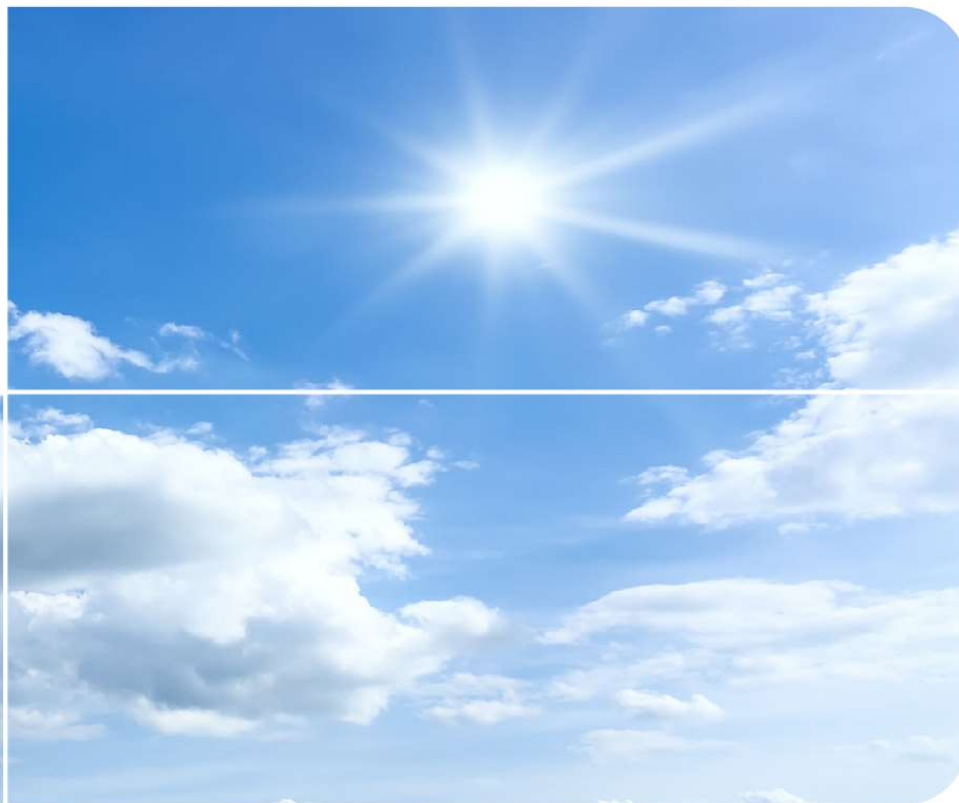


EU FOR BETTER ENVIRONMENT



REPUBLIC OF SERBIA
MINISTRY OF ENVIRONMENTAL PROTECTION
MINISTRY OF FINANCE
Department for Contracting and Financing of
EU Funded Programmes

ekologija.gov.rs | cfcu.gov.rs | europa.rs



**#EY
ЗА ТЕБЕ**

Options for addressing the remaining AQ hotspots under the WAM C scenario (methodological approach)

**Public event for the preparation of the draft Programme of Air protection
of the Republic of Serbia with Action plan**

Nadine Allemand, deputy director of CITEPA, EAS3 Senior non-key expert

10 September 2021

Outline

- Characteristics of scenarios WEM, WAM A and WAM B
- Air Quality in 2030, remaining hot spots
- Definition of additional measures to improve air quality

- Characteristics of scenarios WEM, WAM A and WAM B

Measures considered in the scenarios WEM, WAM A and B

Source of emissions	WEM	WAM A	WAM B
Large combustion plants	Regulation on limit values of emissions of pollutants from combustion plants (OGRS n°6/16)	Industrial Emission Directive (IED) chapter II (BAT AELS) Compliance by 31/12/2024	
		Upper BAT AELS levels	Medium BAT AELS levels
Medium combustion plants		Medium Combustion Plant Directive (MCPD)	
		Compliance by 01/01/2025 for largest inst. to 01/01/2030 for smallest ones	
Old large combustion plants in the production of electricity and refineries	NERP	NERP	
Small domestic appliances using solid fuels	No regulation considered	EU regulations from 01/01/2025 30% of appliances replaced by the end of 2030 and 55% in 2035	EU regulations from 01/01/2025 + Financial incentives 55% of appliances replaced by the end of 2030 and 80% in 2035
Sulphur content of heavy fuel oil	No regulation considered	Heavy fuel oil with less than 1% S available from the 1st January 2021	

Measures considered in the scenarios WEM, WAM A and B

Source of emissions	WEM	WAM A	WAM B
Industrial installations under the scope of the IED regulation	Regulation on limit values of emissions of air pollutants from stationary pollution sources, excluding combustion plants (OGRS N°111/15)	IED chapter II (BAT AELS) Compliance by 31/12/2024	
		Upper BAT AELs levels	Medium BAT AELs levels
Other industrial installations	Regulation on limit values of emissions of air pollutants from stationary pollution sources, excluding combustion plants (OGRS N°111/15)		
Industrial uses of solvents	No regulation considered	IED chapter V and annex VII (or “Regulation on the list of industrial installations and activities in which volatile organic compounds emissions are controlled (OGRS N°100/11)”)	

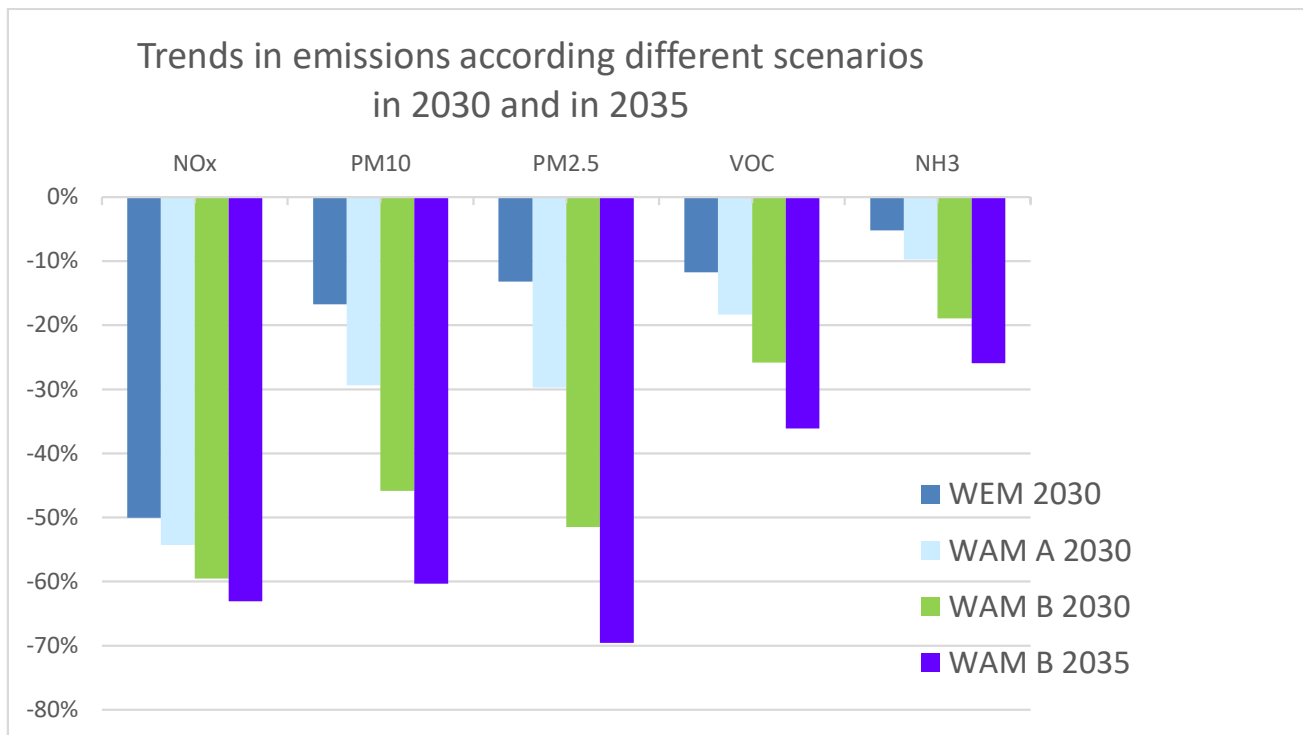
Measures considered in the scenarios WEM, WAM A and B

Source of emissions	WEM	WAM A	WAM B
<u>Imported of second-hand vehicles</u>	No measure	Minimum Euro standards for imported second-hand vehicles	
Second-hand passenger and light duty vehicles		Euro 4 from 1 st January 2024 Euro 5 from 1 st January 2025 Euro 6 from 1 st January 2030	Euro 5 from 1 st January 2024 Euro 6 from 1 st January 2025
Second-hand heavy duty vehicles, coaches and buses		EURO IV from 1 st January 2024 EURO V from 1 st January 2025 EURO VI from 1 st January 2030	EURO V from 1 st January 2024 EURO VI from 1 st January 2025
Oldest diesel vehicles (passenger cars, light duty vehicles and buses)		No measure	Scrapping programme targeting 140 000 of oldest diesel passenger cars and light duty vehicles (pre-euro to Euro 3) and diesel buses (pre-euro to Euro III) from 2024 to 2026
Distribution of petrol	No measure	Rulebook on technical measures and requirements relating to VOC resulting from the storage and transport of petrol Continuation of the equipment of petrol terminals and service-stations for complete equipment by 1 st January 2030	
Non road mobile machineries (NRMM)	No measure	Regulation (EU) 2016/1628 from 1 st January 2025 Use of gasoil with a sulphur content of 10 mg/kg (i.e., 0.001%) for NRMM	

Measures considered in the scenarios WEM, WAM A and B

Source of emissions	WEM	WAM A	WAM B
Solid manure applied to soils	1 - Rapid solid manure incorporation within 24 hours	Rapid solid manure incorporation within 24 hours, 12 hours or 4 hours Different rates	
	In intensive farms (IPPC) from 1 st January 2020 onwards		
Liquid manure applied to soils	2- Slurry application by trailing hose/trailing shoe And possibility of incorporation within 12 hours	2- Slurry application by trailing hose/trailing shoe, and incorporation within 12 hours or 4 hours Different rates	
	In intensive farms (IPPC) from 1 st January 2020 onwards		
Liquid manure applied to soils	No measures considered	No measures considered	3- Slurry application by injection From 1 st January 2024
Use of inorganic fertilizers	No measures considered	No measures considered	4- Substitution from urea to ammonium nitrate fertilizer From 1 st January 2024
Manure storage	No measures considered	No measures considered	5 - Covering of slurry stores From 1 st January 2024
Use of inorganic fertilizers	No measures considered	6 – Incorporation of urea into soil Increasing rate from 1 st January 2020	Replaced by measure 4, taking into account the diminution of urea use
Field burning of agricultural waste	No measures considered	No measures considered	7 – Progressive phase-out (-67% in 2030, 0% in 2035)

The situation in terms of emissions in 2030 and in 2035



Additional potential emission reductions are possible (comparison of 2035/2030)



REPUBLIC OF SERBIA
MINISTRY OF ENVIRONMENTAL PROTECTION
MINISTRY OF FINANCE
Department for Contracting and Financing of
EU Funded Programmes

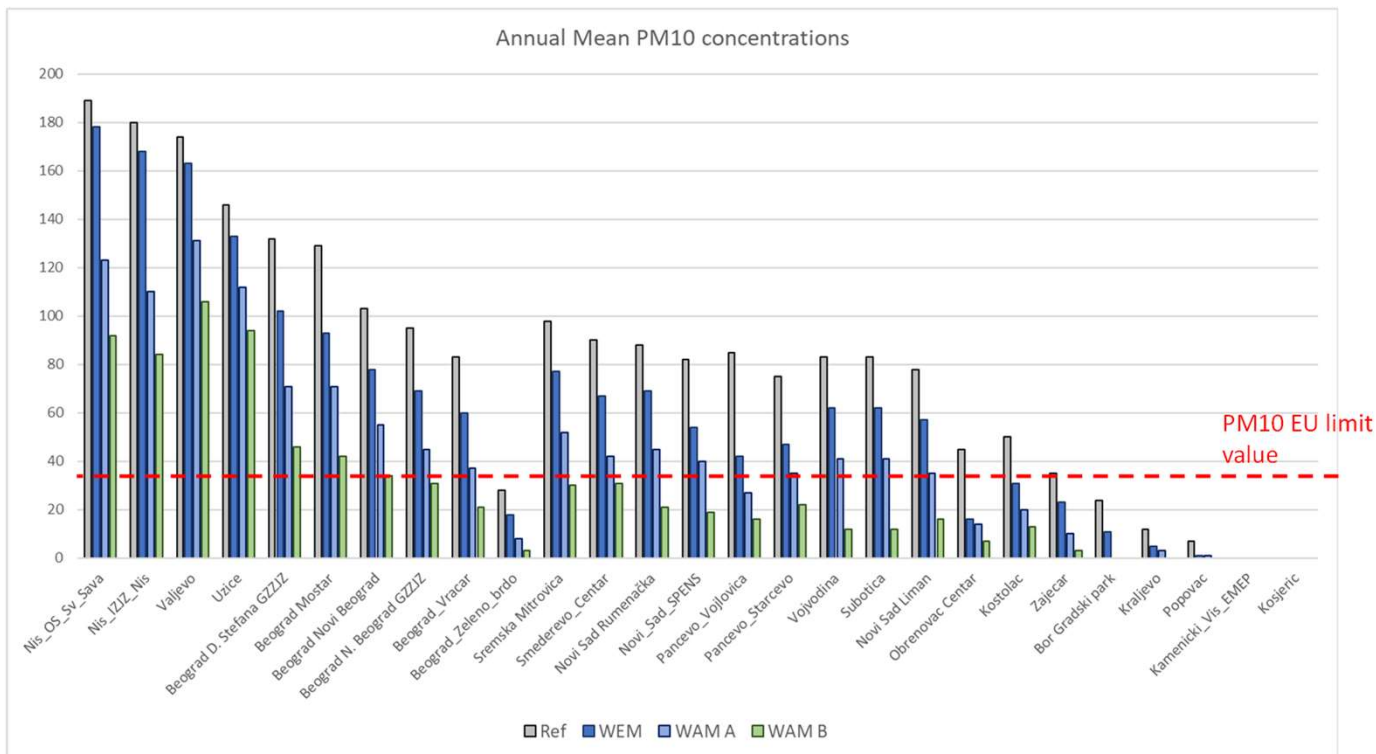


#EY
ЗА ТЕБЕ

ekologija.gov.rs | cfcu.gov.rs | europa.rs

- Air Quality in 2030, remaining areas of concern

Remaining exceedances of air quality limit values



In 2030 for PM10 :

- Daily limit value of PM10 still exceeded in **Uzice, Valjevo, Kragujevac, Nis, Beograd** with WAM B



REPUBLIC OF SERBIA
MINISTRY OF ENVIRONMENTAL PROTECTION
MINISTRY OF FINANCE
Department for Contracting and Financing of
EU Funded Programmes



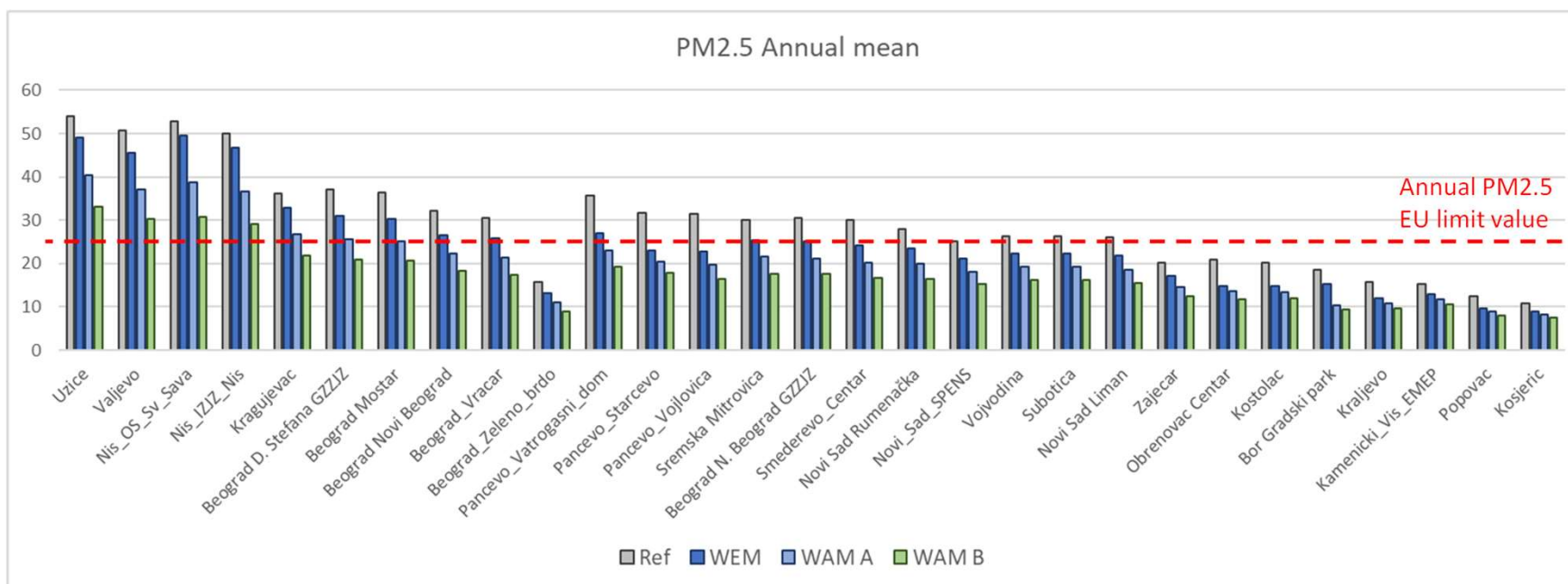
#EY
3A TE BE

ekologija.gov.rs | cfcu.gov.rs | europa.rs

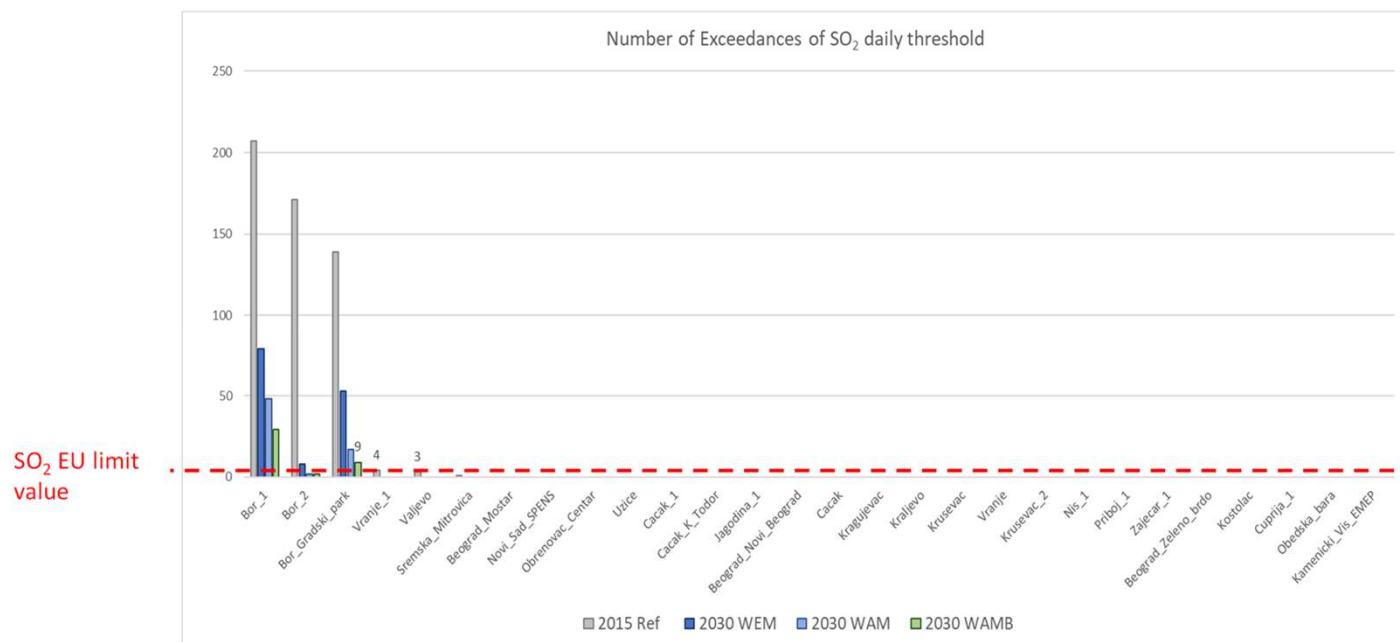
Remaining exceedances of air quality limit values

In 2030 for PM_{2,5} :

- Annual limit value of PM_{2,5} still exceeded in Uzice, Valjevo and Nis with WAM B



SO₂ in Bor



Still exceedances of SO₂ concentrations in Bor



REPUBLIC OF SERBIA
MINISTRY OF ENVIRONMENTAL PROTECTION
MINISTRY OF FINANCE
Department for Contracting and Financing of
EU Funded Programmes



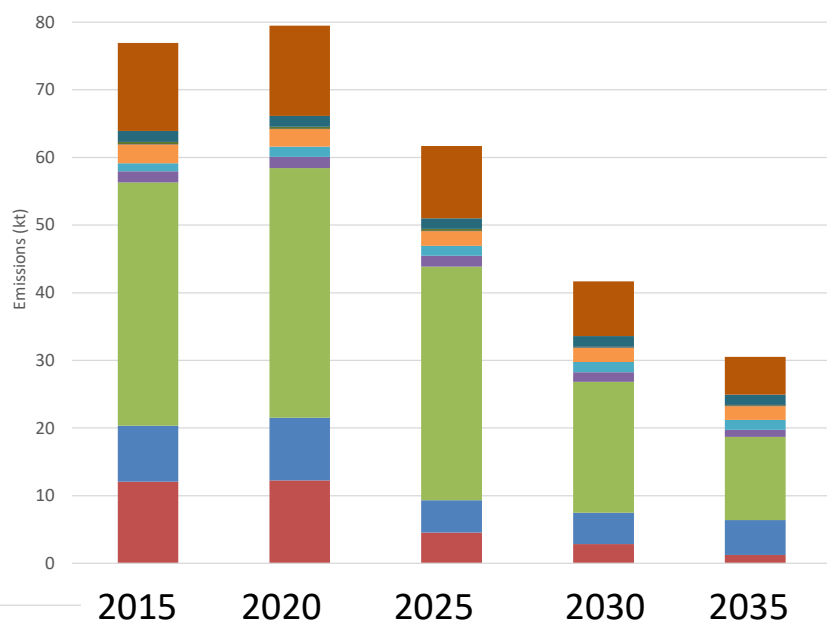
#EY
3A TE BE

ekologija.gov.rs | cfcu.gov.rs | europa.rs

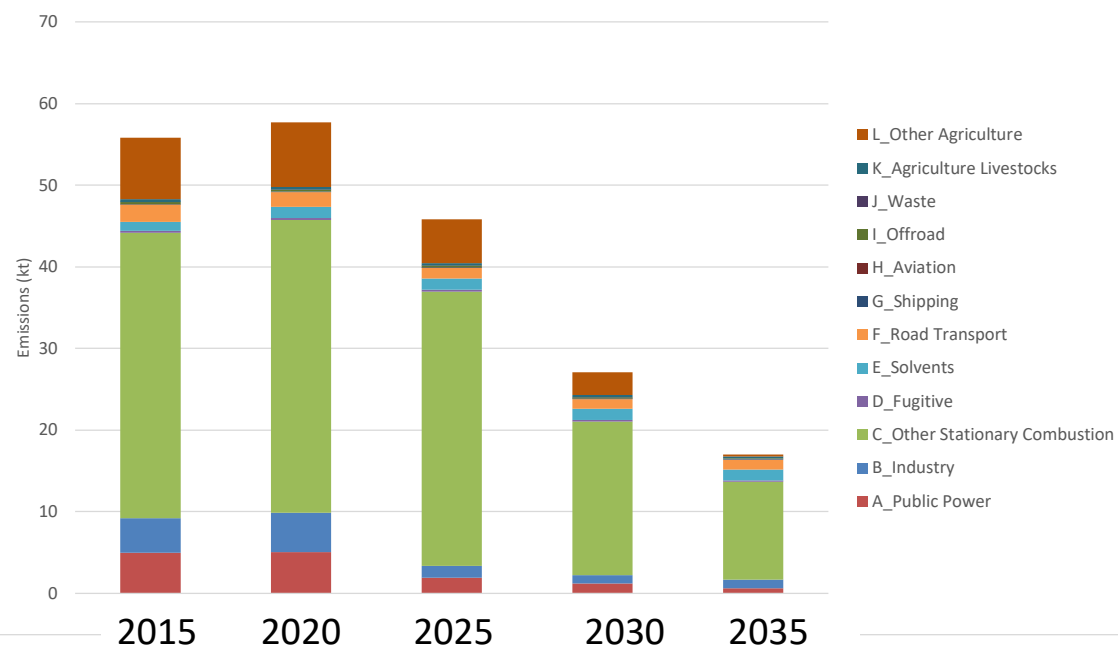
- Additional measures to improve air quality in the remaining hot spots

Additional measures in WAM C for PM10 and PM2.5

PM10 from 2015 to 2030 in Serbia according to WAMB scenario



PM2.5 from 2015 to 2030 in Serbia according to WAMB scenario



REPUBLIC OF SERBIA
MINISTRY OF ENVIRONMENTAL PROTECTION
MINISTRY OF FINANCE
Department for Contracting and Financing of
EU Funded Programmes



#EY
3A TE6E

ekologija.gov.rs | cfcu.gov.rs | europa.rs

Reductions needed for WAM C for PM10 and PM2.5

PM10 and PM2.5:

Reductions needed in domestic heating

Cities	Needed reduction for domestic heating compared to WAMB
Uzice	65%
Valjevo	50%
Kragujevac	15%
Nis	50%
Beograd	20%

SO2:

Reductions needed in the total SO2 emissions of the city

Cities	Needed reduction compared to WAMB
Bor	55% - 60%



REPUBLIC OF SERBIA
MINISTRY OF ENVIRONMENTAL PROTECTION
MINISTRY OF FINANCE
Department for Contracting and Financing of
EU Funded Programmes

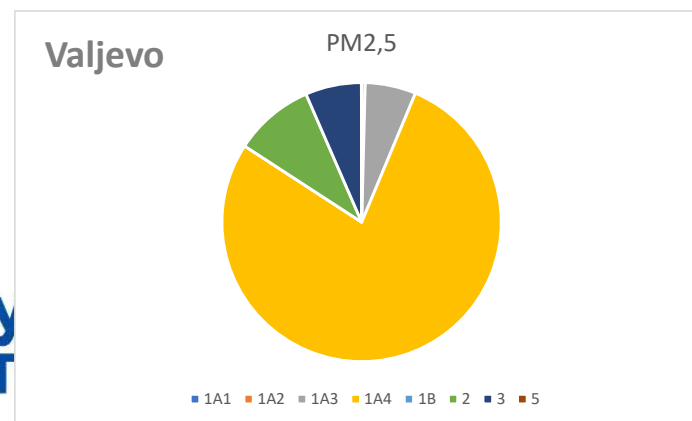
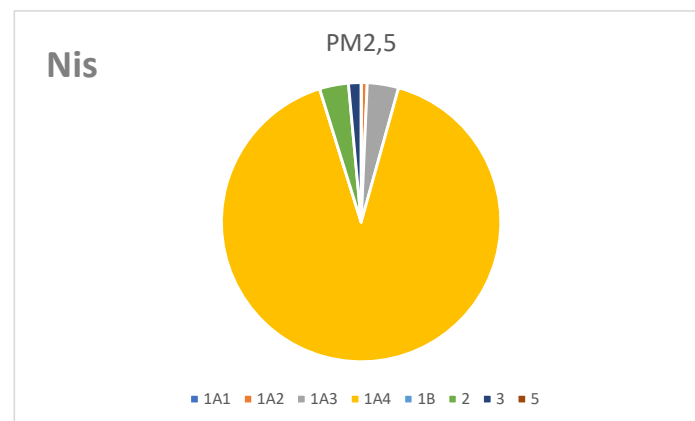
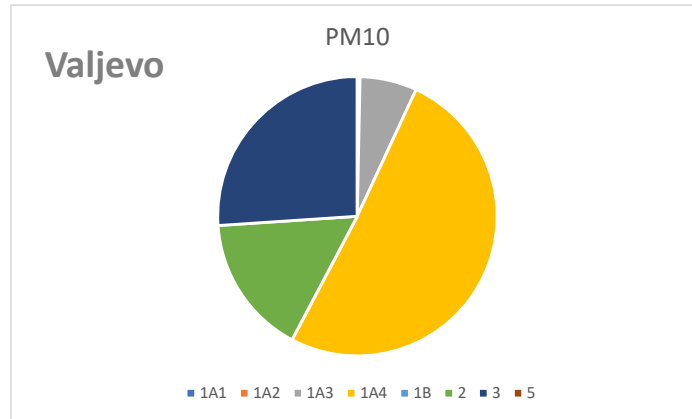
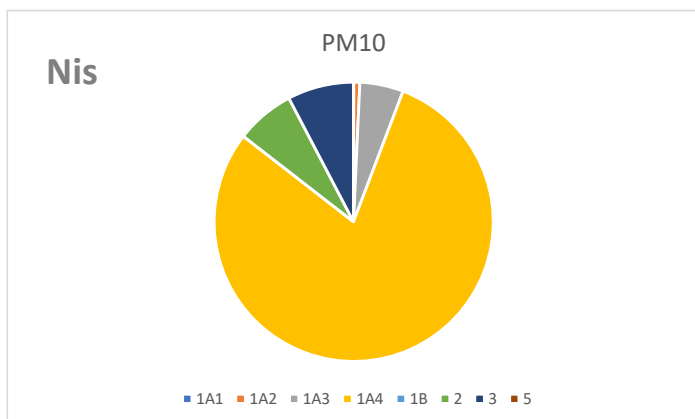


#EY
ЗА ТЕБЕ

ekologija.gov.rs | cfcu.gov.rs | europa.rs

Additional measures in WAM C for PM10 and PM2.5

Examples of share of emissions of PM 10 and PM2.5 in Nis and Valjevo in 2030

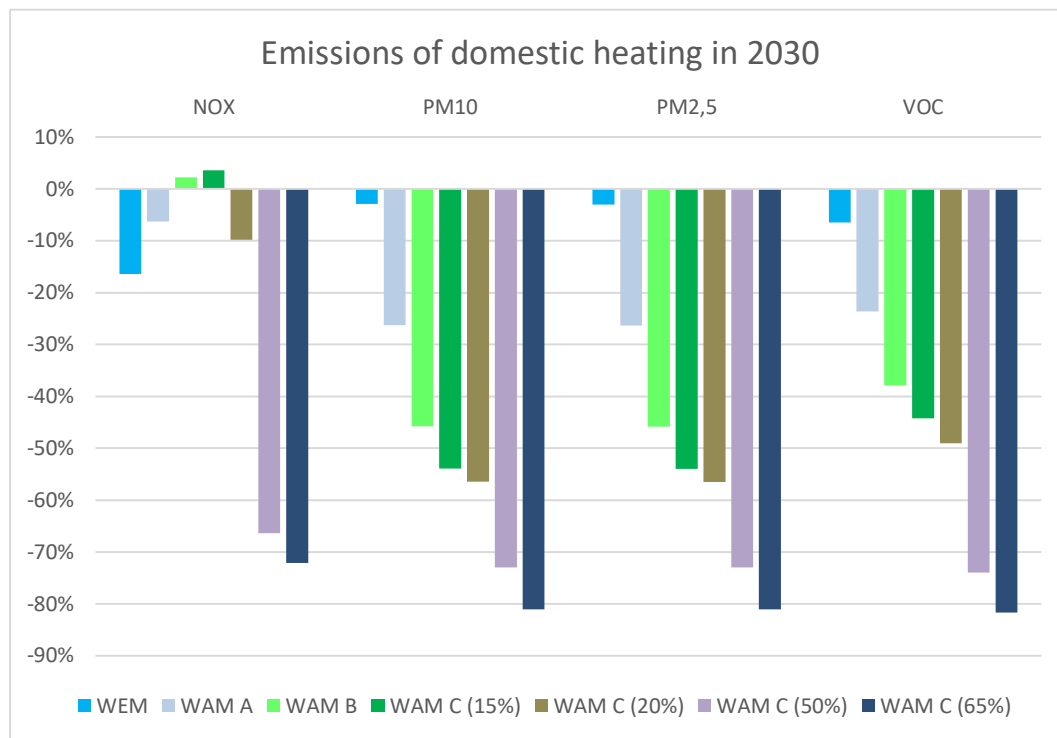


- In all cities, residential heating remains the largest source of PM10 and PM2.5 in 2030

Additional measures proposed

- Increase of the rate of replacement of oldest domestic appliances in the cities with exceedances of PM limit values (**Uzice, Valjevo, Kragujevac, Beograd, Nis**)
- Phase out of field burning of agriculture residues in 2030 for all Serbia

Additional measures in WAM C for PM10 and PM2.5



- Increase of the reduction of PM emissions from domestic heating with wood and coal:

Kragujevac: -54%/2015 (or -15%/WAM B in 2030)

Beograd: -56%/2015 (or -20%/WAM B in 2030)

Valjevo and Nis: -73%/2015 (or -50%/WAM B in 2030)

Uzice: - 81% /2015 (or -65%/WAM B in 2030)

Additional measures in WAM C for PM10 and PM2.5

Increase of the reduction of PM emissions from domestic heating with wood and coal:

- In the WAM B in 2030, 55% of old existing appliances were replaced with new eco-labelled appliances
- In the WAM C, the replacement of old domestic appliances is increased differently according to the cities,

It is carried out with eco-labelled appliances, and/or heat pumps:

Replacement of old appliances in 2030, by :

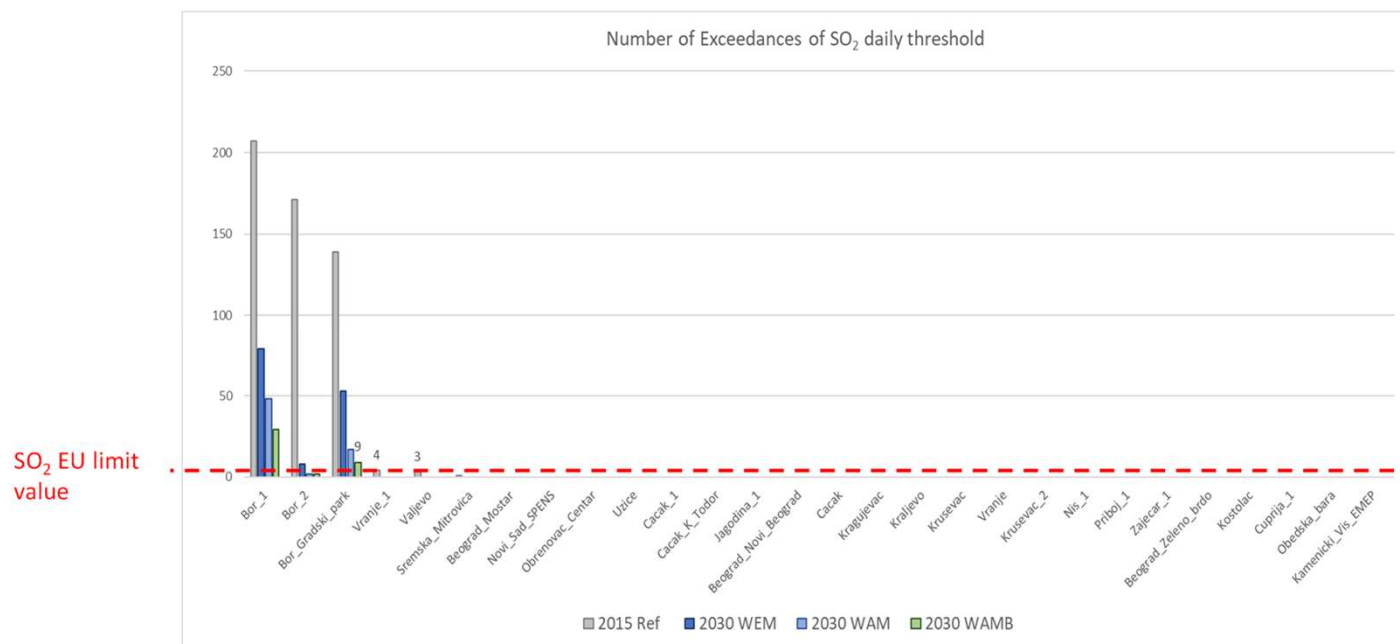
- Kragujevac : 58%
 - with eco-labelled appliances with high proportion of pellet appliances 25%
- Beograd: 58 %
 - with only pellet appliances
- Valjevo, Nis: 74%
 - with 50% pellet appliances and 50% heat pumps
- Uzice: 80%
 - with 15% pellet appliances and 85% heat pumps

Additional measures in WAM C for PM10 and PM2.5

Increase of the reduction of PM emissions from agricultural sources:

- Limitation of the burning of agricultural residues (0% in 2030)

Additional measures for SO₂



Additional measures proposed:

- **Stricter limit values (lower BAT AEL) for industrial plants in Bor** for a significant reduction of emissions

Questions ?

Nadine Allemand

Deputy director Citepa, EAS3 Senior non-key expert

EU for better Environment

+33 1 44 83 68 83

E-mail : nadine.allemand@citepa.org

Thank you for your attention!

Thanks to all the Citepa team : Grégoire Bongrand, Jean-Marc André,
Gwenaëlle Leborgne, Colas Robert