

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**

Preparatory activities for the WAM-C scenario (methodological approach)

Meeting: First Conference – Programme of Air Protection and Action Plan

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

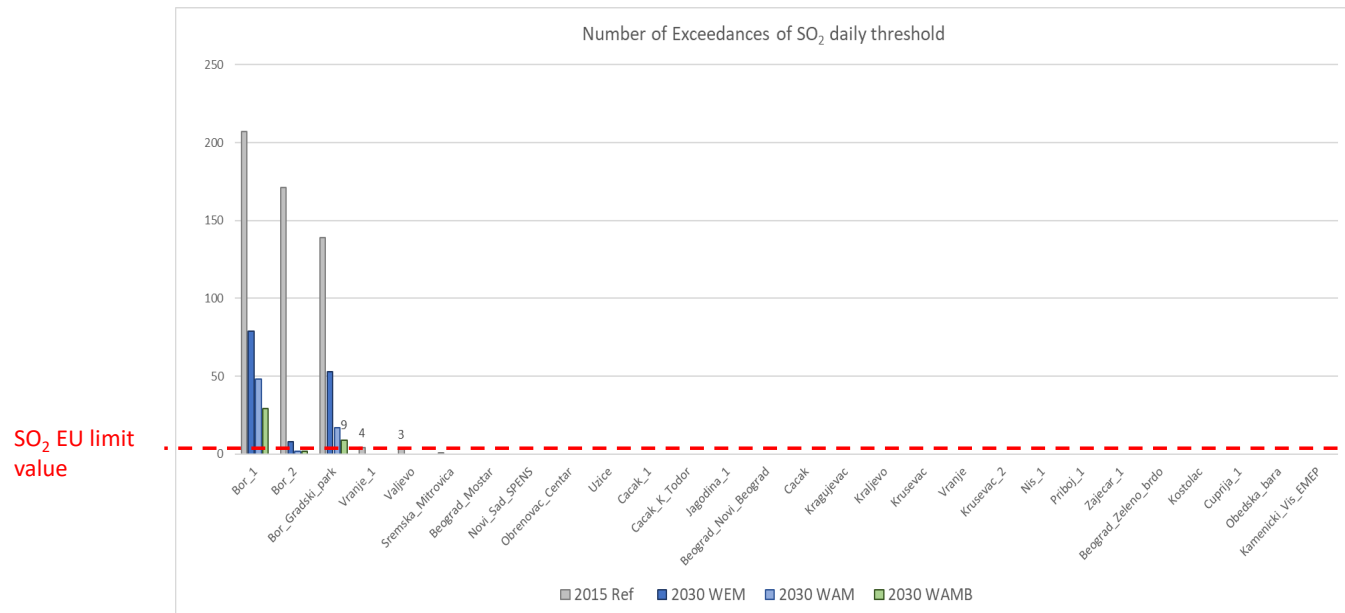
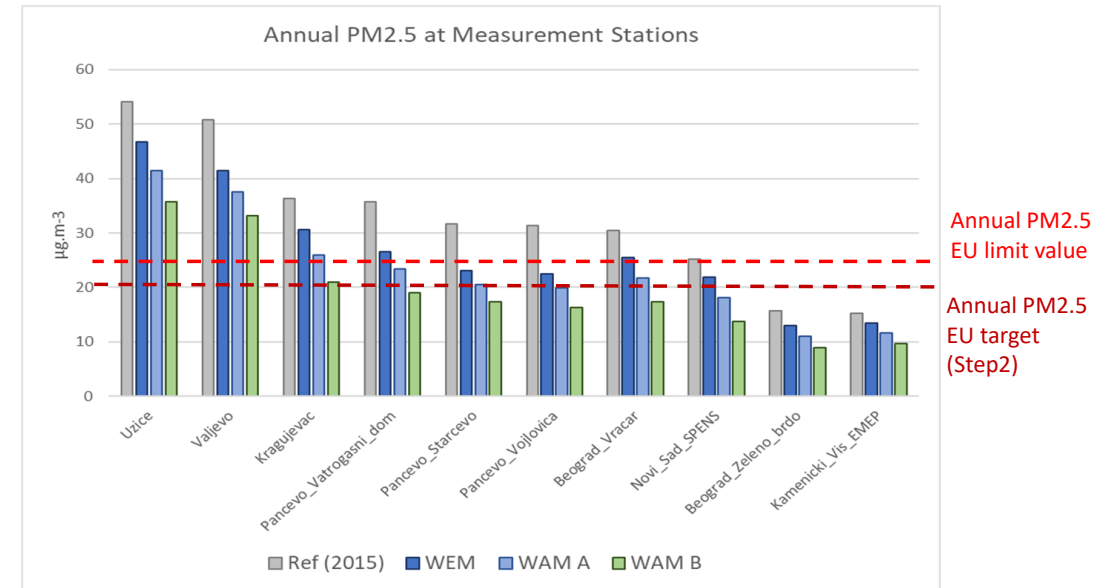
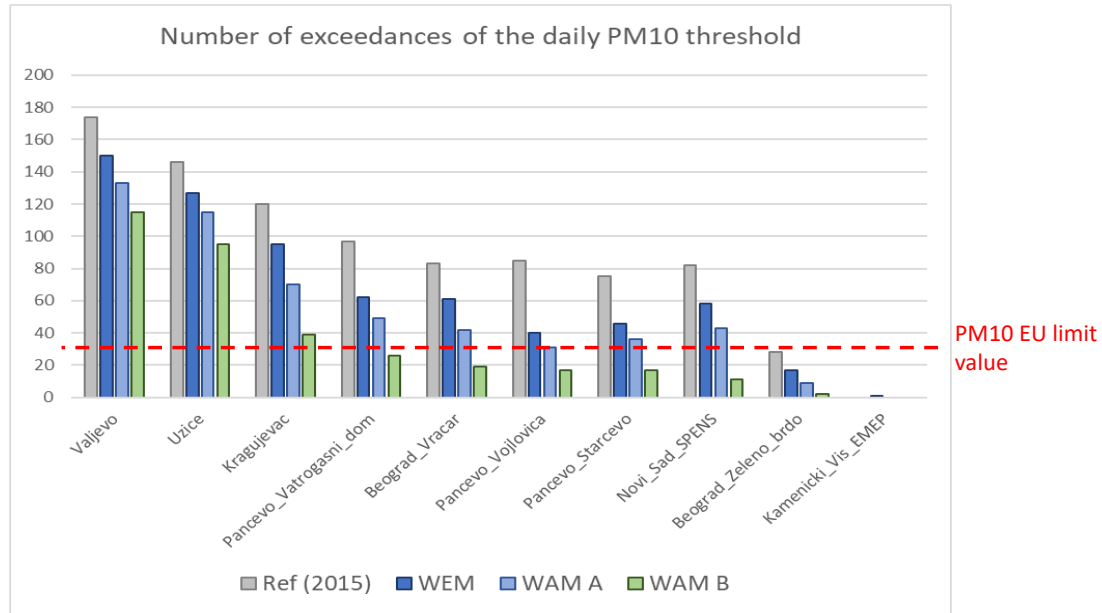
16 April 2021

Outline

- Air Quality in 2030, remaining areas of concern
- Possible additional measures to reduce the gap

- Air Quality in 2030, remaining areas of concern

Remaining exceedances of air quality limit values

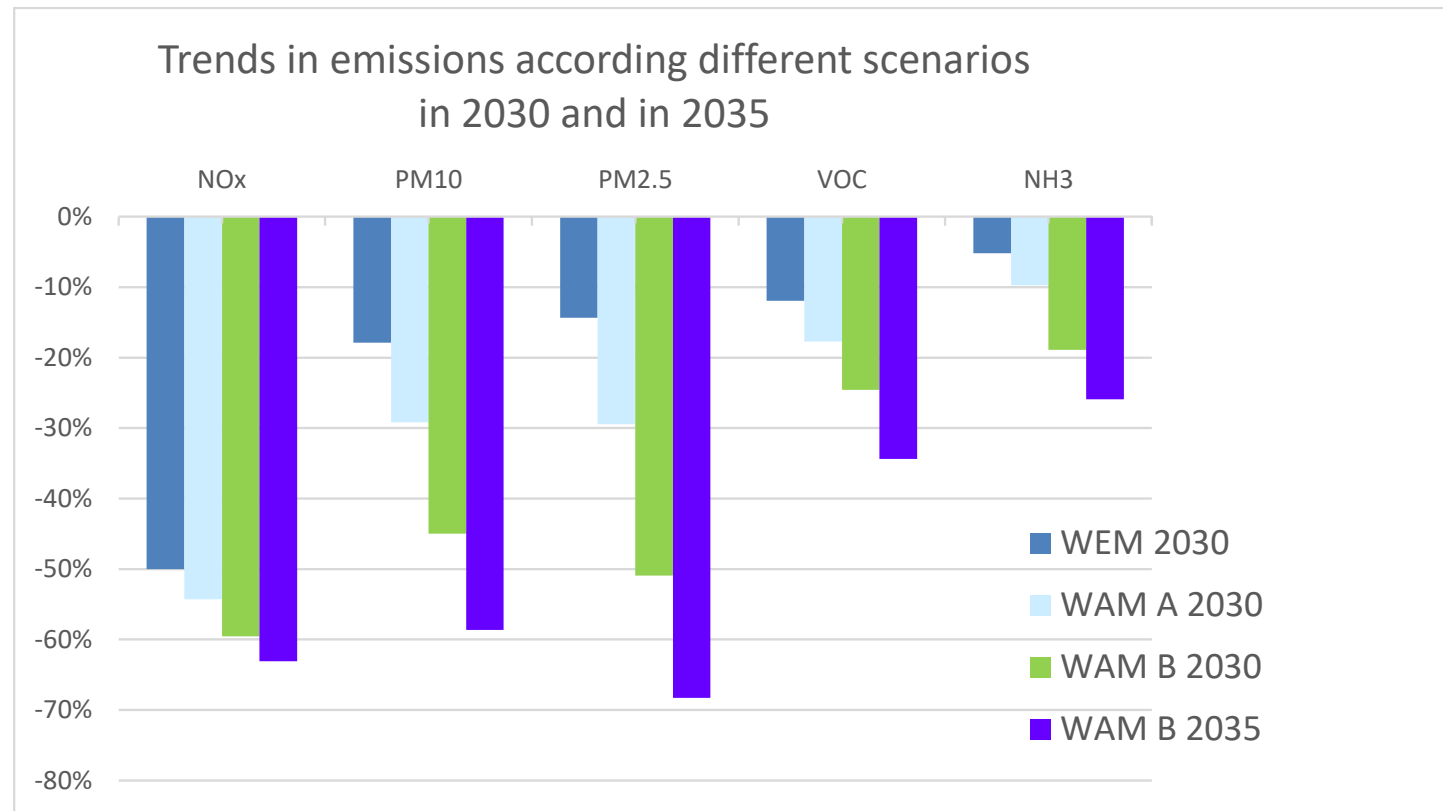


In 2030 :

- Exceedances of PM10 and PM2,5 limit values in some cities such as Uzice, Valjevo, Kragujevac, Pancevo, Nis, Beograd still at risk
- No more exceedances of NO2 limit values
- Cities with exceedance of limit values for SO2: Bor

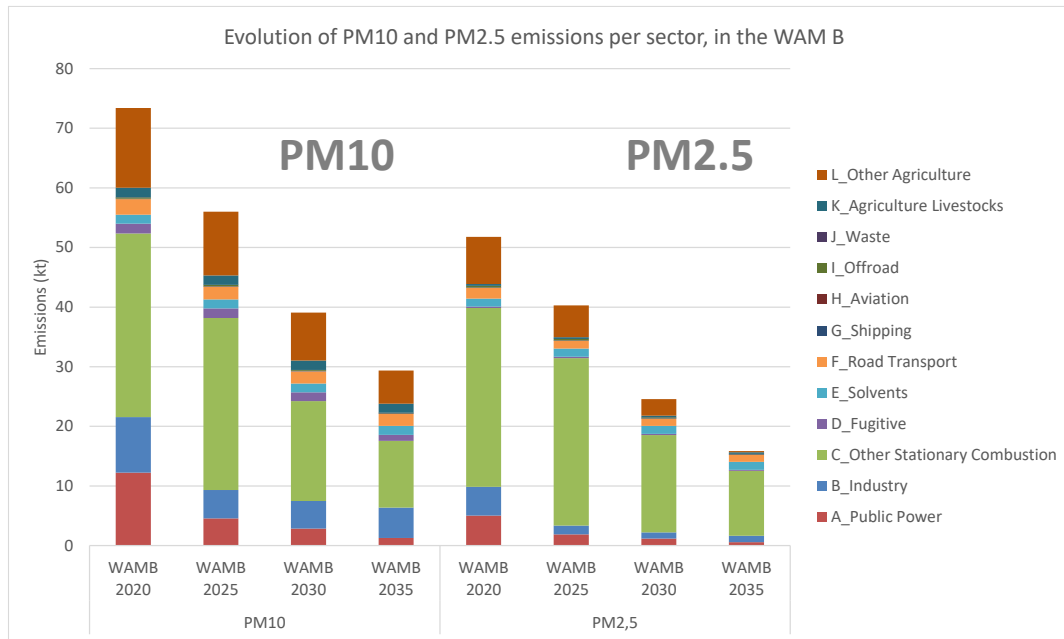
- Possible additional measures to reduce the gap

The situation in terms of emissions in 2030



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

Additional measures in WAM C for PM10 and PM2.5

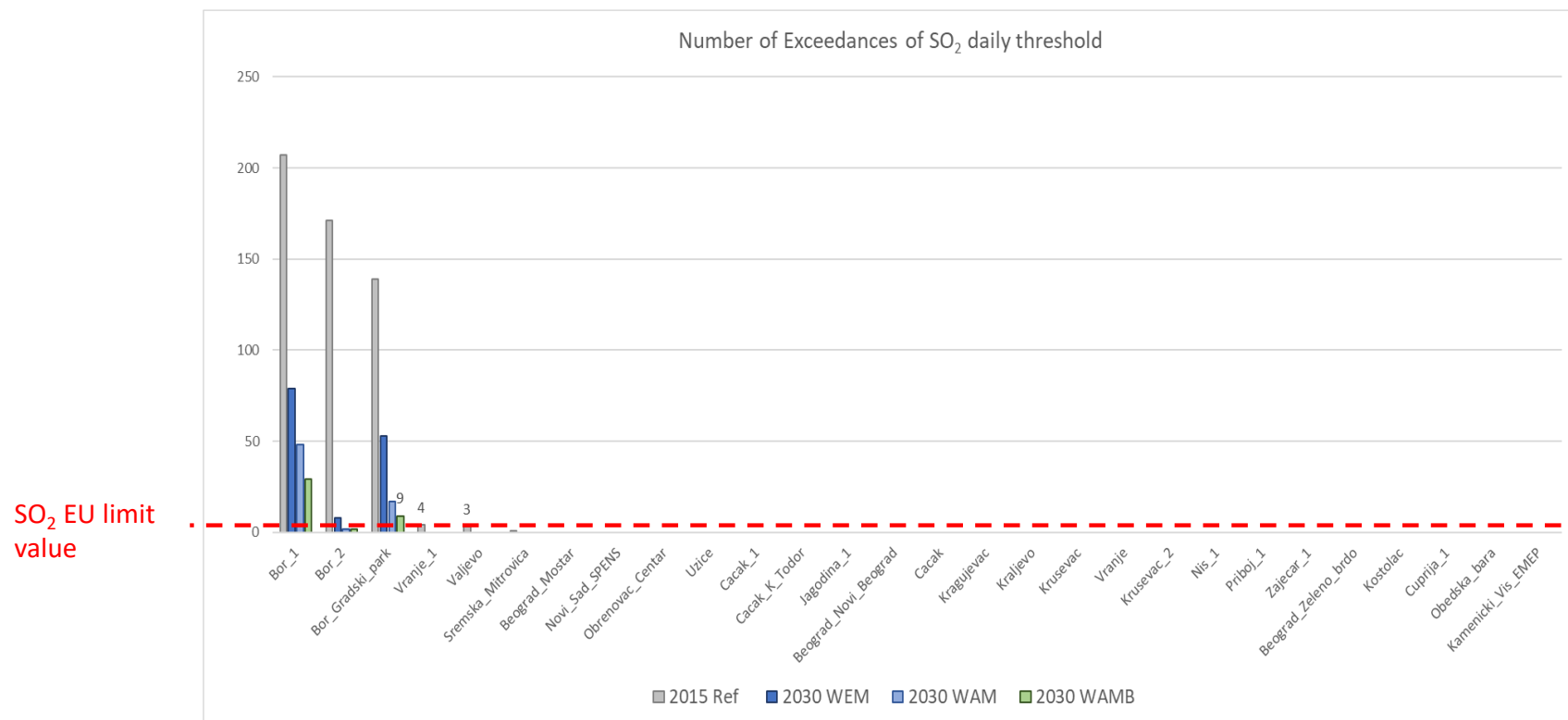


Additional measures proposed (to be discussed):

- Increase of the rate of replacement of oldest domestic appliances only in the cities with exceedances of PM LV (Uzice, Valjevo, Kragujevac, Pancevo, Beograd, Nis (from 55 % to 70 % by increasing the annual rate of scrapping of oldest appliances) or in all Serbia?
- Stricter limit values for industrial plants (lower values of BAT AELs) (national) + Management of public works?



Additional measures for SO₂



Additional measures proposed:

- Stricter limit values for industrial plants in Bor?



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

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

Measures to reduce transport emissions

How to reduce vehicle emissions?

1) Different energy sources

- Lower Carbon Fuels for all vehicles
- Biofuels, Hydrogen, Renewable electricity

2) Technology: More energy-efficient vehicles

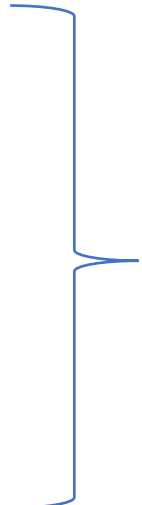
- Hybrid and Plug-in hybrid vehicles

3) Reduce vehicle travel activity through

- Congestion charging (CC)
- Parking management
- Car sharing, carpooling
- Transit-oriented development (TOD)
- Improve transit system
- Foster bicycle and walking modes

4) Scheme to encourage vehicle fleet renewal

- Low Emissions Zones (LEZ)



Non-technical measures to
reduce pollutant emissions
in urban areas

Measures to reduce transport emissions

The importance of non-technical measures on emissions reduction

Promote, but not rely only on vehicle technology advances; instead prioritize and invest on alternatives to private vehicle use leading towards permanent **travel behaviour changes** to more use of public transport, cycling and walking modes.

It is imperative to foster permanent changes in travel behaviour by facilitating **modal shift** towards more environmentally friendly modes of transportation.

A **comprehensive set of public policies** is therefore the key to actually reducing the transport sector's carbon and pollutant emissions, as it is not feasible to achieve reduction goals, solely with advances in motor vehicle technology.

Measures to reduce transport emissions

- ✓ Public policies should be crafted to maintain the density of city centers and avoid constructing ring roads without complementary measures to avoid people to move from the center to the periphery.
- ✓ **Implement smart growth / Transit Oriented Development planning** → *increase density and diversity of land use leading to shorter travel distances and consequently, less motorized trips and a slowdown of urban sprawl.*
- ✓ **Modernize public transport to make it even more competitive compared to cars** → *The increase of Public Transport shares will only bring significant benefits if the infrastructure projects include regulations that assure also the improvement in the bus technologies used.*
- ✓ **It is necessary to foster the introduction of pedestrian areas in city centers and in the suburbs; and to encourage the use of bicycles** not only for recreational purposes but also for daily commute.
- ✓ **Implement travel demand management measures** to reduce vehicle kilometers traveled → *telecommuting, increasing occupancy rates in vehicles, taxation, costly parking in city-centers, etc.*

Source: Tapia-Villarreal, PhD. Thesis. Urban form, demography and daily mobility forecasts. 2014.

Measures to reduce transport emissions

Measures to reduce transport emissions such as pedestrian areas, parking measures, walking and bicycle infrastructure and measures *tend to reduce automobile traffic and even reduce pollutant emissions and air pollutant concentrations.*

- ✓ **Traffic adapts to the supply of road infrastructure** → *When a traffic lane is closed, reductions in traffic are observed throughout the territory concerned "evaporated traffic".*
- ✓ **Modal shift from car to bicycle and car to public transport** *may only be possible with the required infrastructure for each mode.*
- ✓ **Changes in parking supply and pricing** *discourage car use in the city and promote modal shift.*
- ✓ **ULEZ, LEZ and Congestion Charges** *are very effective measures to reduce emissions in city-centers.*

Significant changes towards urban transport sustainability can be only achieved, if applied simultaneously, through a synergistic approach of “carrot-and-stick” measures.

Measures to reduce transport emissions

Public transport network

The main factor to promote modal shift towards public transport use is to provide public transport alternatives:

- ✓ Reliable, flexible and cost-effective public transport.
- ✓ Affordable and accessible for both young and old.

Space Required for Transporting 48 People



48 Passenger Cars vs. 1 Transit Bus

Measures to reduce transport emissions

Transit-Oriented Development (TOD)

TOD brings compact, mixed-use development within walking distance of high-capacity rapid transit. TOD features pedestrian-oriented built forms, and land use characteristics that make it convenient and safe to walk, cycle, and use public transport.

The goals of Transit Oriented Development are to:

- ✓ Reduce private vehicle dependency and promote transit use,
- ✓ Provide public transport access to the maximum number of people through densification and multimodal connectivity.



8 principles

