

Innovative circular economy approaches to agricultural and municipal waste management for better air quality in Asia-Pacific and the Western Balkans

REGIONAL TRAINING ON THE PRODUCTION AND USE OF WASTE AND CIRCULAR ECONOMY STATISTICS AND INDICATORS

Vienna, Austria, 20-21 June 2024



South-Eastern Europe (de)Pollution Platform (SEEPP)

2018

- Ministerial Conference on Innovative Solutions to Pollution in South-East Europe



© Ministry of Environmental Protection, Serbia

2019

Presentation at UNEA 4. SEEPP established to:

- ❖ Facilitate the creation of innovative partnerships on pollution in the region;
- ❖ Foster transboundary cooperation on pollution related policies;
- ❖ Support exchange of information, know-how and provide a strategic regional platform for discussion

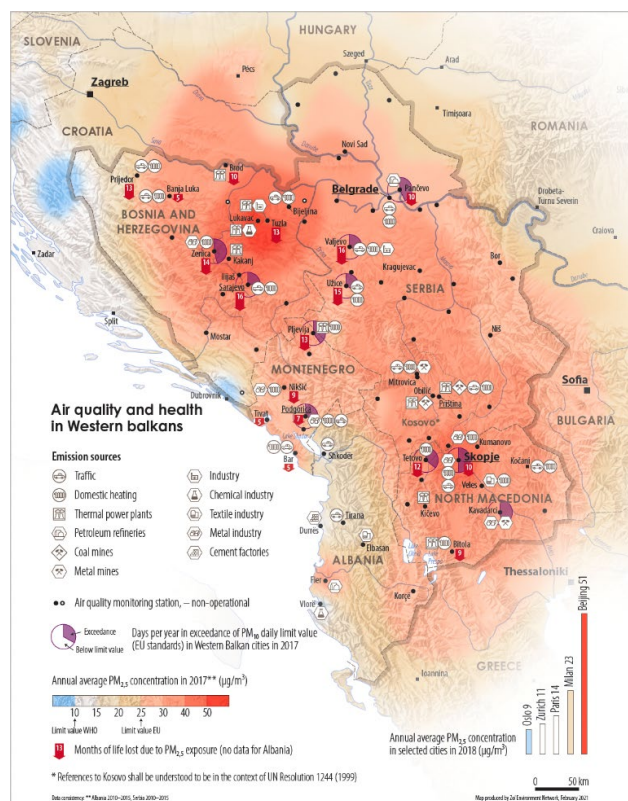
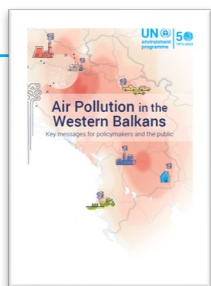
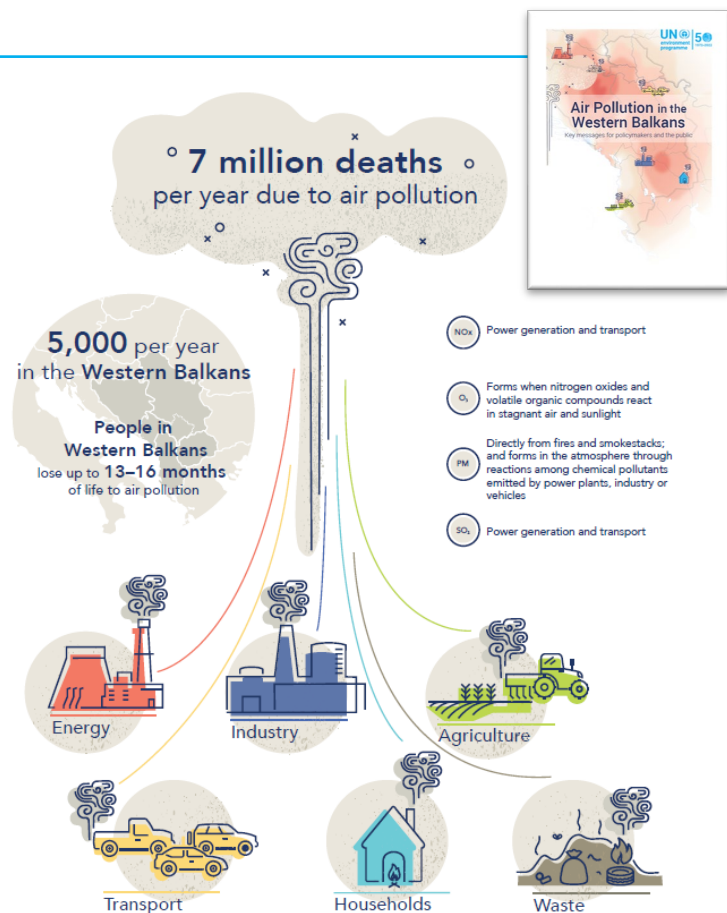
2019 – 2022

- ✓ June 2019. Platform Sub-Regional Consultation Meeting. Identification of SEEPP priorities: Environment and Health; Rule of Law
- ✓ 2021. Webinars on Environment and Health and PPP
- ✓ 2022. Waste assessment report



Air Pollution and Health, Western Balkans

Regional assessment, 2019



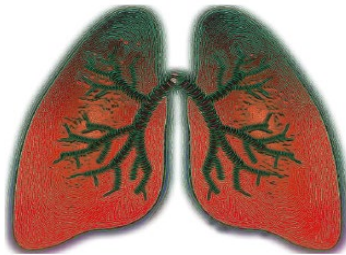
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- **Challenges:**
 - Inconsistent data, due to the lack of financing for the maintenance of the stations
 - Absence of both certified calibration laboratories and of air quality modelling.
 - Although automatic air quality monitoring is undertaken and data is available online, time lags of several hours are frequent or data may not be recorded at all.
 - Annual reports are being published with a year delay.
- **Policy framework in Serbia: first Air Quality Protection Strategy adopted in 2022.**

Air Pollution and Health

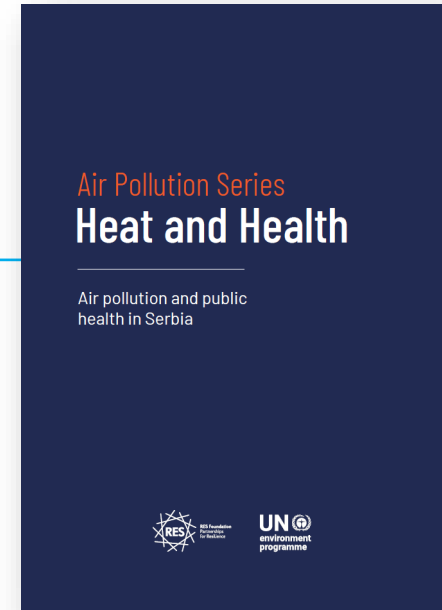
Policy brief

- Serbia has the second highest number of years of life lost (YLL) per 100,000 inhabitants, due to PM2.5 exposure, among 41 ranked jurisdictions in Europe (EEA report 2022).
- Almost **1,000,000** households in Serbia use inefficient solid fuel individual heating and cooking devices. There is limited awareness of users, but also health professionals, on how polluting these devices are and what are the alternatives.



HEAT AND HEALTH

Knowledge products on health and air pollution stemming from the inefficient combustion of household devices for solid fuel-burning



- Actions that reduce concentrations of PM2.5 by 10 $\mu\text{g}/\text{m}^3$ can halve the air pollution.
- Legislative framework governing public health is well developed, but the key document missing is the National Programme for Environmental Risk Assessment related to public health.
- ✓ **Policy brief offers key messages and suggests way forward.**

Waste Management and Air Pollution

Case study – Vinca landfill, August 2021

- Started on 7 August 2021, causing great public distress
- Pollutant emissions were monitored at three locations from the state network, sixteen stations of the local network and citizen network. Exceedances of PM
- Mobile Ecotoxicological Unit of the City Institute conducted on-site measurements of pollutants during several visits to the area
- No monitoring of PCDD/PCDFs and dioxin-like PCBs is carried out in ambient air within state or local networks, but only in air/waste gas from stationary sources



© Dejan Lekic, 8 August 2021

Waste Management and Air Pollution

Challenges:

- Trend of increase in recorded fires at landfills (Ministry of Interior database).

Year	2016	2017	2018	2019	2020	2021	2022
Number of fires	584	1,296	950	1,244	1,205	1,715	1,760

- Limited coverage of municipal waste collection system (86.4%/2020, of which only 20% ends up in sanitary landfills)
- High content of biodegradable waste (48%/2020)
- Limited capacities and funding for the operation of mobile ecotoxicological units
- There is no dedicated ambient air quality monitoring within national or local ambient air networks close to landfills, except in Belgrade (close to the largest municipal unsanitary landfill in Europe - Vinca) which does not monitor uPOPs, PCDD/PCDFs and dioxin-like PCBs.
- There are no Standard Operative Procedures.



Fire at "Duboko" landfill. © MIA, www.kurir.rs



Fire at "Duboko" landfill. © RINA, www.espreso.co.rs

UNEP Working Paper

Air Quality – Waste Management



Conclusions and recommendations:

- ❑ 01 - Prevent landfill fires
- ❑ 02 - Minimize the consequences of Landfill fires
- ❑ 03 - Improve the monitoring system in order to assess the Impact of Landfill Fires on Air pollution in Serbia
- ❑ 04 - Reduce the risk to public health during and after fire occurrences

Available at: <https://wedocs.unep.org/20.500.11822/45428>

South-Eastern Europe (de)Pollution Platform (SEEPP) 2024 - 2025

- Western Balkans Regional Waste Conference (26-27 March 2024)
- Regional E-waste Monitor for the Western Balkans

Towards Zero Waste



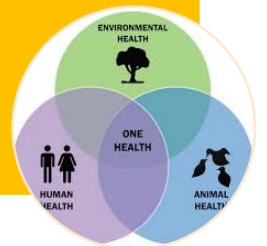
- **Innovative circular economy approaches to agricultural and municipal waste management for better air quality in Asia Pacific and the Western Balkans**

Circularity in Sectors



- Contaminated Sites in BiH-SRB
- Nature-based solutions for enhanced resilience to COVID-19 and urban air pollution
- Sustainable and resilient transport and urban mobility
- Policy action for mitigating health impacts of air pollution from high-impact sectors

Pollution and Health



Agenda 2030 Multilateral Environmental Agreements (MEAs)



New initiative on

Innovative circular economy approaches to agricultural and municipal waste management for better air quality in Asia-Pacific and the Western Balkans

- **Source of funding:** UN Development Account 16 Tranche
- **Implementation timeframe:** 2024 –2027
- **Budget:** 560 thousand USD
- **Target countries:** Serbia, Bosnia and Herzegovina, and India

Objective

- To promote policy solutions for circularity and sound agricultural and municipal waste management for improved urban air quality and resilience to health, economic and social shocks in selected beneficiary countries in Asia-Pacific and the Western Balkans

New initiative on

Innovative circular economy approaches to agricultural and municipal waste management for better air quality in Asia-Pacific and the Western Balkans (cont.)

- **Outcome 1 (OC1):** Strengthened capacities of the target countries to detect and reduce the air pollution from agriculture and waste management high emitting impact sectors
 - ❖ **Output 1.1 (OP1.1): Socio-economic analysis** on introducing incentives and policy solutions for re-use of agricultural residues and for improved re-use and recycling of biodegradable waste, plastic waste, lithium batteries and other relevant waste streams prepared in three target countries
 - ❖ **OP1.2:** Strengthened technical capacities by the ministries for interior/emergency units and local authorities/communal security services for **rapid fire detection, joint early action and occupational safety**.
 - ❖ **OP1.3: Diversion of the agriculture residue** from the fields **and biowaste** from the landfills for alternative (recycling and upcycling) uses promoted in all three target countries.
 - ❖ **OP1.4: Operational plans of mobile ecotoxicological units/laboratories** at public health institutes developed, prescribing protocols for monitoring selected pollutants, defining communication channels, and ensuring timely availability of data and information to public.

New initiative on

Innovative circular economy approaches to agricultural and municipal waste management for better air quality in Asia-Pacific and the Western Balkans (cont.)

- **Outcome 2 (OC2):** Enhanced capacity of the target countries for evidence-based policy making to reduce air pollution from agriculture and waste management high emitting impact sectors.
 - **OP2.1:** Improved and timely **access to information** for decision making.
 - **OP2.2:** **Hotspots mapped and preventive measures** proposed in three target countries.
 - **OP2.3:** Environment and health **risk assessment tools** promoted for regular use.
 - **OP2.4:** **Pre-feasibility study** for expanding the air quality monitoring networks developed

Thank you



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