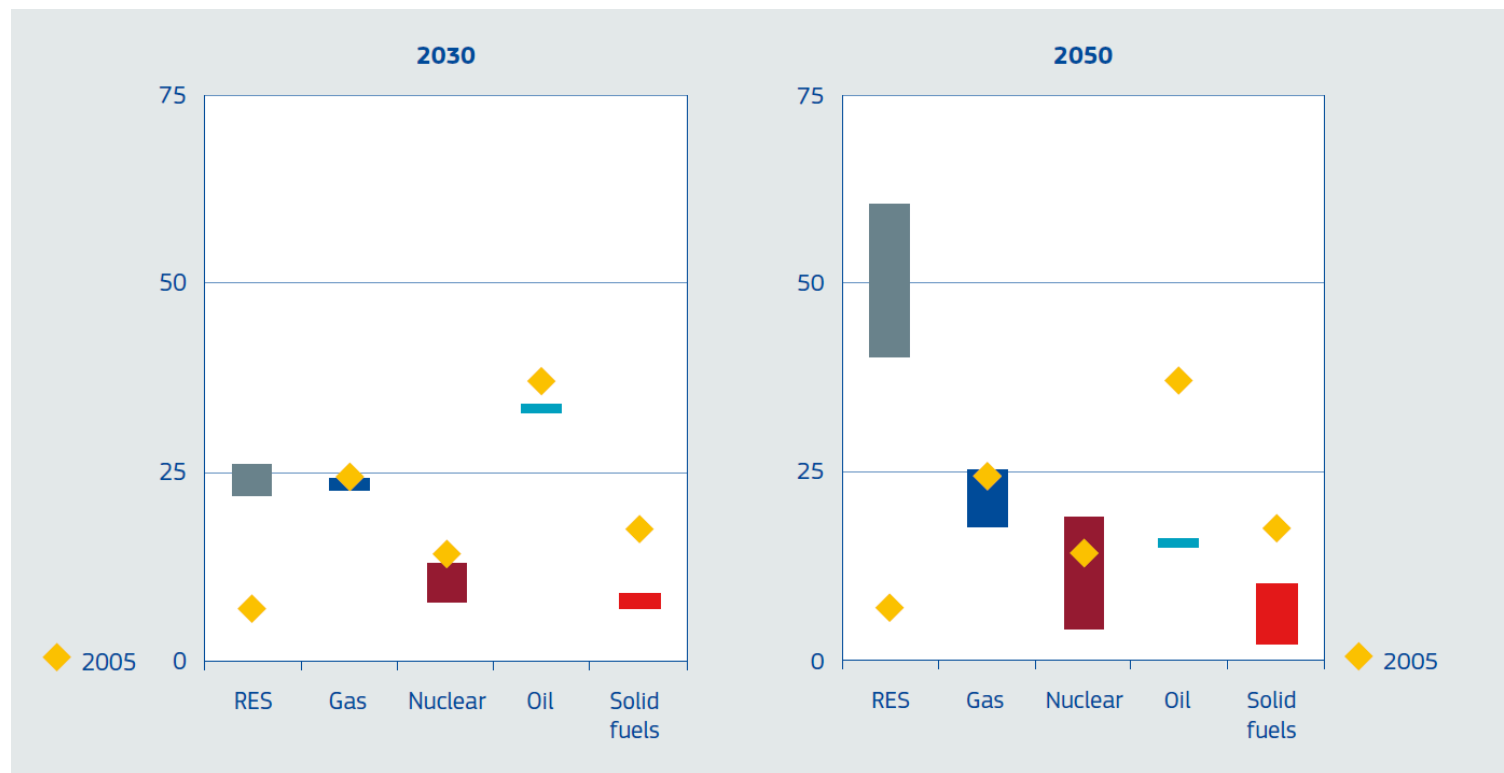
# Current situation in the EU



## The Energy Roadmap 2050

- **Increase in energy efficiency - reduce energy consumption by 41% by 2050 compared to 2005-06.**  
**Increased use of RES - a share in consumption of 75% in 2050 and a share in electricity consumption of 97%.**

- **Diversification of supplies**
- **Dekarbonizacija** - carbon capture and storage (CCS), but also the acceptance of nuclear energy stimulated by prices CO<sub>2</sub>
- **No new nuclear power plants** (except those currently being built)



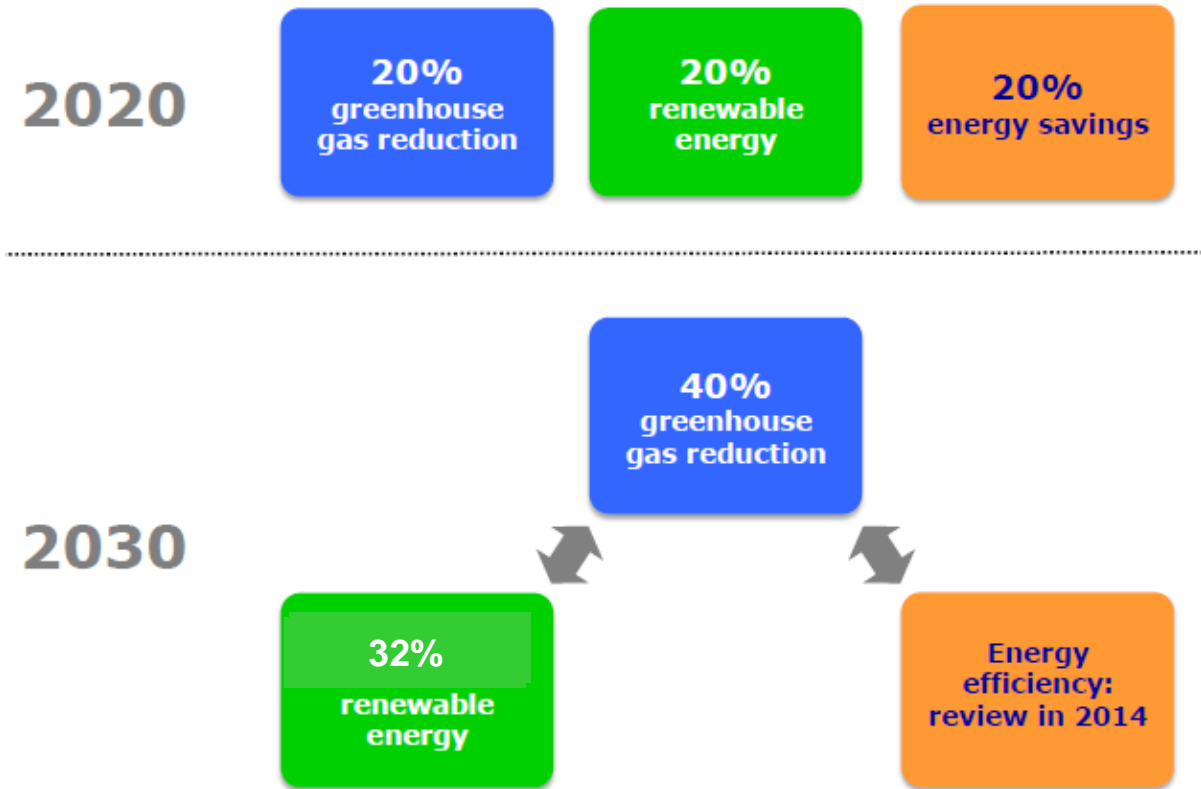
EU decarbonisation scenarios — 2030 and 2050 range of fuel shares in primary energy consumption compared with 2005 outcome (%)

# Current situation in the EU



Empowered lives.  
Resilient nations.

## The Energy Roadmap 2050

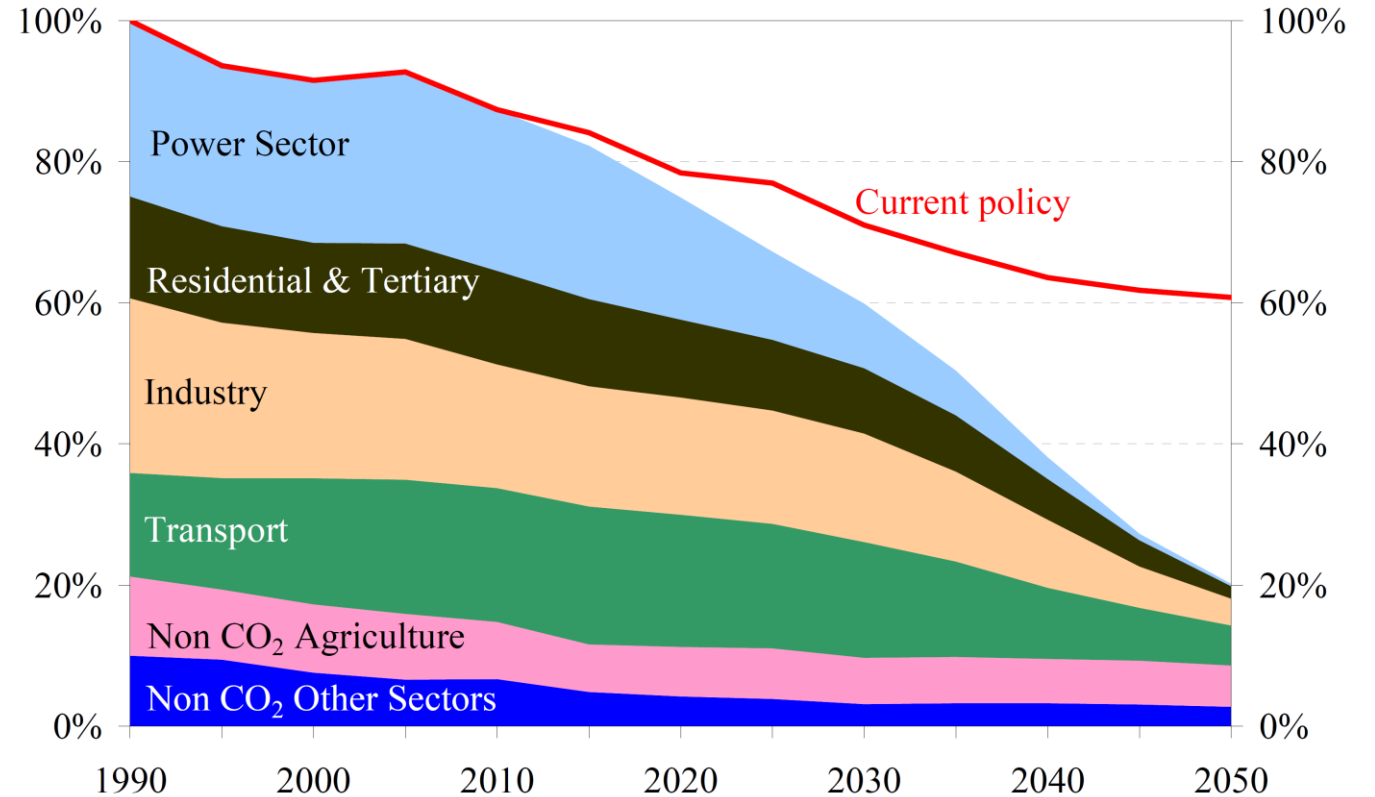


4. jun 2018

# Current situation in the EU



- **A Roadmap for moving to a competitive low carbon economy in 2050**



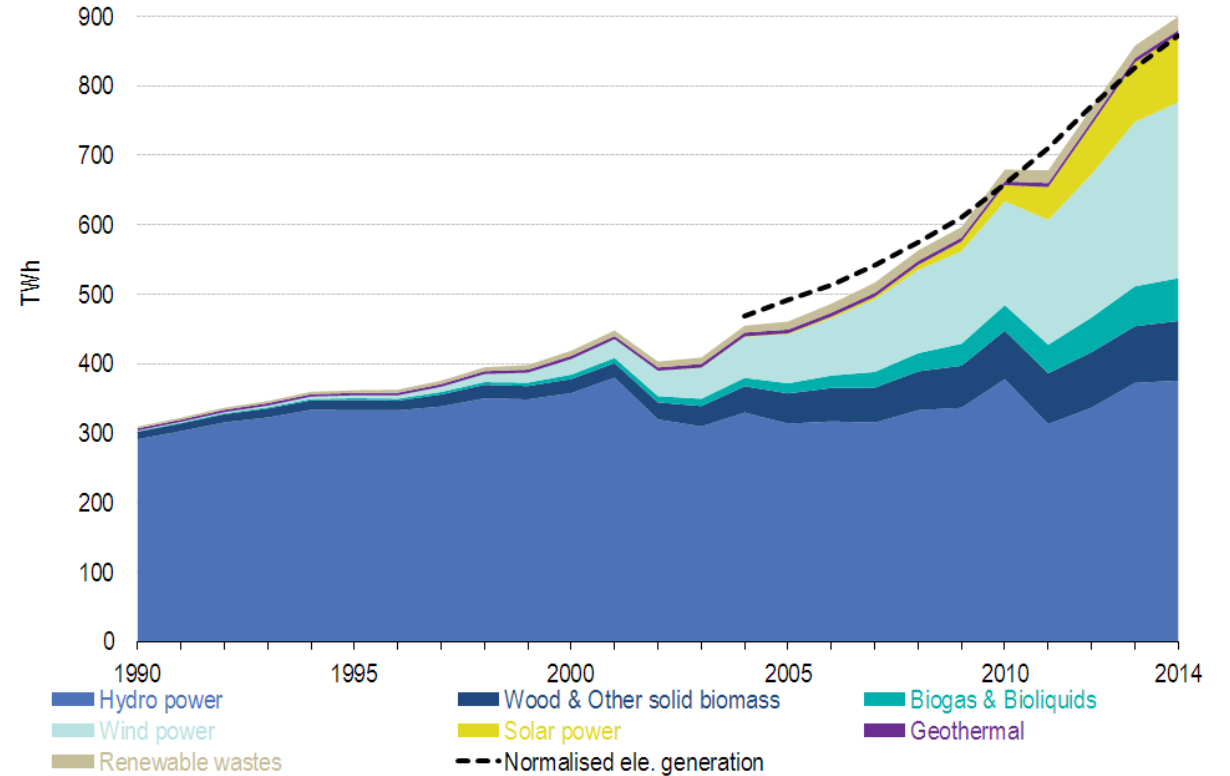
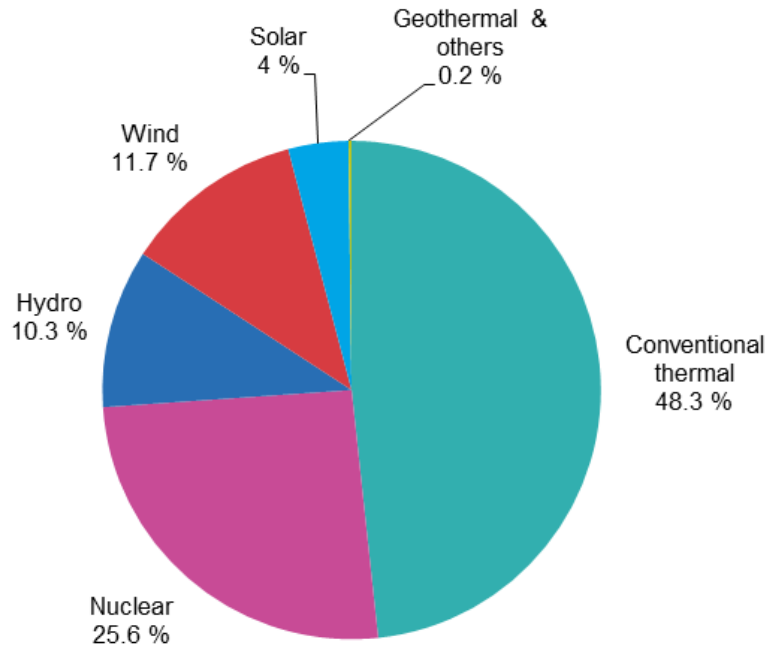
**EU GHG emissions towards an 80% domestic reduction (100% = 1990)**

- **The 2030 climate and energy framework**
- **Clean Energy for All Europeans**

# Current situation in the EU - electricity



EU-28 Electricity production by source, 2017 (in %)

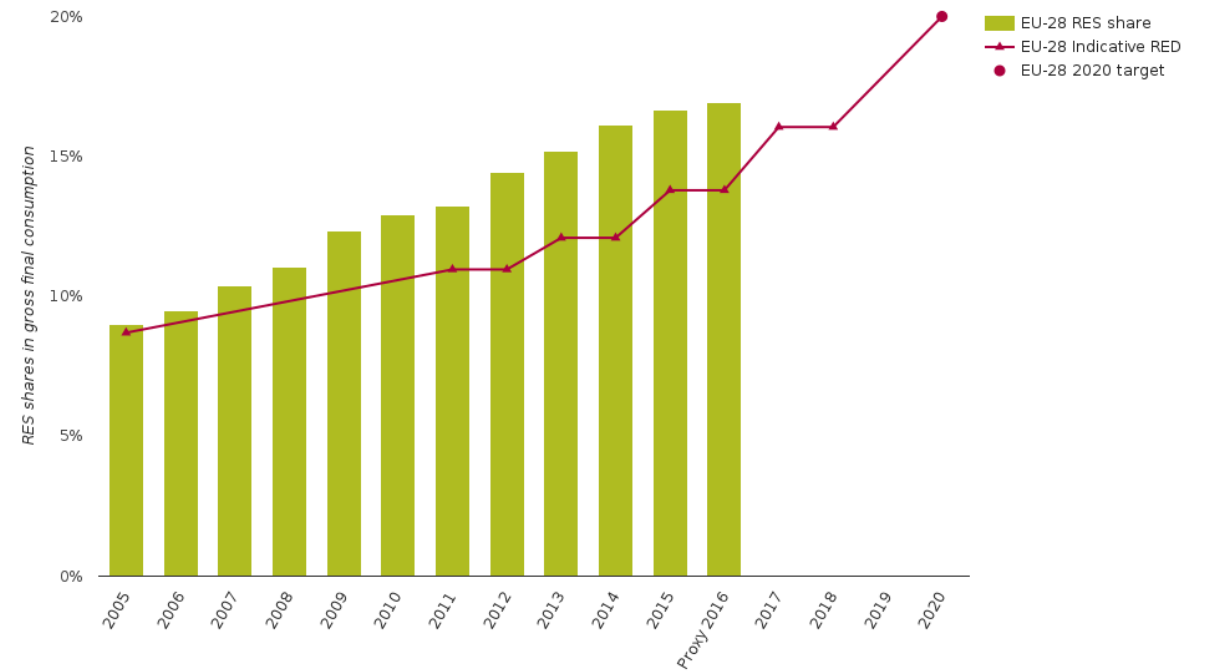
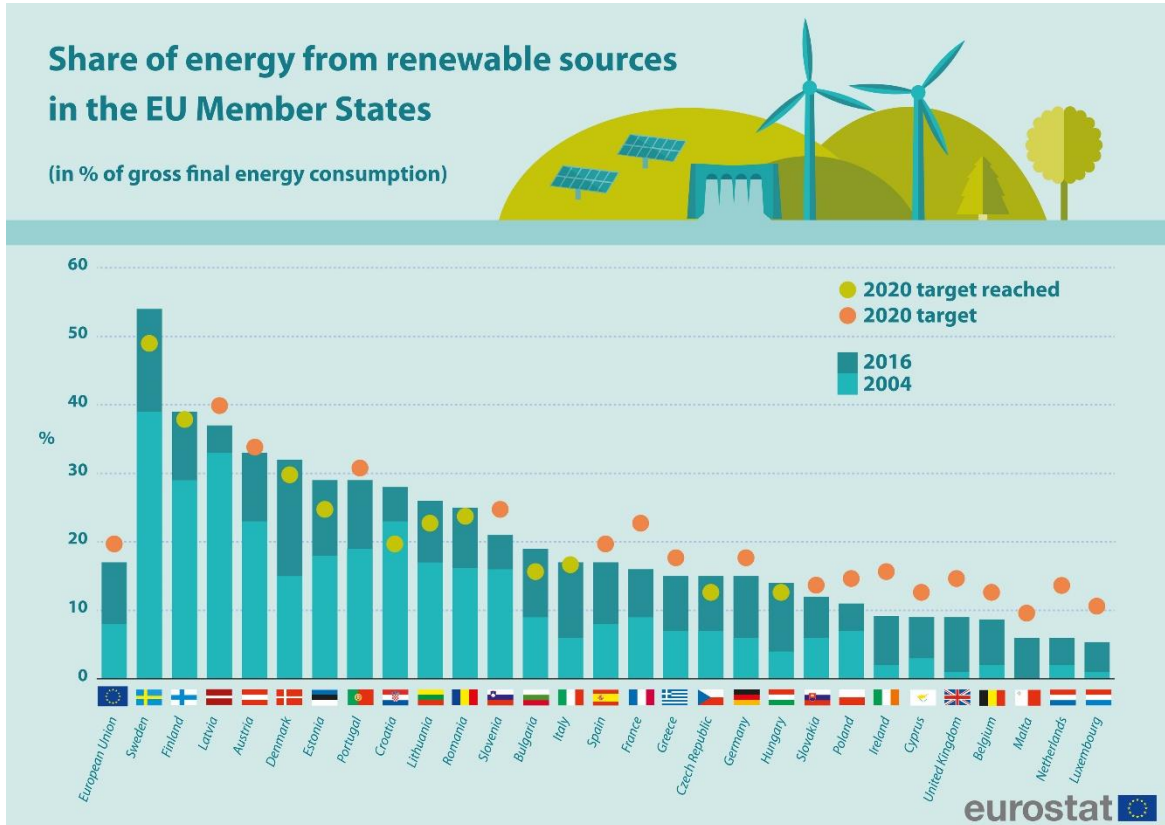


Production of RES -EU28- Electricity

# Current situation in the EU



- RES in the EU experienced an enormous expansion





## Current situation in Serbia



- 2009 – Decree on privileged electricity producers for the first time in Serbia implemented a scheme of feed-in tariffs in the period 2010-2012
- 2012 – Decrees on privileged electricity producers for the period 2013-2015
- 2013 – National Action Plan for RES RS
- 2014 – Energy Law - The OIE Directive has been fully transposed
- 2016 -
  - **Decree on incentive measures** for production of electricity from renewable sources and from highly efficient combined production of electricity and heat
  - Regulation on Contract for Purchase of Electricity - New Model Contract for **Power Purchase Agreement**
  - **Decree on the conditions and procedure for acquiring the status** of privileged electricity producer, temporary privileged producer and producer of electricity from renewable energy sources

## Current situation in Serbia

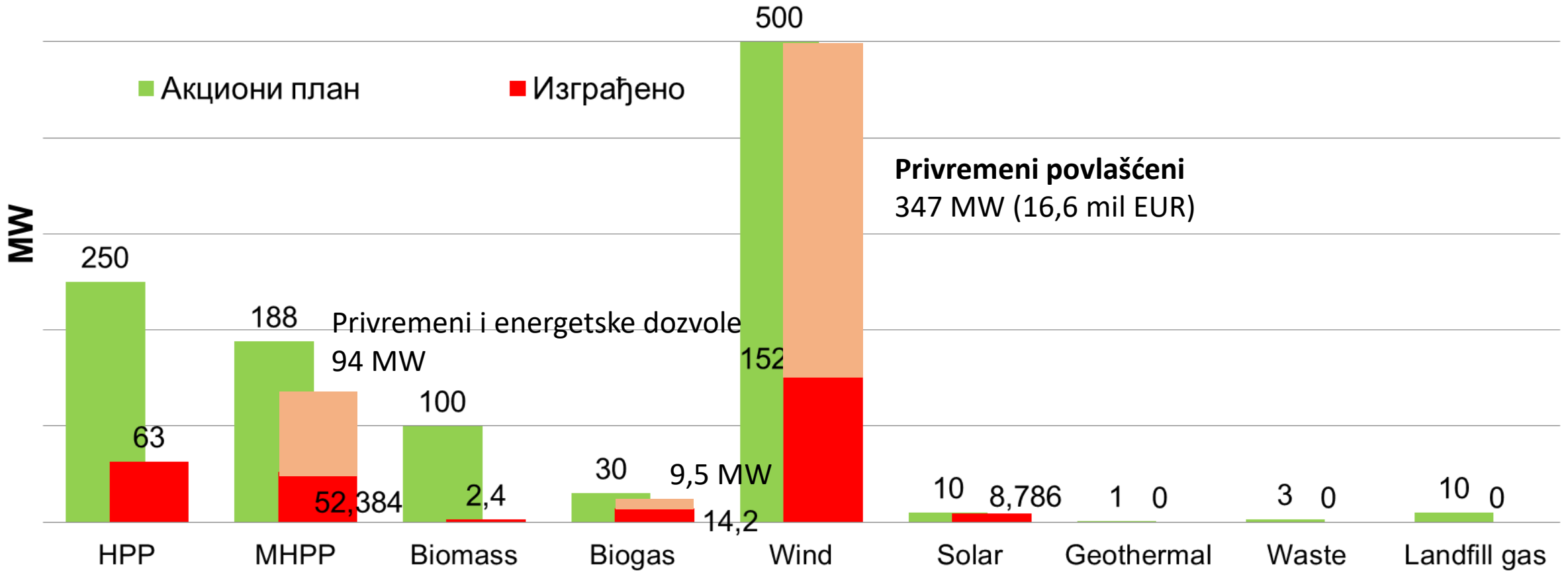


- **In 2016 new Regulations on incentives for privileged power producers were adopted. The first effects have just started**
- In September 2017 **Regulation on Guarantee of origin was adopted.**
- EMS or TSO (Serbian National Transmission System Operator - TSO) is responsible to issue guarantee of origin
- In 2018 issued 9 status for producer from RES with overall installed capacity of mostly HPP of EPS
- All transaction with guarantee of origins are available at <https://cmo.grexel.com/Lists/PublicPages/Statistics.aspx>
- It is expected TSO become member of Association of Issuing Bodies (AIB) in 2019
- This means guarantee of origin from Serbia will be accepted within Members of AIB and opposite

# Current situation in Serbia



## Plan and realization of the Action Plan in the part of electricity



# Current situation in Serbia



## FEED-IN TARIFE

### Prednosti

- jednostavan model za primenu,
- **sigurnost investiranja**
- **jačanje poverenja investitora**
- lako sprovođenje energetske politike i dostizanje specifičnih ciljeva
- ohrabrivanje investiranja u nove tehnologije
- **nije neophodno postojanje likvidnog tržišta električne energije**

### Nedostaci

- nije lako proceniti otkupnu cenu za svaku tehnologiju i različite kapacitete posebno,
- otkupna cena nije izložena uticaju tržišta el. energije
- Troškovi balansiranja uključeni su u iznos feed-in tarife
- Proizvođači nemaju motiv da precizno planiraju svoje planove proizvodnje i tako smanje troškove balansiranja usled lošeg planiranja

## Current situation in Serbia



Until the end of 2017 only two small wind farms were built and connected to the grid

1. WF Kula 9.9 MW and
2. WF La Piccolina 6.6 MW).

The large increase in production of RES energy are expected in two next year with finalization of building all other planning 500 (566) MW wind farms.

1. **Mali bunar, 8 MW, 2018**
2. **Alibunar, 42 MW, 2018**
3. **Cibuk 1, 158.5 MW, 2018-2019**
4. Kosava, 68 MW, 2019-2020
5. Kovačica 104.5 MW, 2019-2020
6. Plandište 1, 102 MW, 2020
7. Wind farm in Kostolac (EPS) 66 MW, 2020-2021



# New EU requirements - European Commission



- Smatrajući da je **korišćenje OIE za proizvodnju električne energije** u EU **doživelo ogromnu ekspanziju**,
- te da postojeće podsticajne šeme zasnovane na „feed in“ tarifama dovode do
  - **poskupljenja proizvoda kompanija koje u proizvodnim procesima koriste velike količine energije, kao i**
  - **povećanja računa za električnu energiju u domaćinstvima,**

Evropska komisija objavila je u novembru 2013. godine radni dokument:

- **“European Commission guidance for the design of renewables support schemes“**
- Ovim vodičem date preporuke zemljama EU kako bi u buduće trebalo da kreiraju politiku podsticanja korišćenja OIE, a da njom ne stvaraju distorzije na tržištu električne energije. Glavne preporuke odnosile su se  **smanjivanje ili potpunu zabranu državne pomoći proizvođačima električne energije iz OIE, stvaranje ravnopravnih za sve proizvođača električne energije i otvaranja tržišta i u ovoj oblasti.**

Ovaj vodič predstavljao je neku vrstu uvodnih preporuka, koje su kasnije, usvajanjem „**Guidelines on State aid for environmental protection and energy 2014-2020**“, postale obavezujuće.

- Guidelines on State aid je usvojen u julu 2014. godine sa odloženom primenom od 1. januara 2016. godine.
- **Poglavlje 3 ovog dokumenta odnosi se na korišćenje OIE (3.3.2. Operating aid granted to energy from renewable sources, 3.3.2.1. Aid for electricity from renewable energy sources).**



# New EU requirements - European Commission



## Podsticaj za električnu energiju iz OIE i iz visokoefikasne kogeneracije (*Guidelines*)

Od 1. januara 2016. godine, Komisija EU će odobriti nove podsticajne mere za koje važe sledeći **kumulativni uslovi**:

- **proizvođači električnu energiju prodaju direktno na TRŽIŠTU**
- podsticaji se dodeljuju kao **Feed in PREMIJE** na tržišnu cenu električne
- proizvođači električne energije podležu standardnim odgovornostima za **bilansiranje**
- proizvođači ne mogu dobiti podsticaj za proizvodnju električne energije po negativnim cenama
- podsticaji se daju na najviše **10 godina**

Od ovih pravila se izuzimaju

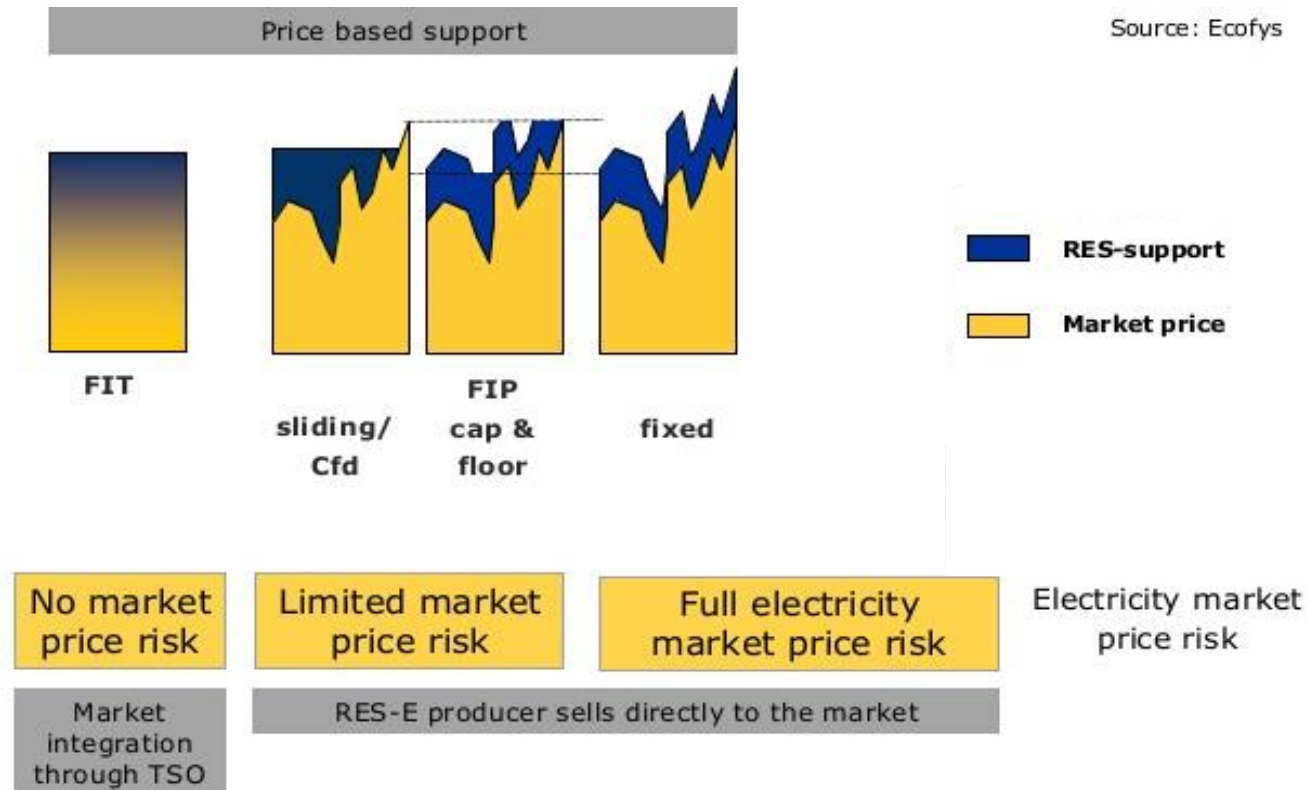
- Elektrane do 500 KW
- Vetroelektrane do 3 MW ili 3 proizvodne jedinice

# New EU requirements - European Commission

## FEED IN PREMIJE



- Podsticaji se dodeljuju kao Feed in **PREMIJE** na tržišnu cenu električne
- Preduslov – likvidno tržište električne energije, sa cenom „dan unapred“





# New EU requirements - European Commission



## PREMIJE

### Prednosti

- Bilo da je **fiksni** ili da je **promenljivi iznos premije** on podstiče proizvođače da reaguju na **tržišna dešavanja**
- Uvođenje minimalne visine premije smanjuje rizik od preteranog gubitka ukoliko tržišne cene veoma padnu, **uvodjenjem maksimalne visine sprečava se nerazumno sticanje profita** u slučaju da su cene na tržištu dovoljno visoke.
- **Troškovi balansiranja nisu na teretu krajnjih kupaca**, proizvođač mora ozbiljnije da planira svoje prognoze proizvodnje

### Nedostaci

- **Neophodno postojanje likvidnog (razvijenog) tržišta električne energije da bi se sistem primenio i dao pozitivne efekte**
- **Povećan rizik za investiranje**
- **Troškovi balansiranja nisu na teretu krajnjih kupaca**, proizvođač mora ozbiljnije da planira svoje prognoze proizvodnje

# New EU requirements - European Commission



## AUKCIJE/TENDERI

### Podsticaj za električnu energiju iz OIE i iz visokoefikasne kogeneracije (*Guidelines*)

Od 1. januara 2017. godine podsticaji se dodeljuju putem jasnih i transparentnih mehanizama koji ne sadrže diskriminišuće kriterijume.

**Od ove obaveze može se odstupiti** ako države članice pokažu da bi

- a) samo jedan ili **vrlo ograničen broj projekata** ili postrojenja mogao biti prihvatljiv; **ili**
- b) **aukcija dovela do viših cena podsticaja; ili**
- c) **aukcije uzrokovale niske stope realizacije projekata.**

Od ove obaveze se izuzimaju:

- Elektrane do 1 MW
- Vetroelektrane do 6 MW ili 6 proizvodnih jedinica
- Poseban tretman imaju postrojenja na biomasu

# New EU requirements - European Commission



## AUKCIJE

**Aukcije predstavljaju** takav oblik podsticanja da samo na aukciji odabrani proizvođači mogu da koriste podsticajne mere feed-in tarife ili feed-in premija i to po najnižoj ponuđenoj ceni tokom postupka aukcije.

Glavne karakteristike aukcije:

- Poziv ponuđačima za unapred određen ograničen kapacitet MW;
- Bez specifikiranja tehnologije ili za specifične tehnologije;
- Sa obelodanjenom ili neobelodanjenom maksimalnom cenom po kWh;
- Mogu biti definisani predkvalifikacioni kriterijumi da bi se eliminisali neozbiljni učesnici;
- **Izbor na osnovu najniže cene;**
- Ukoliko su optimalno određeni kapacitet i cena, obezbeđuje se veliki broj ponuđača
- **Transparentnost postupka određivanja cene**

**TENDER je** poseban oblik aukcije sa sledećim specifičnostima:

- Poziv ponuđačima za specifične lokacije, kapacitete i tehnologije;
- Selekcija ponuđača obavlja se na osnovu preciznije definisanih kriterijuma uključujući i cenu
- Obično mali broj ponuđača

# New EU requirements - European Commission



## AUKCIJE/TENDERI

### Prednosti

- Realne cene podsticaja zbog takmičenja
- Transparentnost postupka

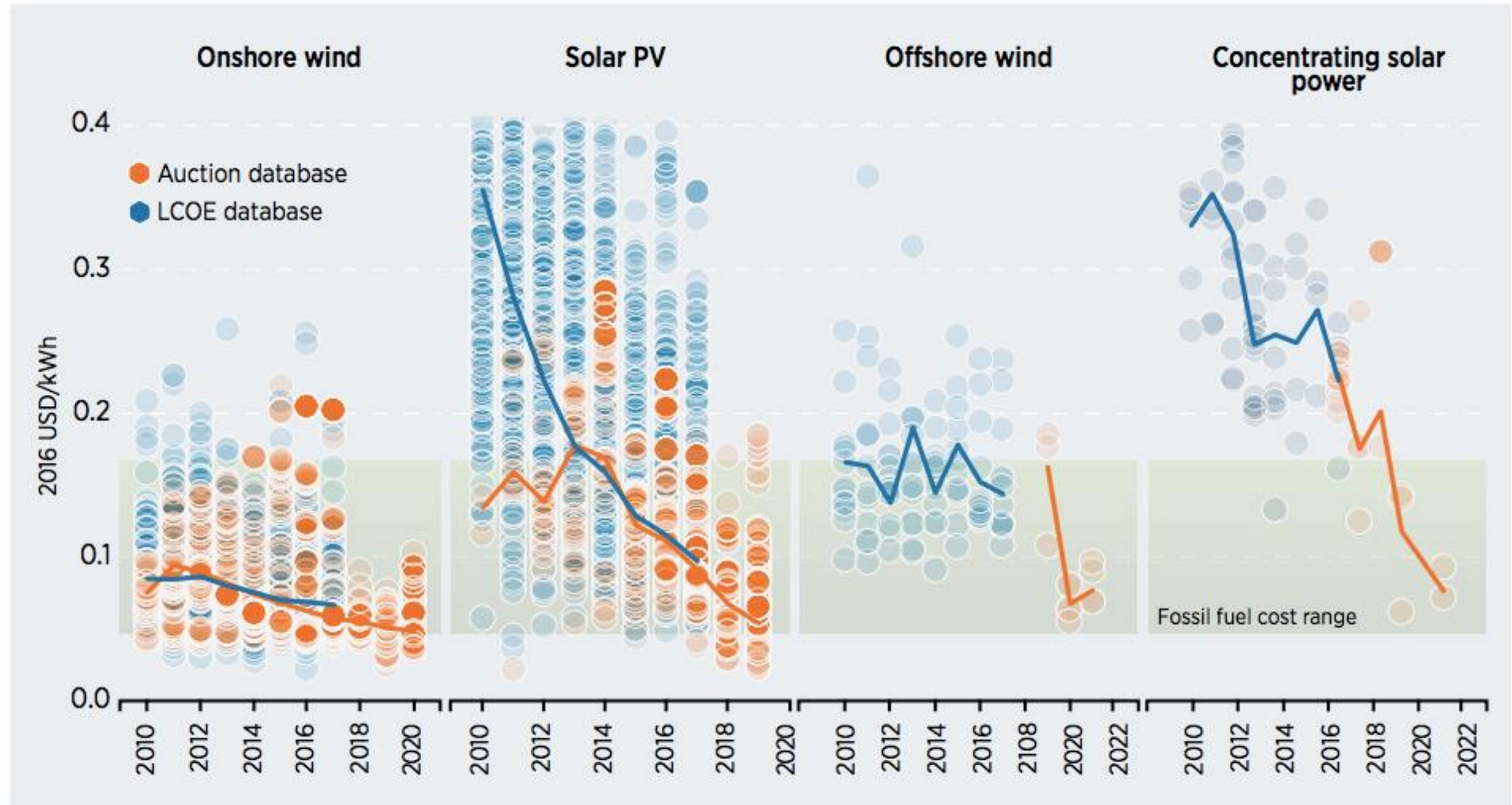
### Rizici

- Diskontinualno podsticanje projekata, potencijalni investitori ne znaju kolike će vrednosti biti u narednim aukcijama i svoje investicije mogu preusmeriti u druge oblasti
- Mali broj takmičara dovodi do nekonkurentnih cena
- Zahtevan posao definisanja kriterijuma da bi se eliminisali neozbiljni ponuđači
- Neupravljivost dinamikom investiranja zbog neizvesnosti uspešnosti aukcije

# New EU requirements - European Commission



## AUKCIJE/TENDERI



IRENA Report 2017 Notes CSP's "Spectacular" Cost Reductions

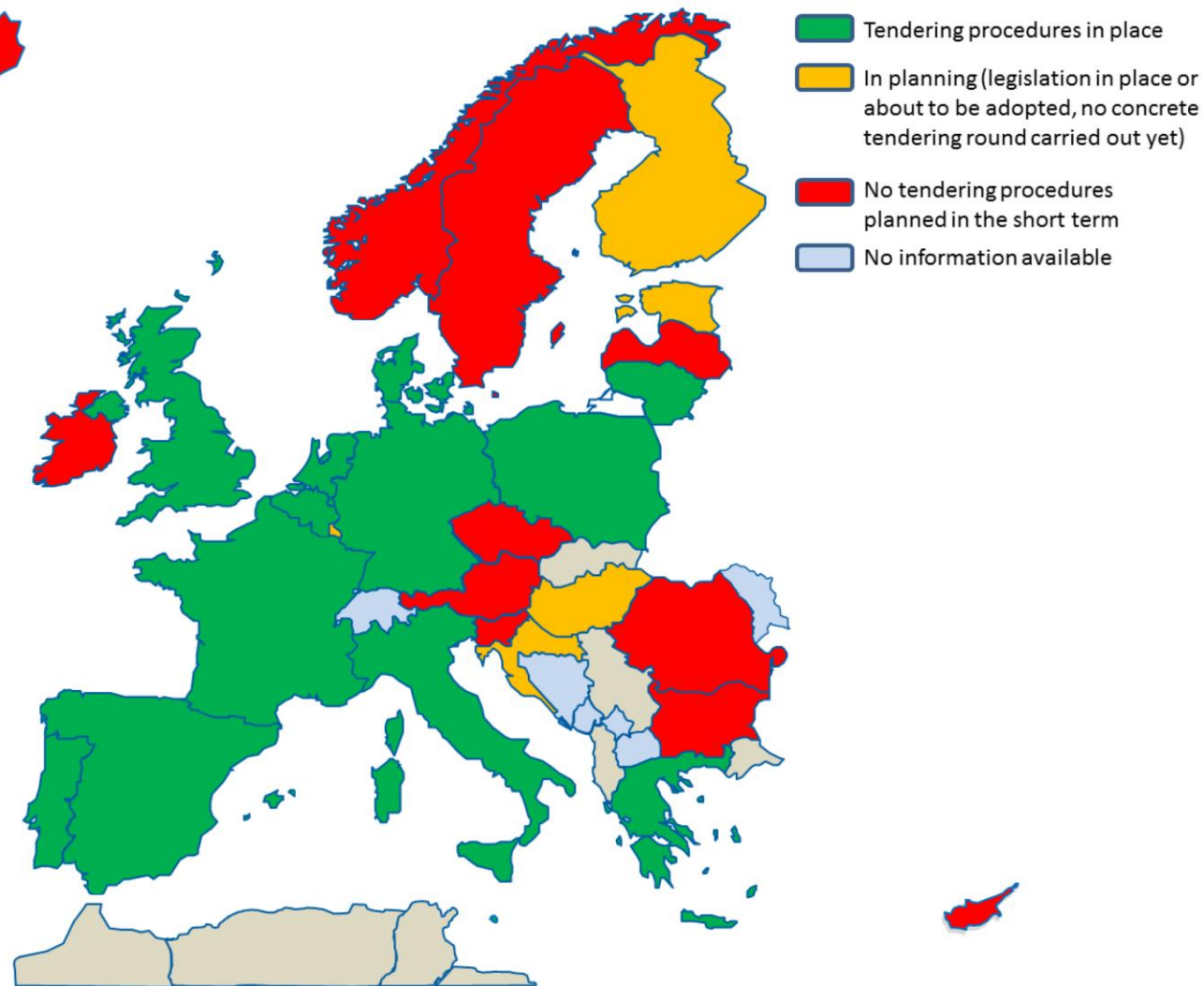


# New EU requirements - European Commission

## AUKCIJE/TENDERI



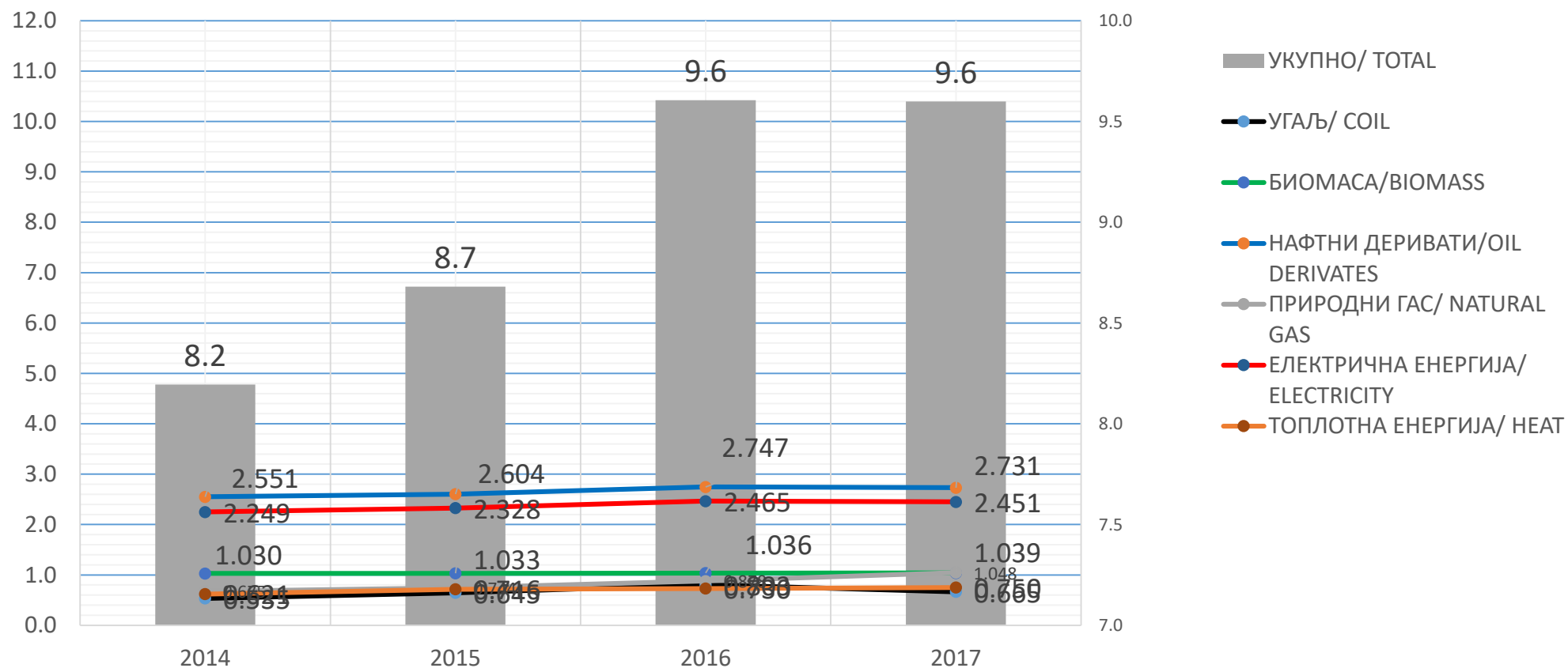
Empowered lives.  
Resilient nations.



# Current situation in Serbia



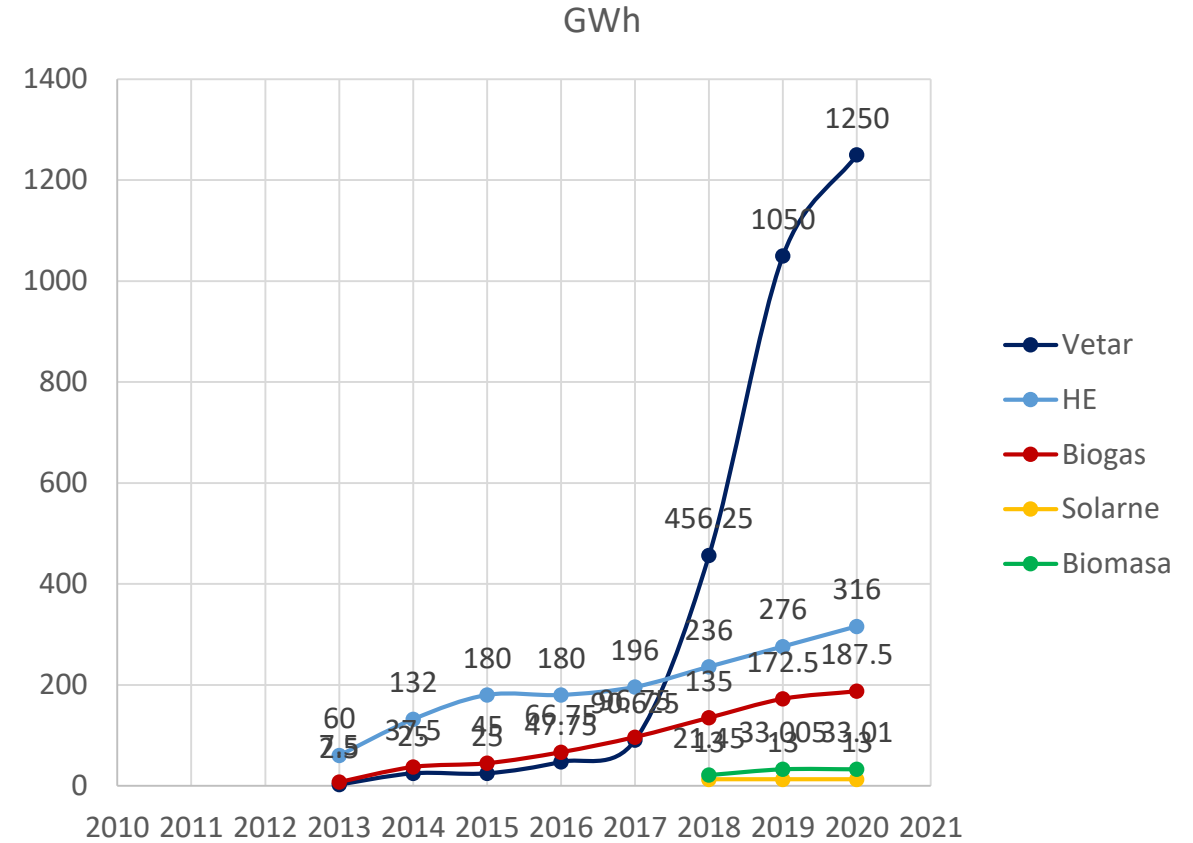
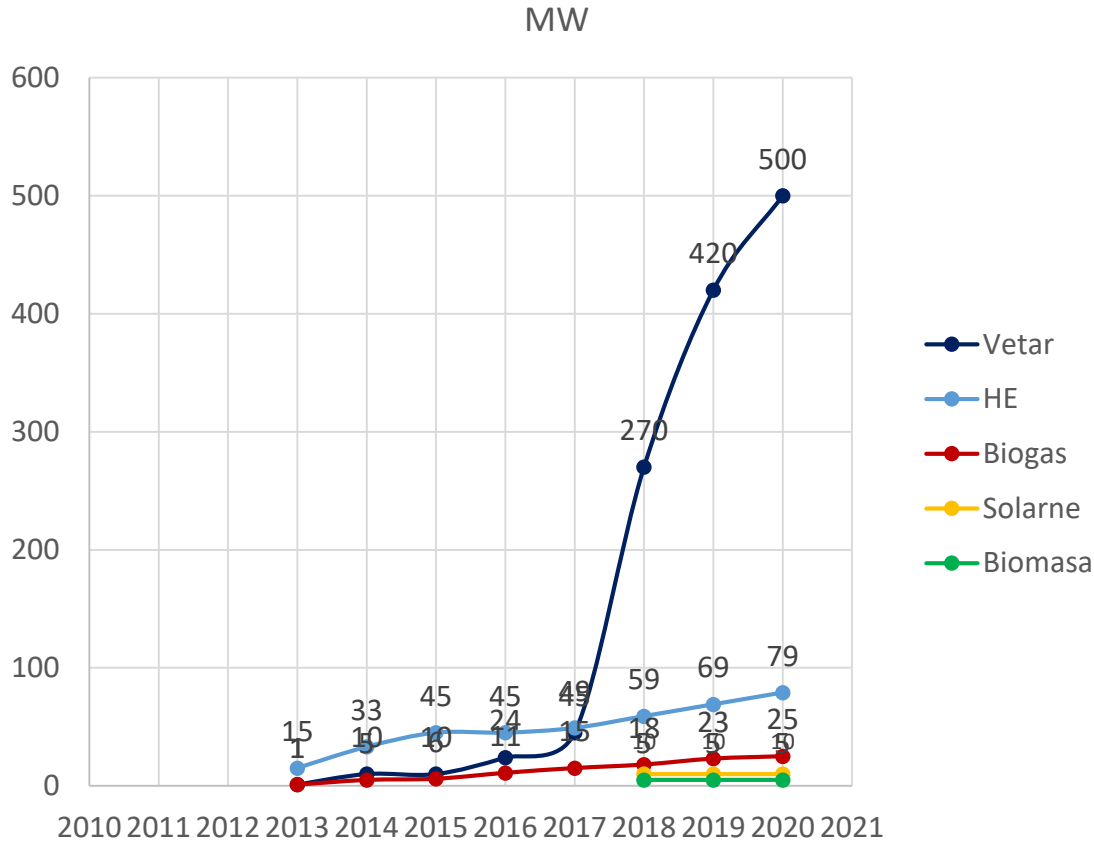
УКУПНА ПОТРОШЊА ЕНЕРГИЈЕ [Mtoe]



# Current situation in Serbia



## PROIZVODNJA EL. ENERGIJE IZ NOVIH OIE U SRBIJI



**DODATNIH 1800 GWh/god**



# Conclusions



- Currently, there is a well-regulated system of OIE incentives based on "feed in" tariffs model
- The share of **fees for RES and EE CHP** in the initial price for el. energy **1%** (VAT 20%, Excise 7.5%)
- Guaranteed supplier - purchases electricity generated from RES and is able to balance production from RES
  - **THE FIRST POSITIVE EFFECTS OF EXISTING SYSTEM OF SUBSIDIES JUST STARTED**
- Although there is a stock market (SEPEX) and there is a price day ahead, for now the market of electrical energy is "shallow,,
- EPS covers 98% of the market
  - **THE ELECTRICITY MARKET FROM THE RES AND THE FEED IN PREMIUM SCHEME IS STILL NOT APPLICABLE**
- **THE INTRODUCTION OF A SYSTEM FOR DETERMINING THE PRICE OF ELECTRICITY BY AN AUCTION SYSTEM IS POSSIBLE, BUT WITH THE RETENTION OF THE EXISTING FEED AND TARIFF SYSTEM, WITH THE RISK OF LOSING INVESTMENTS**