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KIKINDA / BANATSKI VELIKO SELO AIR QUALITY MONITORING REPORT

TO:
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Results of the Air Quality Monitoring Campaign in KIKINDA / BANATSKO VELIKO SELO

Joint Campaign

Location: Kikinda (Home of high school students) and Banatsko Veliko Selo
Start on: 11 august 2011 and ended in 16 august 2011
Experts for Romanian team: Francisc Popescu, Nicolae Lontis, Virgil Stoica, Dorin Lelea
Experts for Serbian team: Milan Pavlovic, Slobodan Jankovic, Aleksandar Djuric, Aleksandar Pavlovic, Milan Nikolic, Branko Davidovic

1. Overview of the Kikinda monitoring site:

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2. Overview of the Banatski Veliko Selo monitoring site:

3. Results obtained during KIKINDA AQM campaign:

The AIRPOINTER was used in the Kikinda AQM campaign. The instrument characteristics, performances and principles of operations were described in previous reports. In the next two figures the concentrations measured for relevant air pollutants are presented.

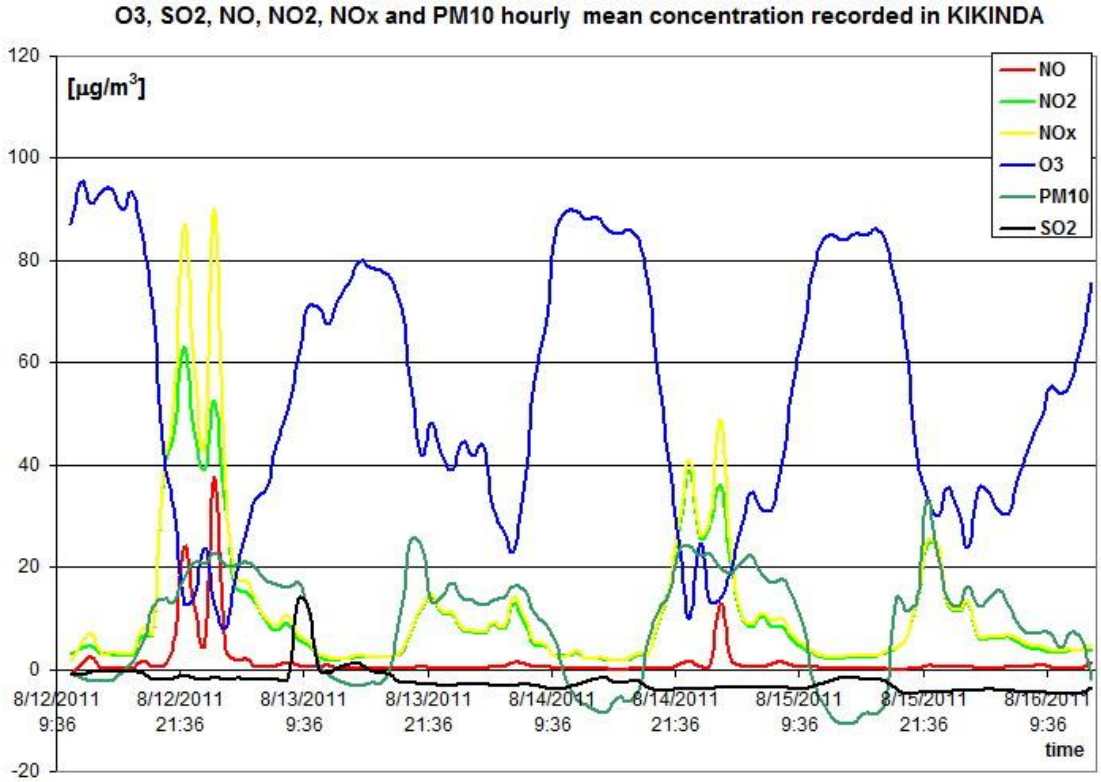

Fig 1. Hourly mean values recorded for NO, NO2, NOx, O3, SO2 and PM10 in Kikinda

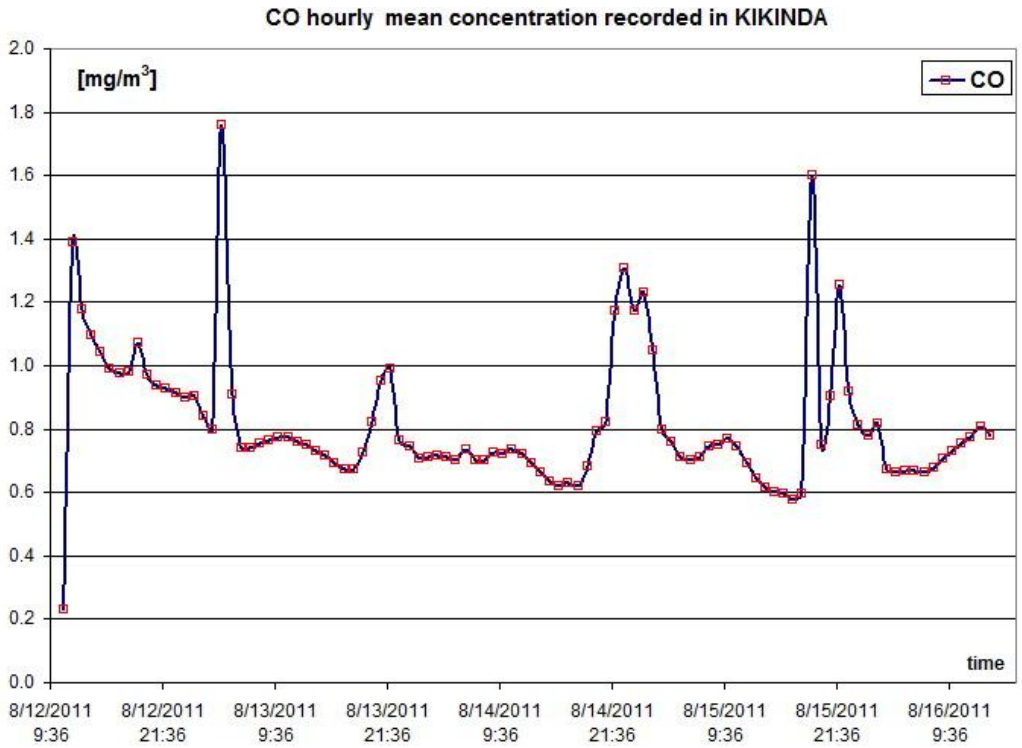

Fig 2. Hourly mean values recorded for CO in Kikinda

4. Results obtained during Banatski Veliko Selo AQM campaign:

The mobile laboratory of UPT was used in the Banatsko Veliko Selo AQM campaign. The instrument characteristics, performances and principles of operations were described in previous reports. In the next figures the concentrations measured for relevant air pollutants are presented.

Table 1. Daily mean values for relevant pollutant concentration in ambient air

Time	O_3	SO_2	NO	NO_2	NO_x	CH_4	NMHC	THC	CO	CO2	PM10 LSV3	PM10 dustrack
	µg/m^3	µg/m^3	µg/m^3	µg/m^3	µg/m^3	mg/m^3	mg/m^3	mg/m^3	mg/m^3	ppm	µg/m^3	µg/m^3
08/11/11	27.42	3.32	6.48	9.59	16.07	4.42	0.53	4.95	0.25	368.59	9.884	9.47
08/12/11	34.10	3.37	5.09	11.33	16.42	4.41	0.44	4.85	0.21	386.95	11.073	10.97
08/13/11	29.03	2.74	4.46	12.23	16.69	4.28	0.23	4.51	0.25	380.36	14.210	15.07
08/14/11	35.15	2.65	3.63	11.88	15.50	4.12	0.18	4.31	0.28	377.62	15.006	14.74
08/15/11	35.31	2.73	2.71	14.16	16.88	4.11	0.17	4.28	0.34	389.06	12.957	14.26
08/16/11	26.47	2.54	3.56	13.65	17.21	4.28	0.25	4.53	0.36	413.49	14.061	14.71

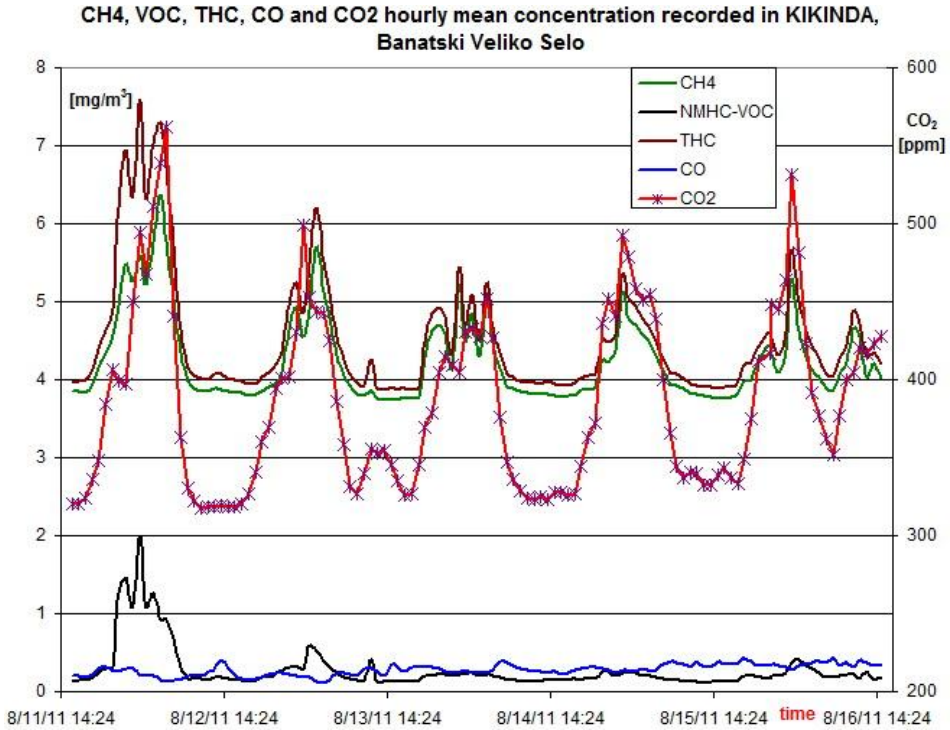

Fig 3. Hourly mean values recorded for CO2, CH4, NMHC, THC and CO in Banatsko Veliko Selo

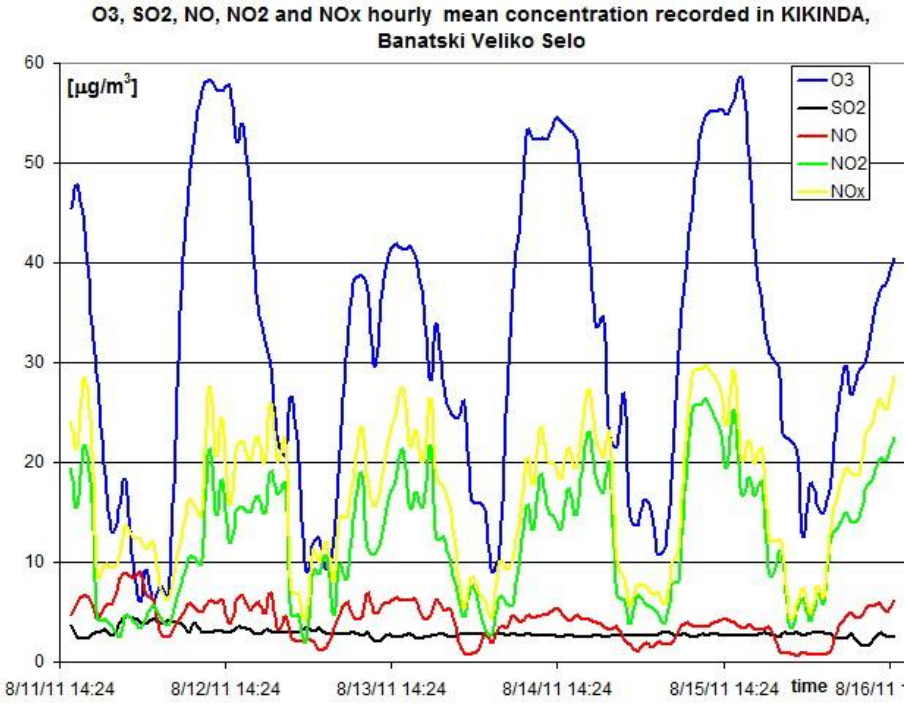

Figure 4. Hourly mean values recorded for O_3, SO_2, NO, NO_2 and NOx in Banatsko Veliko Selo

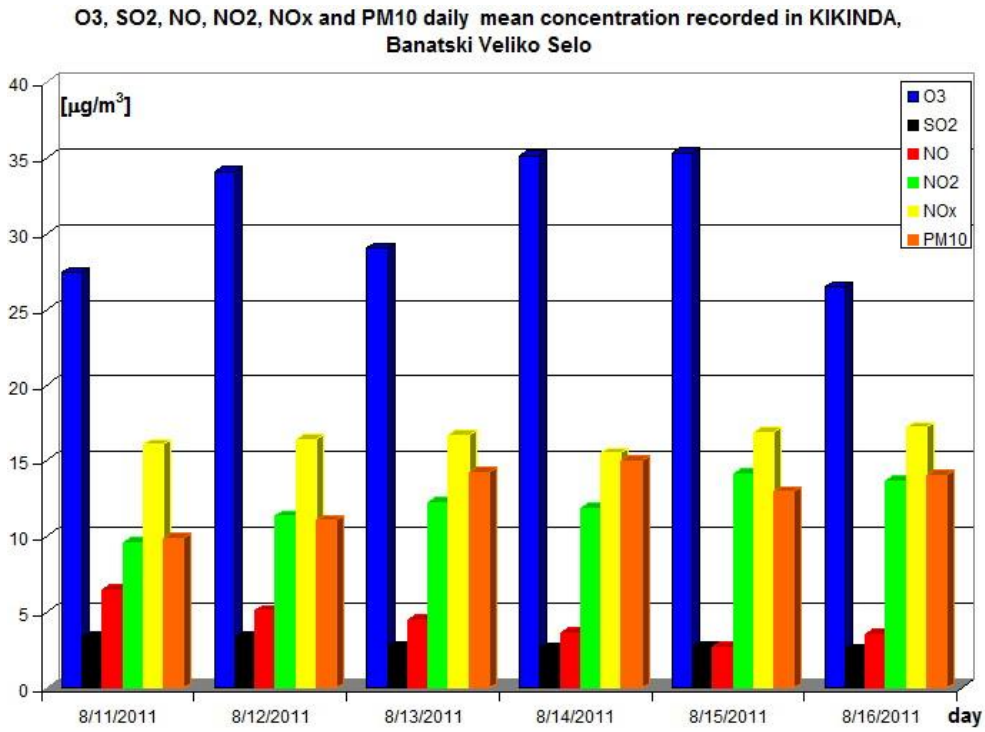

Figure 5. Daily mean values recorded for O_3, SO_2, NO, NO_2, NOx and PM10 in Banatsko Veliko Selo

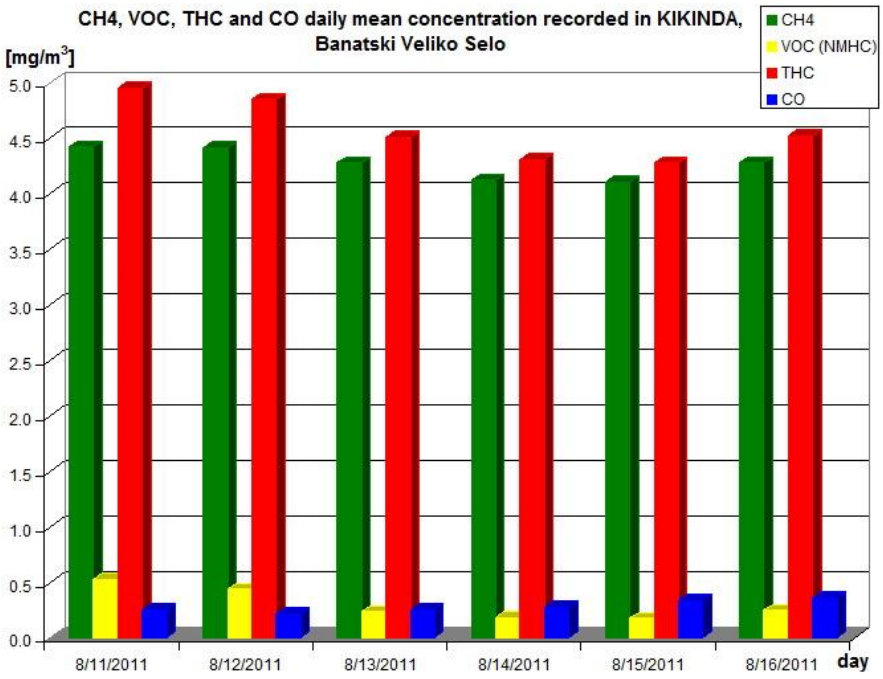

Figure 6. Daily mean values recorded for CH4, NMHC, THC and CO in Banatsko Veliko Selo

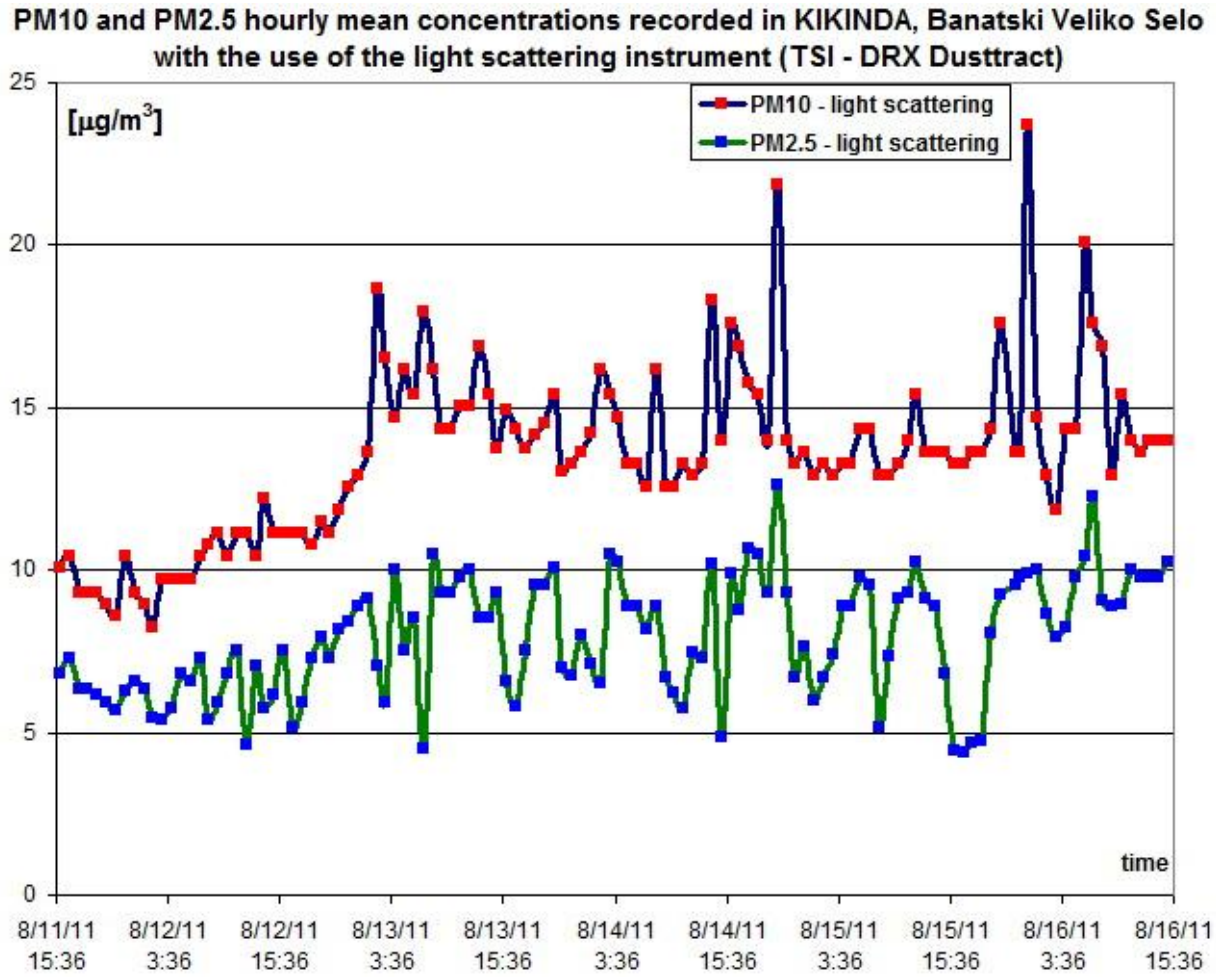

Figure 6. Hourly mean values recorded for PM10 and PM2.5 in Banatsko Veliko Selo with Dustrack (light scattering)

Table 2. EU air quality standards

Pollutant	***Concentration***	***Averaging period***	***Permitted exceedences each year***
Sulphur dioxide (SO2)	350 µg/m3	1 hour	24
	125 µg/m3	24 hours	3
Nitrogen dioxide (NO2)	200 µg/m3	1 hour	18
	40 µg/m3	1 year	n/a
PM10	50 µg/m3	24 hours	35
Carbon monoxide (CO)	10 mg/m3	Maximum daily 8 hour mean	n/a
Ozone (O3)	120 µg/m3	Maximum daily 8 hour mean	25 days averaged over 3 years

**Under the new Directive the member State can apply for an extension of up to five years (i.e. maximum up to 2015) in a specific zone. Request is subject to assessment by the Commission. . In such cases within the time extension period the limit value applies at the level of the limit value + maximum margin of tolerance (* 48 µg/m3 for annual NO2 limit value).
***Under the new Directive the Member State was able to apply for an extension until three years after the date of entry into force of the new Directive (i.e. May 2011) in a specific zone. Request was subject to assessment by the Commission. In such cases within the time extension period the limit value applies at the level of the limit value + maximum margin of tolerance (35 days at 75*µg/m3 for daily PM10 limit value, 48 µg/m3 for annual Pm10 limit value).

5. Conclusions

In the case of the AIRPOINTER the data recorded for SO2 and VOC have been not validated due to large amount of negative values recorded for SO2. In the case of VOC (PID) the data recorded showed no variation so that the sensor is most probably out of order.
The rest of the data are validated, NO/NO2/NOx pointed two episodes with high concentrations and the O3 concentrations are also high. However, none of the recorded values are above the admissible EU limits.
In the case of Banatsko Veliko Selo AQM campaign the recorded values are low for all relevant pollutants and the site can be considered a "background site" and is relevant for background air pollution in the area.

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