



# Renewables in South East Europe

Mak Đukan, Starfish Energy

Strommarkttreffen, 20.10.2017, Berlin



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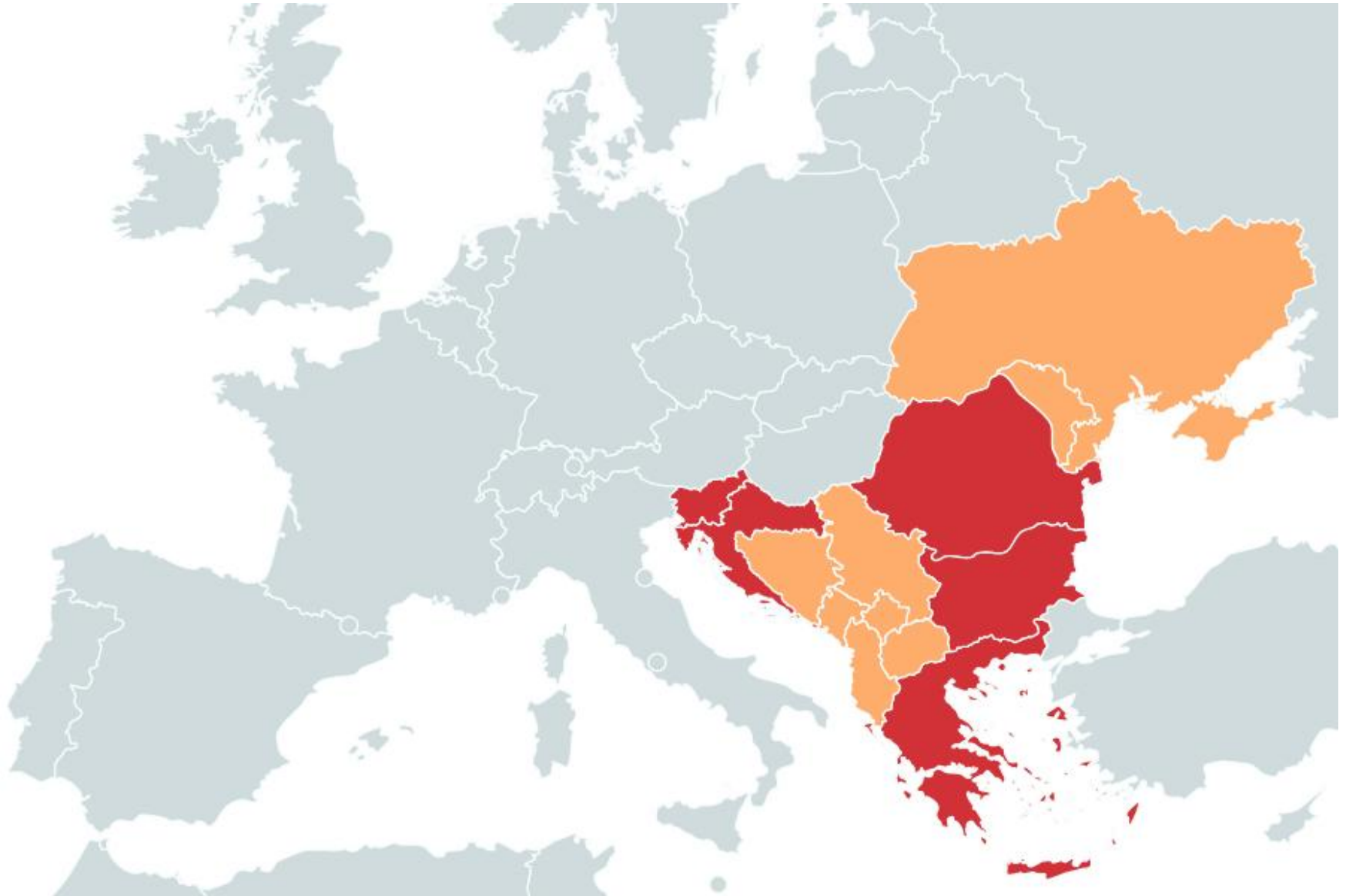
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# South East Europe including EU Member States and Energy Community Treaty signatories

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**The regions power capacity  
is old and consists mainly of  
large hydro and coal power**



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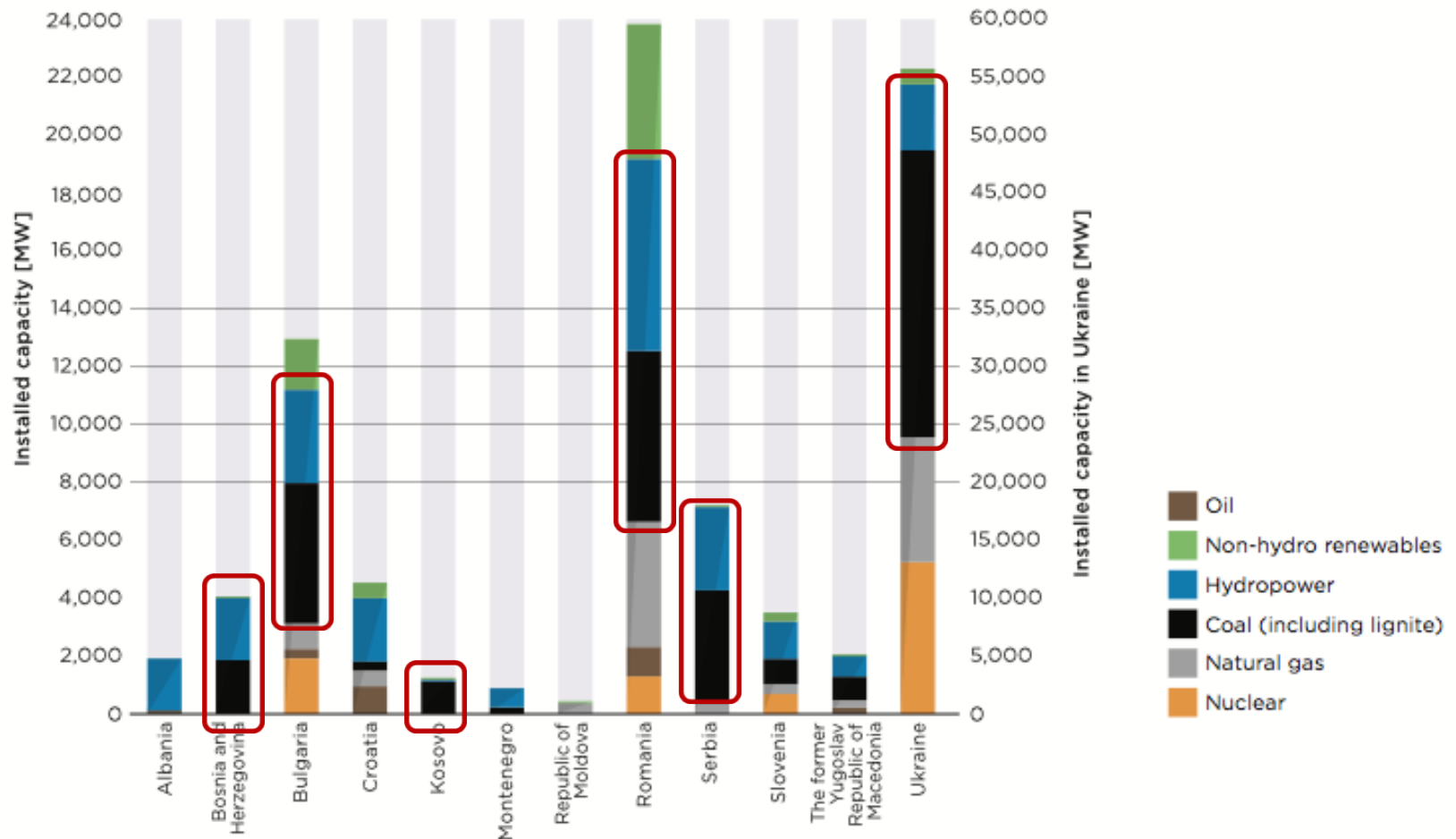


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# Coal and hydro power plants make up the main shares of installed power capacity in the region



Based on Energy Community, GlobalData and IRENA data



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# Electricity in South East Europe is a social good



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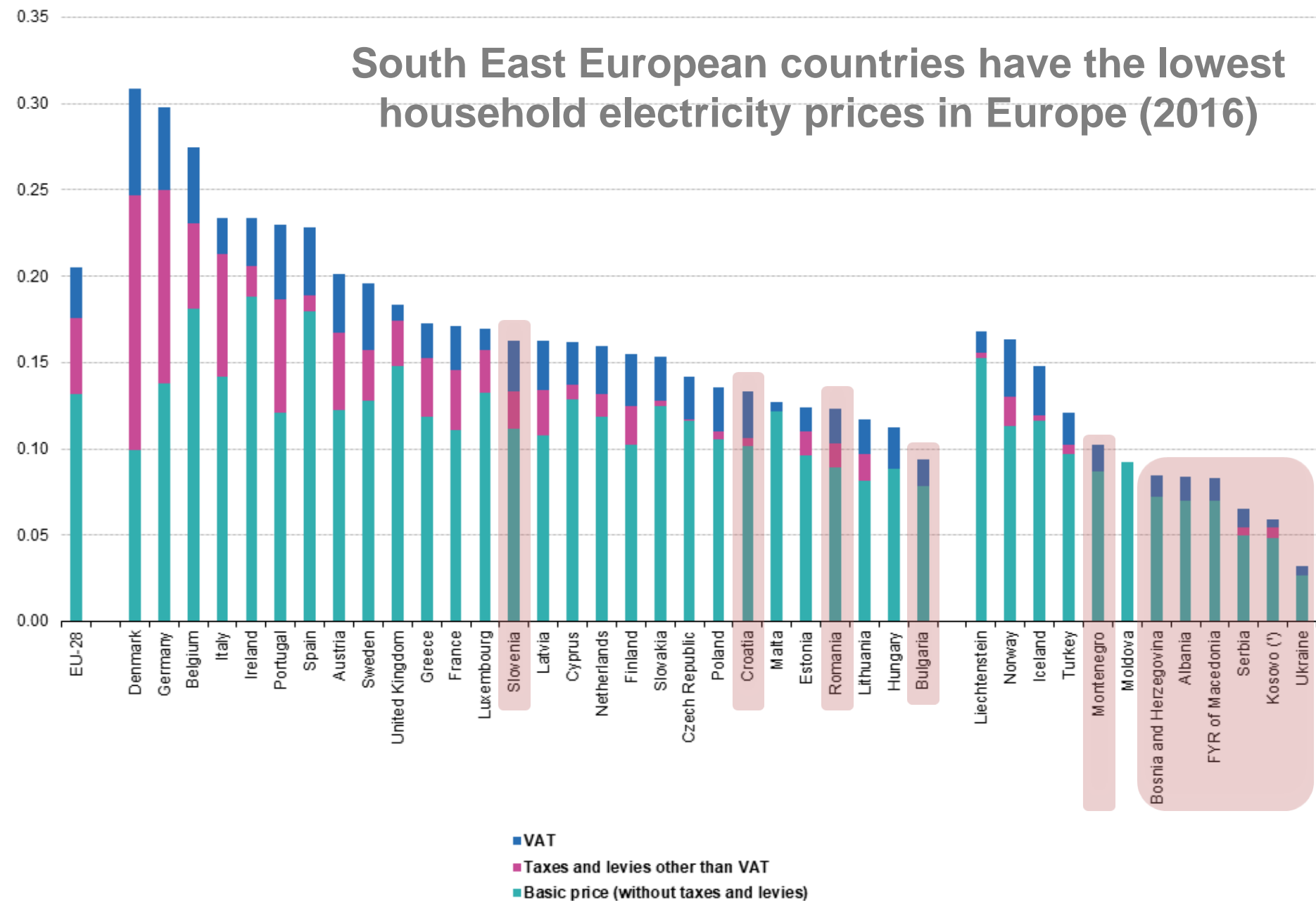


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# South East European countries have the lowest household electricity prices in Europe (2016)



Note: annual consumption: 2 500 kWh < consumption < 5 000 kWh.

(\*) This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

Source: Eurostat (online data code: nrg\_pc\_204)



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# The countries strive to import the Energiewende



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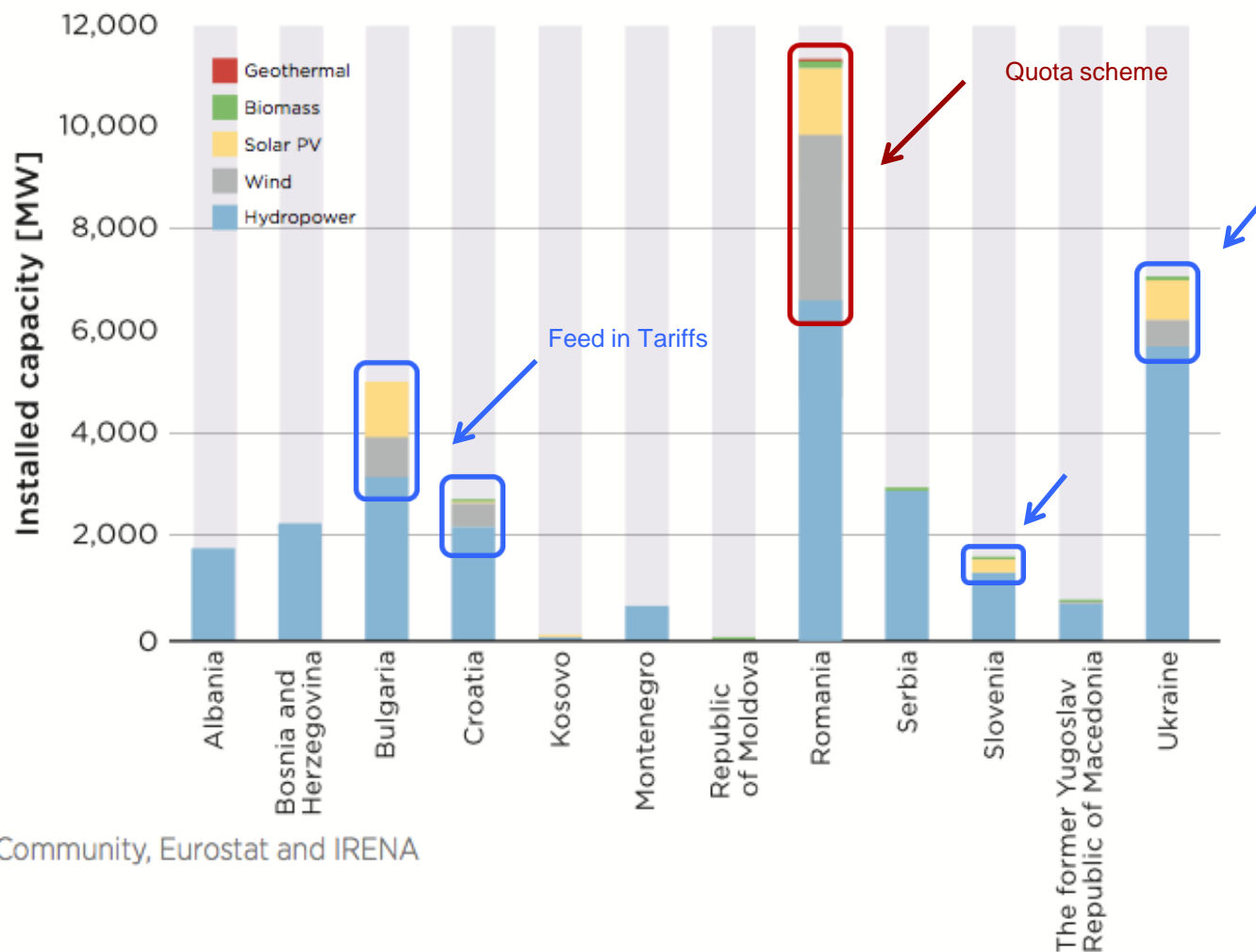


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## Feed in Tariffs are the main policy instrument in the region, however they did not work in Energy Community countries



Based on Energy Community, Eurostat and IRENA



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**But can they pay for  
renewables?**



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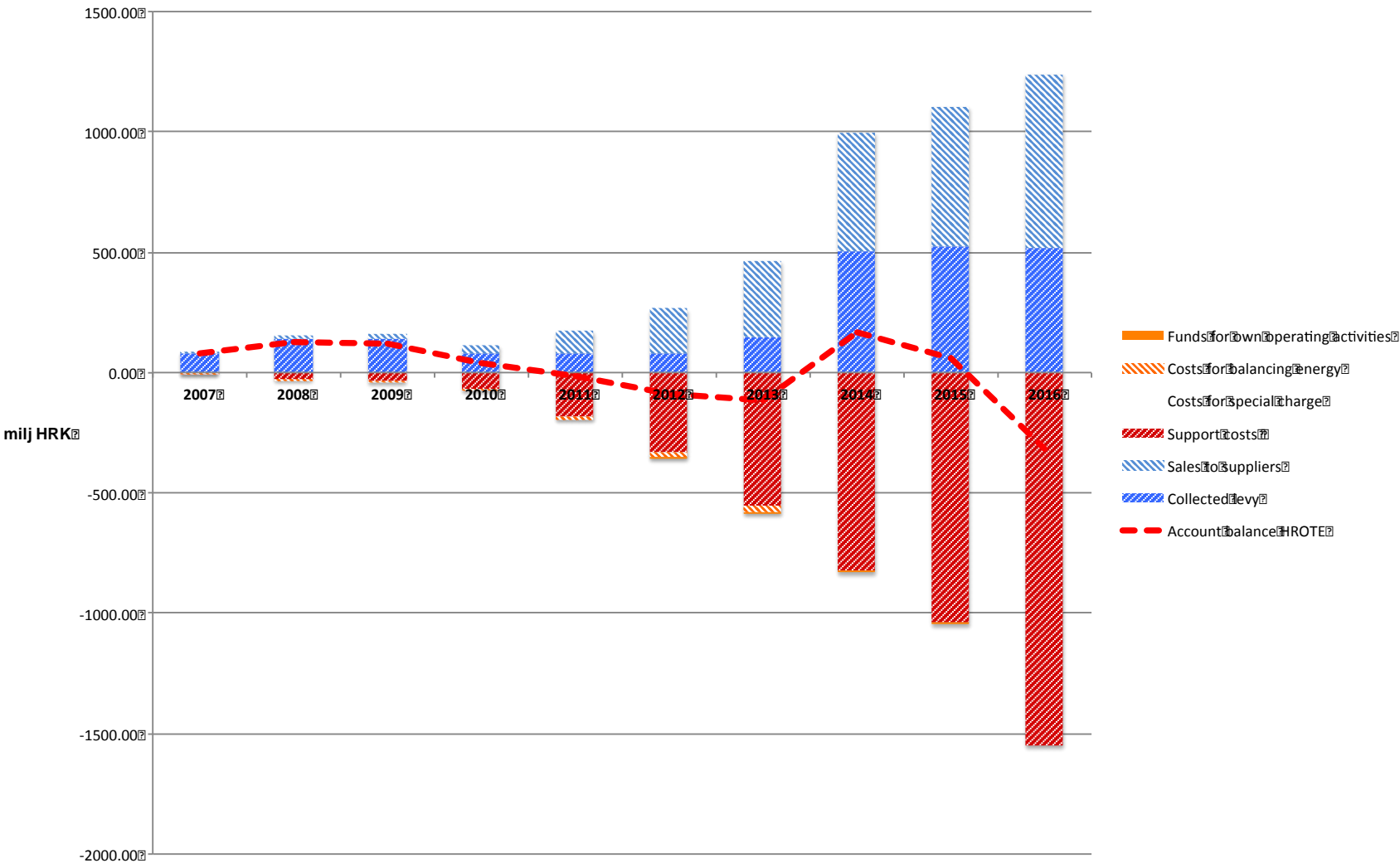


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# The Croatian support system is in deficit because it can not keep up with the upcoming FIT based projects – mainly wind, biomass and biogas (quotas 744 MW, 120 MW, 70 MW)



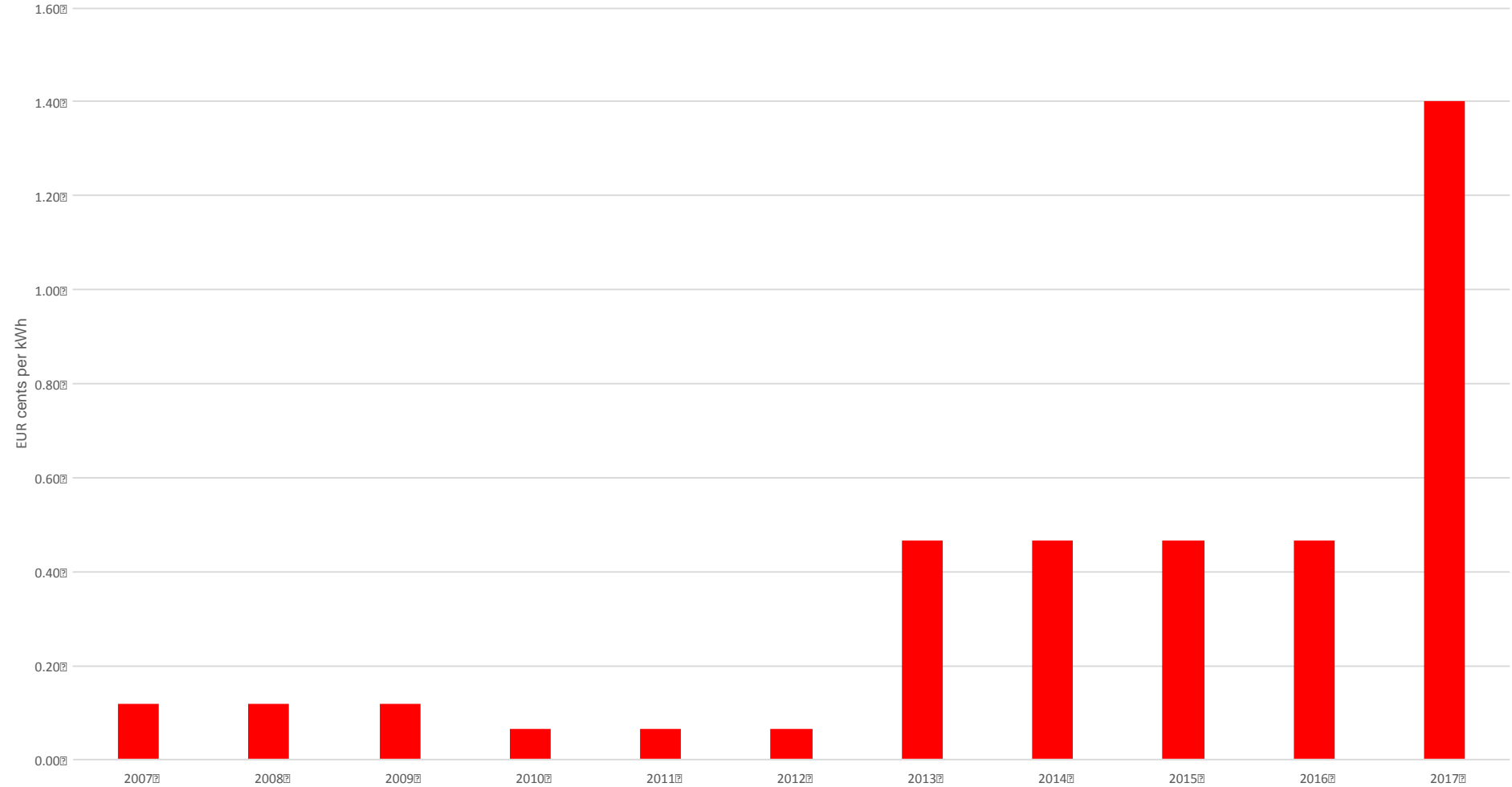
Financial position of HROTE from start of the Croatian support system  
Source: HERA i HROTE



Until 2020 about 1 billion EUR is required to finance the FIT based projects and an increase of the levy to 1,8 EURc/kWh. The latest increase falls short of this



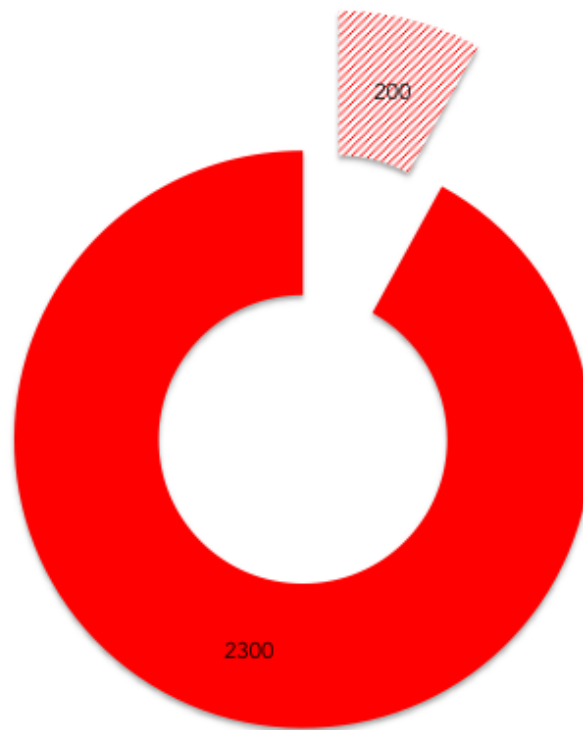
**The Croatian levy for renewables in EUR cents / kWh**  
Source: HERA and HROTE



An additional 2.3 billion EUR is required to service the FIT projects until 2030 so further levy increases can be expected



Support system for renewables (mil. EUR)  
(2021 to 2030)



- ▨ New projects in the FIT system - from 2018
- Old projects in the FIT system - until 2016

Source: White Book, Low Carbon Development Strategy, 2017



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# Very high costs of capital increase support costs



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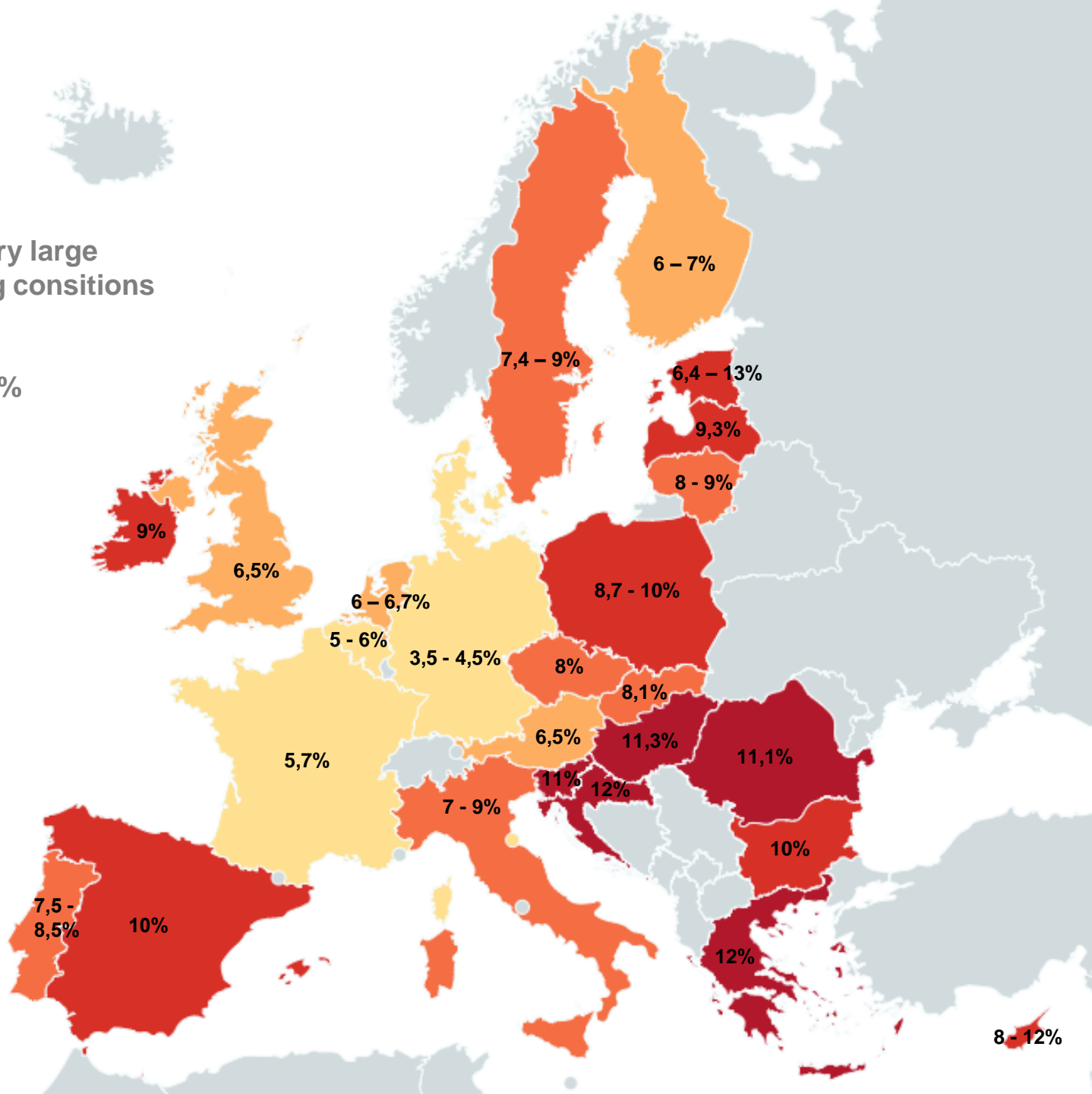


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**WACC in EU (2014): Very large  
differences in financing consitions**

**Germany: 3,5 do 4,5%**

**Croatia and Greece: 12%**



In 2016 WACC for onshore wind energy projects was highest in Greece (10.5% - 13,7%) – a decrease compared to 2014 but mainly due to EU monetary policy





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# The regions energy transition needs to be fair and inclusive



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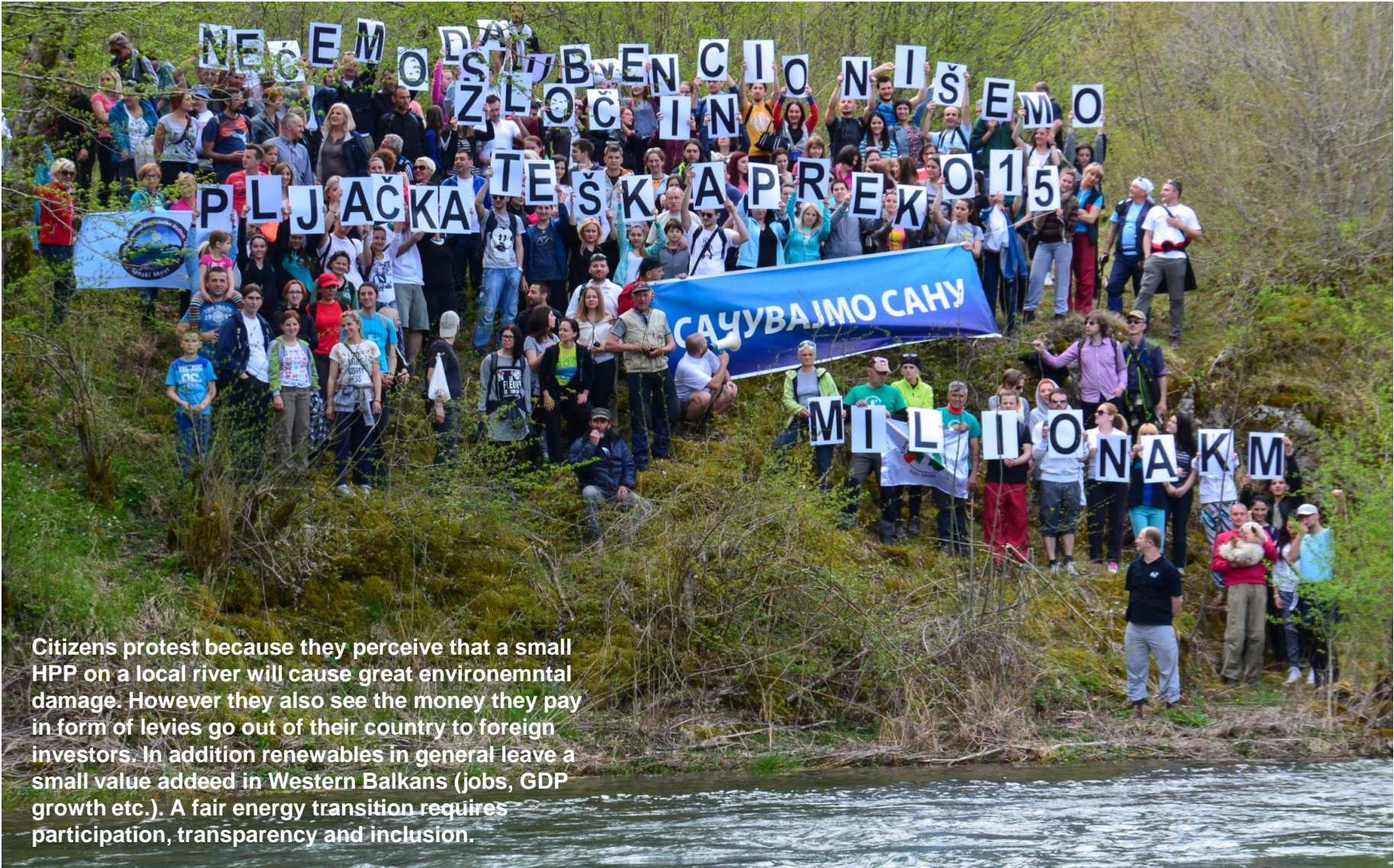


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Protest against small HPP on river Sana in Republika Srpska (BiH): “We will not subsidise the crime and robbery valued more than 15 million KM” (cca 7.5 mil EUR)



Citizens protest because they perceive that a small HPP on a local river will cause great environmental damage. However they also see the money they pay in form of levies go out of their country to foreign investors. In addition renewables in general leave a small value added in Western Balkans (jobs, GDP growth etc.). A fair energy transition requires participation, transparency and inclusion.





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Thank you for your attention !

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