

AIR QUALITY MONITORING AND ASSESSMENT



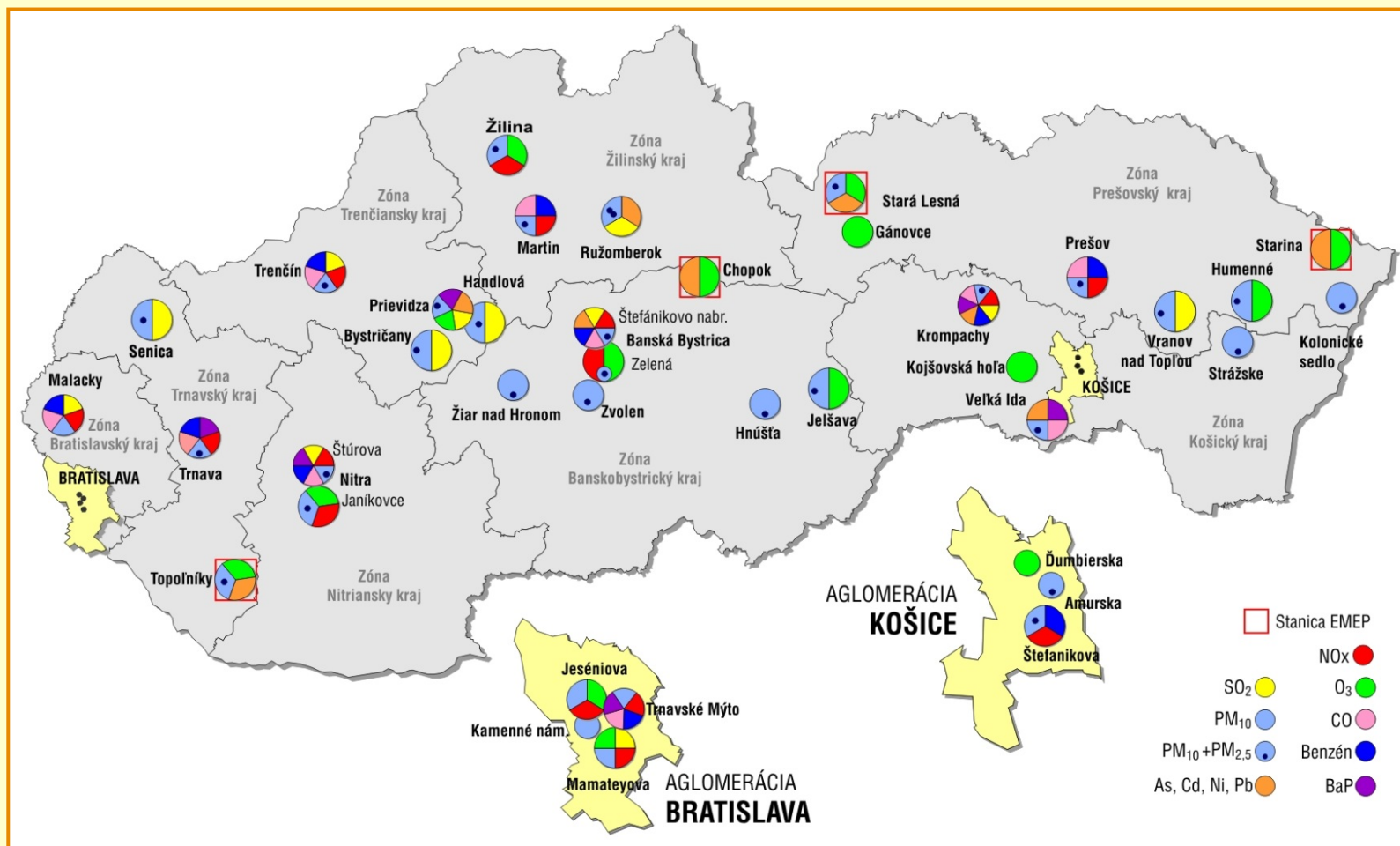
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Air quality activities today and short term perspective

- operation of national AQ Monitoring Network *accreditation*
- administration of national AQ DB system *soft application*
- validation of AQ data *flagging, test of equivalence PM_{10}*
- elaboration of AQ assessment reports *s. apportionment*
- preparation of AQ reports to the EC, EoI *IPR 2011/850/ES*
- dissemination of information on AQ to the public *PM_{10}*
- operation of Ozone warning system *PM_{10} , NO_2 , SO_2*

National air quality monitoring network – 2011

38 stations - 31 urban , 4 rural (EMEP) and 3 ozone



Measurement programme

Bratislava, Kosice ag. +8 zones/Bratislava ag.+ rest of SK

- PM₁₀ fraction (32 stations TEOM, FDMS module)
- PM_{2,5} fraction (28 stations TEOM, FDMS module)
- NO/NO₂/NO_x (15 stations)
- SO₂ (12 stations)
- CO (10 stations)
- Benzene (10 stations)
- O₃ (15 stations all to EEA web)
- Heavy metals **Pb, As, Cd, Ni** (9 stations)
- **Benzo(a)pyrene** (6 stations)

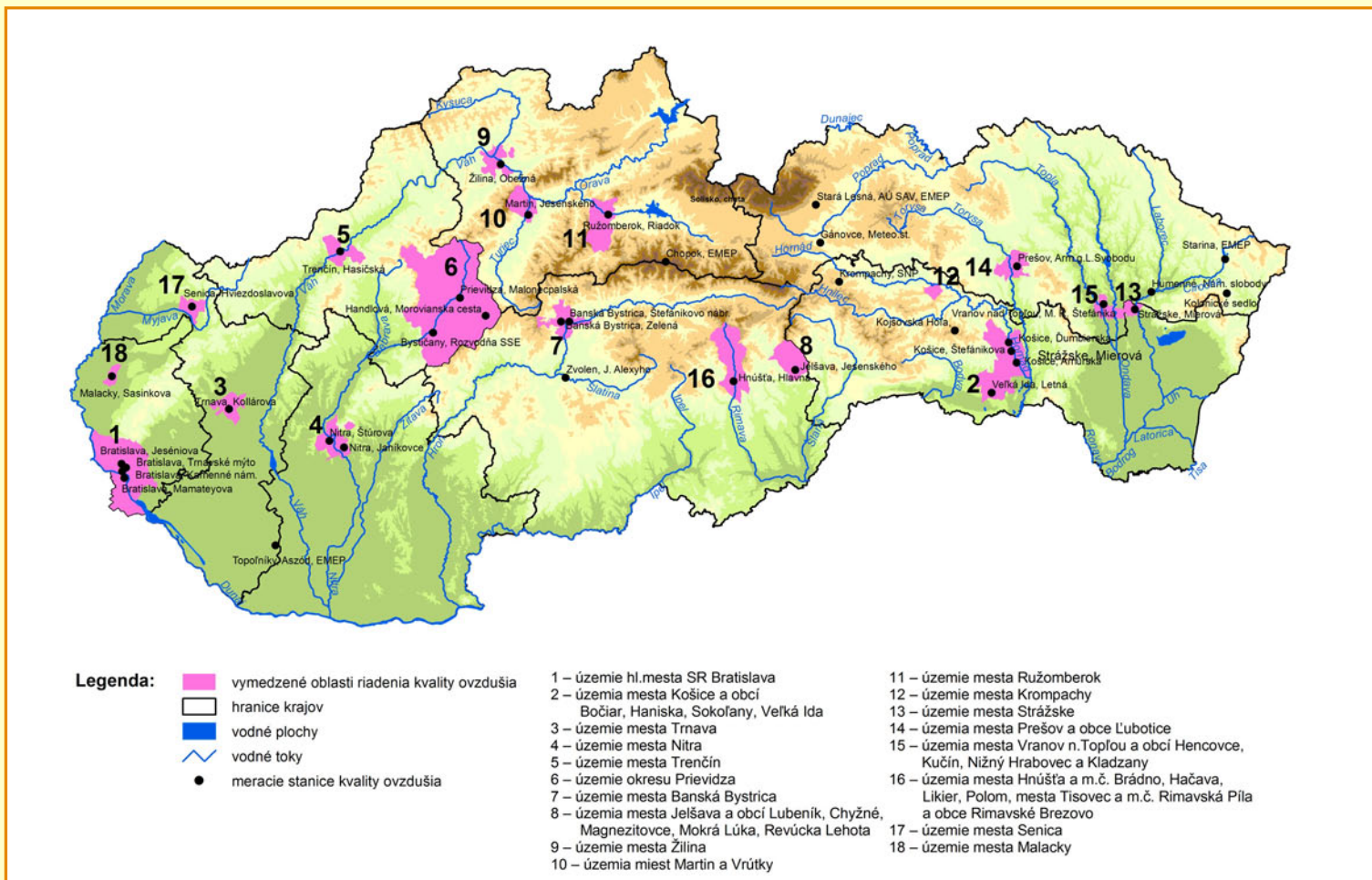
Air quality assessment 2011

PM is the biggest problem in Slovakia for a long time

- **PM₁₀ pollution is the major AQ long term problem especially in winter 28 U stations > dLV in SR**
- **PM_{2.5} LV 28 $\mu\text{g}\cdot\text{m}^{-3}$ > 8 st. TV 25 $\mu\text{g}\cdot\text{m}^{-3}$ > 18, $\sum 28\text{st}$**
- **NO₂ only traffic sites above LV 3 max 56 $\mu\text{g}\cdot\text{m}^{-3}$**
- **SO₂ only Trencin zone AT last 3 y not occurred**
- **Benzene, CO below LAT**
- **Heavy metals Pb, As, Cd, Ni – not completed**
- **Benzo(a)pyrene – will probably exceed LV in 2012**
- **O₃ a/ TV 120 $\mu\text{g}\cdot\text{m}^{-3}$, AT 180 $\mu\text{g}\cdot\text{m}^{-3}$ b/ AOT40**

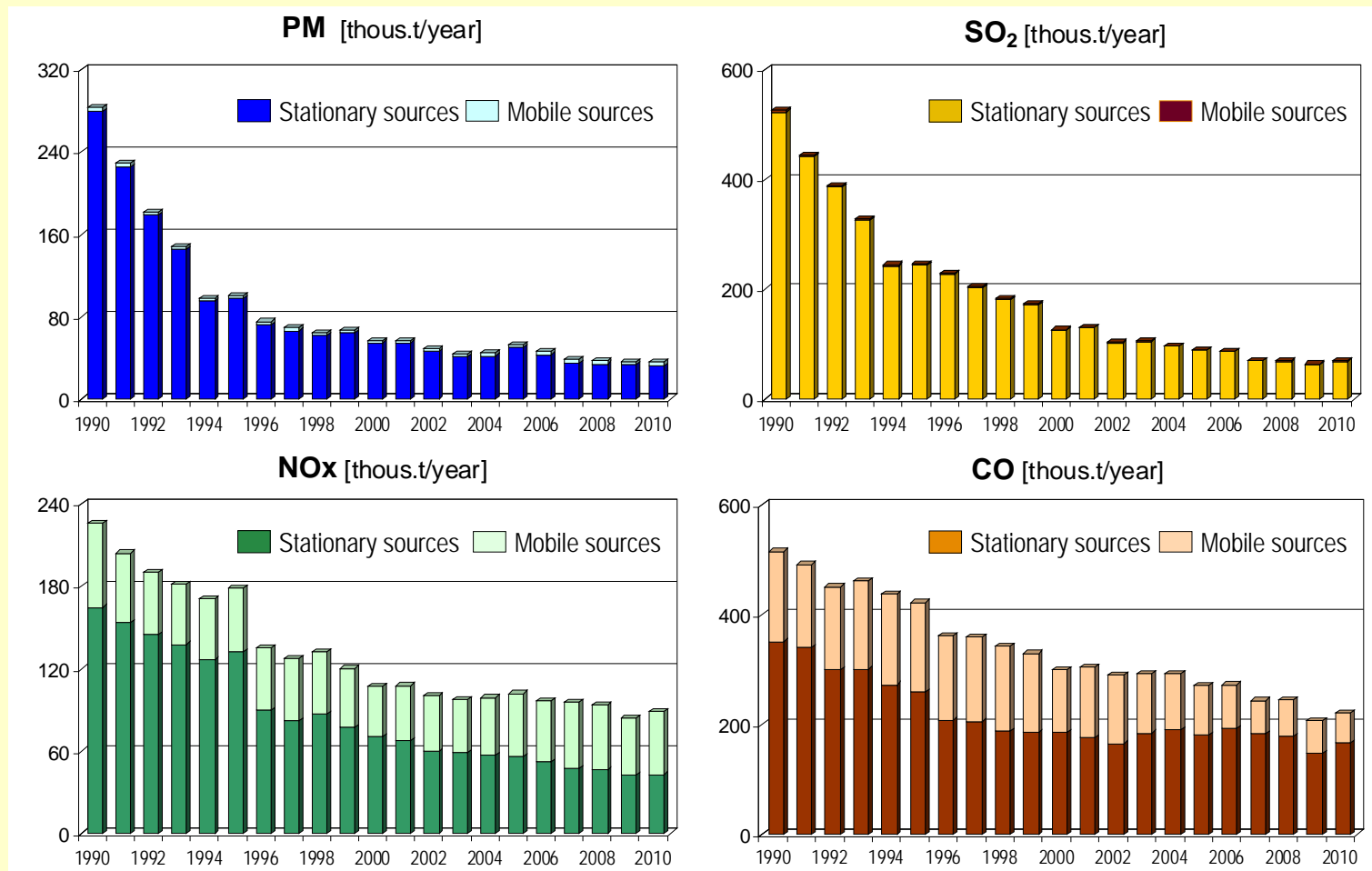
Air quality assessment - 2012

AQ > LV - ► management areas



Decrease of emissions after year 1990

PM – 7,5x; SO₂ – 8x; NO_x – 2,5x; CO – 2,5x



Historical highest AQ occurred within period 1979 - 1989 and comparison to the year 2011

Pollutant	Maximum in whole SR	Present level	Sampling time	Decreases
	1971 – 1989	2011/2010		
SO ₂ [µg.m ⁻³]	140 Prievidza – (1981)	10 Prievidza	year	14x
PM ₁₀ [µg.m ⁻³]	217** Lovča – (1981)	51 Ružomberok	year	4x
NO ₂ [µg.m ⁻³]	120 BA Šancova – (1979)	56 B. Bystrica	year	2x
CO [µg.m ⁻³]	15 000 BA Kamenné nám. – (1977)	3030 Krompachy	8h max	4x
Pb [ng.m ⁻³]	652 Krompachy – (1987)	88 Krompachy	year	7x
As [ng.m ⁻³]	220 Nováky – (1975)	3,3 Ružomberok	year	50x
Ni [ng.m ⁻³]	61 Krompachy – (1987)	2 Veľká Ida	year	30x
Cd [ng.m ⁻³]	7.5 Krompachy – (1987)	1,5 Krompachy	year	5x

**Recalculated from TSP, PM₁₀ = TSP/1.2

**Thank you for your
time 😊**