



Republic of Serbia  
MINISTRY OF AGRICULTURE AND  
ENVIRONMENTAL PROTECTION

## Air Quality in Republic of Serbia

Air and Ozone layer Protection Unit  
Ministry of Agriculture and Environmental Protection

### Air and the ozone layer protection unit (6 employees)

Perform tasks related to:

- Air protection
- Ozone layer protection
- Transboundary air pollution
- Implementation of Convention on Long-range Transboundary Air Pollution
- Implementation of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer



Responsible for transposition and implementation of 7 Directives and 13 Regulations in the area of Air Quality, Industrial pollution and Climate changes.

**The Law on the Air Protection** („Official Gazette of the Republic of Serbia”, no. 36/09 and 10/13)

- **Regulates** the air quality management
- **Determine** the measures, organisation and supervision of the implementation of air quality protection and improvement
- **Transpose** some provisions of the EU Directives and Regulations

**Air quality protection and Improvement are performed by:**

- ▶ the Republic of Serbia,
- ▶ autonomous province, local self-government (LSG) unit,
- ▶ business associations, entrepreneurs, as well as other legal and physical entities



**CAFE Directive and 4<sup>th</sup> Daughter Directive are transposed through the:**

- The Law on the Air Protection
- Regulation on monitoring conditions and air quality requirements
- Rulebook on content of air quality plans
- Rulebook on short-term action plans

High level of transposition achieved for both directives, with exemption of the provisions that set obligation of EU member states towards the European Commission (will be transposed by the date of accession).

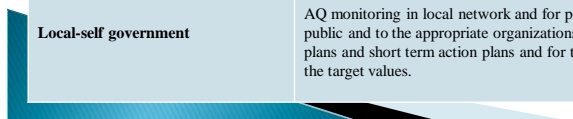
### Implementing acts:



- Regulation on the air quality control programme in the national network;
- Regulation on determination of zones and agglomerations;
- Regulation on determination of the list of air quality categories in zones and agglomerations in the Republic of Serbia
- Rulebook on conditions for issuing a permit for air quality measurement and a permit for measurement of emissions from stationary sources of pollution



Institution	Responsibility	Administrative capacity
<b>Ministry of Agriculture and Environmental Protection (MAEP)</b>  Air and Ozone Layer Protection Unit	Transposition, establishing of air quality monitoring network (Air Quality Control Programme), authorization for air quality measurements, delineation of zones and agglomerations, approval of air quality plans and short term action plans, co-operation with other countries and for enforcement of the Law on the Air Protection	- 1 employee
<b>Serbian Environmental Protection Agency (SEPA)</b>  -Unit for Air Quality Monitoring -National laboratory Department (Calibration laboratory and Analytical laboratory) -Unit for information system	Implementation of Directive's requirements related to the AQ monitoring, assessment of air quality, establishment, maintenance and operational functioning of AAQMN including QA/QC procedures of reference methods for AQ monitoring, co-ordination of quality assurance programmes, reporting on national level and reporting to the EEA	<b>The needs for employment on data management and equipment maintenance tasks and on AQ modeling task</b> - 5 employees - 4 employees - 1 employee with shared responsibilities
<b>Accreditation body of Serbia (ABS) Laboratory department</b>	Ensuring the accuracy of measurements by accreditation of measurement methods	- 15 employees with shared responsibilities
<b>Provincial Secretariat for Urban Planning, Construction and Environmental Protection</b> - Department for Environmental Monitoring and Information System	AQ monitoring in local network and for providing information to the public and to the appropriate organizations, for preparation of AQ plans and short term action plans and for taking measures to attain the target values.	- 5 employees with shared responsibilities
<b>Local-self government</b>	AQ monitoring in local network and for providing information to the public and to the appropriate organizations, for preparation of AQ plans and short term action plans and for taking measures to attain the target values.	



## Strengthening administrative capacities



- **IPA 2007** Strengthening Administrative Capacities for Implementation of Air Quality Management System SR 07 IB EN 01 (2009-2012)  
Beneficiaries: Ministry, SEPA, autonomous province of Vojvodina, LSGs, PHIs
- **IPA 2008** " Assistance to Serbian Environmental Protection Agency as National focal point institution for cooperation with European Environmental Agency in strengthening the EIONET in Serbia"
- **IPA 2012** "Assistance to the Environmental protection Agency in establishing and maintenance of environmental integral monitoring system"
- **TAIEX workshops for LSGs** on air quality plans:
  - Workshop on the preparation of air quality plans (23-24 April 2009)
  - Workshop on the Implementation of air quality plans (12-13 April 2010)
- **TAIEX - ECRAN** Multi-beneficiary Regional Workshop on Air quality Directive (29 September - 1 October 2014)
- **ENVAP 2** - "Preparations for negotiations related to Serbia's EU accession process "

## Zones and agglomerations

- ▶ Zones and agglomerations are identified in accordance with Article 6 of Law on Air Protection, based on the air quality assessment.

ZONES	SRBIJA	2,998,110
	VOJVODINA	1,466,770
	KOSOVO AND METOHLIA* In accordance with United Nations Security Council Resolution 1244 and article 135 of Stabilisation and Association Agreement, data for this zone is not available	1,965,000
AGGLOMERATIONS	BEOGRAD	1,659,440
	NOVI SAD	341,625
	NIŠ	260,237
	BOR	48,615
	UŽICE	78,040
	KOSJERIĆ	12,090
	SMEDEREVO	108,209
	PANČEVO	123,414

Zones/agglomerations will be re-designated in order to make them more relevant or appropriate for air quality assessment.

## Assessment regime

- Preliminary air quality assessment in the Republic of Serbia was done in 2010 \*
- administrative district selected as a unit for the spatial assessment
- data from 2005-2009 (manual measurements) were used for AQ assessment
- assessment regime has to be determined based on data from the Automatic Monitoring Stations and zones and agglomerations have to be classified in relation to the assessment thresholds.

\* assisted by EU funded project

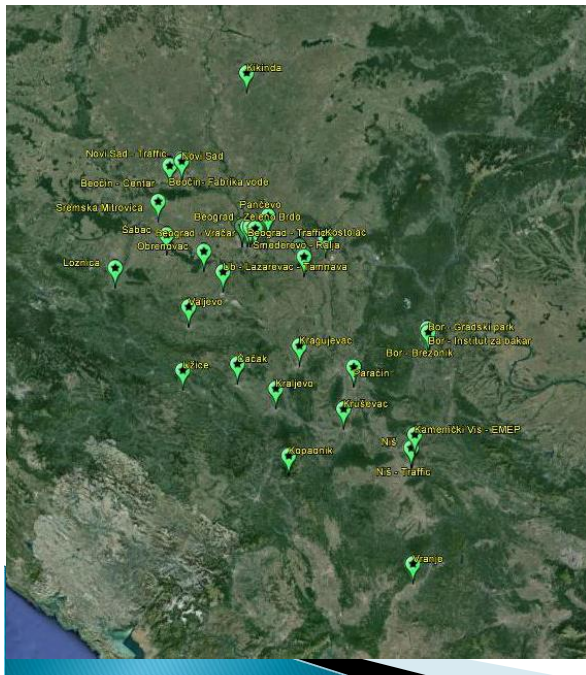


## National AQM Network

- ❖ **National Automatic monitoring network** (measurements with reference methods and non referent gravimetric method which is accredited).\*
- Consists of 36 AQM stations of SEPA and additional four AQM stations established after adoption of the National Air Quality Control Programme;
- SEPA AQM system have support from calibration laboratory, analytical laboratory and IT department;
- Accreditation of AQ calibration laboratory/AQ network is pending;
- Four AQMS of PHI Belgrade are also included in national AAQMN;
- In terms of assessment methods all equipment operates in the regime of fixed measurements.

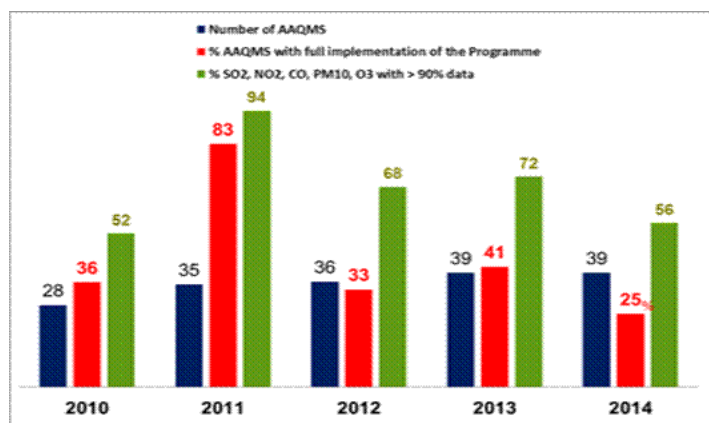
\* assisted by EU funded project





ZONE	SRBUA	Kostolac Loznica Sabac Kragujevac Valjevo Kraljevo Cacak Paracin Popovac Zajecar Krusovac K Vis Kopaonik Vranje
		S Mitrovica Kikinda Beocin centar
Agglomeration	Beograd	BGD Novi Beograd BGD S.Grad BGD Traffic BGD Vracar BGD P most BGD Z brdo Obrenovac centar
		Novi Sad Novi Sad Traffic Novi Sad Urban
		Nis Nis Traffic Nis Urban
		Bor Bor Brezonik Bor Institut Bor Gradski park Bor Krivelj
		Pancevo Pancevo Sodara
		Smederevo Smederevo Carina Smederevo Centar Smederevo Radinac Smederevo Rajla
	Uzice	Uzice
		Kosjeric
		Kosjeric
	Vranje	Vranje
		Vranje
		Vranje
	Kikinda	Kikinda
		Kikinda
		Kikinda

- Complete data sets for some station in National Automatic monitoring network are not available because of inconsistent financing flows for the maintenance and servicing support.



\*Source : Serbian Environmental Protection Agency

❖ **Manual monitoring network** (18 laboratories authorized for monitoring).

- Monitoring of air quality in the national sub-network of stations in urban areas, using manual methods at 32 measuring sites in 21 towns in Serbia;
  - Equivalency testing and field tests for non-reference methods have been partially done.
- Evaluation of National Air Quality Monitoring Network performed in 2011/2012\*.
- The system should be reassessed in a way that the minimum number of monitoring stations required per pollutant in each zone/agglomeration is set in accordance with Annex III, V and IX of CAFE Directive and Annex III of 4<sup>th</sup> Daughter Directive.

\* assisted by EU funded project



## Local Air Quality Monitoring Network of AP Vojvodina





## AQ assessment in the Republic of Serbia

		AIR QUALITY CATEGORY				
		2010	2011	2012	2013	2014
<div style="display: flex; flex-direction: column; align-items: flex-start;"> <div style="display: flex; align-items: center; margin-bottom: 2px;"> <div style="width: 10px; height: 10px; background-color: #90EE90; border: 1px solid black; margin-right: 5px;"></div> <span>X&lt;LV</span> </div> <div style="display: flex; align-items: center; margin-bottom: 2px;"> <div style="width: 10px; height: 10px; background-color: #FF0000; border: 1px solid black; margin-right: 5px;"></div> <span>LV&lt;X&lt;TV</span> </div> <div style="display: flex; align-items: center;"> <div style="width: 10px; height: 10px; background-color: #800080; border: 1px solid black; margin-right: 5px;"></div> <span>X&gt;TV</span> </div> </div>	ZONES					
	SRBLJA	II	I	I	I	I
	VOJVODINA	II	I	I	I	I
AGGLOMERATIONS	BEOGRAD	III (PM <sub>10</sub> )	III (PM <sub>10</sub> , NO <sub>2</sub> )	III (PM <sub>10</sub> , NO <sub>2</sub> )	III (PM <sub>10</sub> , NO <sub>2</sub> )	II (PM <sub>10</sub> , NO <sub>2</sub> )
	NOVI SAD	III (NO <sub>2</sub> )	III (NO <sub>2</sub> )	I	I	I
	NIŠ	III (PM <sub>10</sub> )	III (PM <sub>10</sub> )	II	I	I
	BOR	III (SO <sub>2</sub> )	III (SO <sub>2</sub> )	III (SO <sub>2</sub> )	III (SO <sub>2</sub> )	III (SO <sub>2</sub> )
	UŽICE		II	II	III (PM <sub>10</sub> )	III (PM <sub>10</sub> )
	KOSJERIĆ		III (PM <sub>10</sub> )	III (PM <sub>10</sub> )	II	I
	SMEDEREVO		III (PM <sub>10</sub> )	III (PM <sub>10</sub> )	III (PM <sub>10</sub> )	III (PM <sub>10</sub> )
	PANČEVO		III (PM <sub>10</sub> )	III (PM <sub>10</sub> )	I	I
	CITY VALJEVO on territory of zone Serbia			III (PM <sub>10</sub> )	III (PM <sub>10</sub> )	III (PM <sub>10</sub> )
	CITY KRAGUJEVAC on territory of zone Serbia					II (PM <sub>10</sub> )
	CITY SREMSKA MITROVICA on territory of zone Vojvodina					II (PM <sub>10</sub> )

\*Source : Serbian Environmental Protection Agency

## AQ modeling

AQ modeling has not been sufficiently used for AQ assessment and AQ planning.

- 1) Pilot study: Air quality modelling of SO<sub>2</sub> in Belgrade territory – USA EPA dispersion model AERMOD were used;
- 2) Study: “Analysis of the traffic impact on the emissions of NO<sub>2</sub> and PM<sub>10</sub> in Novi Sad and staff training in the city administration” - PROKAS dispersion model has been used.

It is necessary to strengthen human capacities in the field of AQ modeling.

\* assisted by EU funded project



- The Air Quality Plan for agglomeration „Bor” is adopted in 2013 and it introduces measures to solve high SO<sub>2</sub> concentrations.

- Status of preparation of Air Quality plans:

Agglomeration	Activities
Beograd*	Adoption of AQ plan is expected by the end of 2015.
Novi Sad*	Lead institution for AQ Plan preparation was selected in the public procurement procedure and the preparation of AQ Plan has started. Agglomeration Novi Sad had I category of Air quality in 2012, 2013 and 2014 (concentrations below limit values)
Pančevo	Preparation of AQ has started in 2014.
Kosjerić	Preparation has not started yet due to difficulties with securing the funding.
Smederevo	Activities on development of AQ Plan for agglomeration Smederevo have started in September 2014. Funding is secured in the local budget.
Užice	Team for preparation of AQ Plan for agglomeration Užice has been constituted at the end of 2014.
City Valjevo on territory of zone Serbia	Preparation of AQ Plan has not started yet but some of activities are finalized or ongoing and will have positive impact on air quality: <ul style="list-style-type: none"> <li>- Strategy on local sustainable development (2010),</li> <li>- Study on traffic in the town for 5 years period (2013),</li> <li>- extension of network covered by district heating system with the aim to reduce the percentage of pollution with domestic heating.</li> </ul>

\* Assisted by EU funded project

## Air Protection Strategy



**Development of Air Protection Strategy was planned within IPA 2014 project.**

### **Initiated activities:**

- ✓ 08.07.2015. - The public procurement procedure: Providing service of collecting data and preparing the basis for drafting Air Protection Strategy, conducted by the Ministry of Agriculture and Environmental Protection;
- ✓ the contract has been signed with the selected legal entity.



## Informing the public

**SEPA, autonomous province and local self-government units** are responsible for providing information to the public and to the appropriate organizations.

AQ data are available :

[http://www.sepa.gov.rs/ams/xajax\\_data/eas\\_kvalitet\\_vazduha\\_1.php](http://www.sepa.gov.rs/ams/xajax_data/eas_kvalitet_vazduha_1.php)



- ✓ Hourly values (real time) from National network are also available
- ✓ Hourly values are available and from following local automatic monitoring stations network
  - Autonomous province of Vojvodina <http://www.ekourb.vojvodina.gov.rs/>
  - Belgrade (real time) <http://www.beoeko.com/>
  - Pančevo (real time) <http://monitoring.pancevo.rs/monitoring/>

SEPA also informs about exceedances of alert threshold

<http://www.sepa.gov.rs/index.php?menu=320&id=2014&akcija=showExternal>

## Reporting

- The Annual Report on the state of air quality in the Republic of Serbia is prepared and published by the SEPA (2010-2014).

<http://www.sepa.gov.rs/download/VAZDUH2014.pdf>

<http://www.sepa.gov.rs/download/VAZDUH2013.pdf>

<http://www.sepa.gov.rs/download/VAZDUH2012.pdf>

[http://www.sepa.gov.rs/download/Izvestaj\\_vazduh\\_2011.pdf](http://www.sepa.gov.rs/download/Izvestaj_vazduh_2011.pdf)

[http://www.sepa.gov.rs/download/Izvestaj%20\\_%20vazduh\\_2010.pdf](http://www.sepa.gov.rs/download/Izvestaj%20_%20vazduh_2010.pdf)

- **e-Reporting toward EIONET**

**SEPA** reported information for SO<sub>2</sub>, NO<sub>2</sub>, NO, NO<sub>x</sub>, CO, PM<sub>10</sub> and ozone for 2013 calendar year on:

- ✓ Assessment Methods metadata (**D**)
- ✓ Primary validated assessment data – measurements (**E1**)

SEPA is also involved in near real time ozone data exchange.

### **Further activities**

- Re-designation of zones and agglomerations and determination of assessment regime
- Reassessment of AQ Monitoring System
- Improvement of use of modeling techniques in AQ planning and AQ assessment
- Development of the Air Protection Strategy \*
- Development of the Implementation Plan for Air Framework Directive (it will contains measures which are necessary to be taken in order to ensure compliance with air quality standards at the time of accession to the EU) \*
- Strengthening of capacities regarding obligation of e-Reporting and AQ modeling (additional support SEPA expect from EEA )

\* It will be assisted by EU funded project.



**Thank you for your attention!**



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