



Geographical **I**nformation **P**rocessing for
Environmental **P**ollution-**R**elated **S**ecurity
within **U**rban **S**cale environments

**Title: Institutional and Legislative Set up
for Air Protection in Monrgeneto**

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AIR AS MEDIUM OF ENVIRONMENT

- The air is the basic medium of the environment
- The most frequent pollutants are carbon monoxide (CO), sulphur dioxide (SO₂), nitrogen dioxide (NO₂), carbon. The specific air pollutants are: Lead (Pb), Cadmium (Cd), Manganese (Mn), Arsenic (As), Nickel (Ni), Chromium (Cr), Zinc (Zn) and other heavy metals and organic compounds that are products of different chemical reactions



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AIR AS MEDIUM OF ENVIRONMENT

- The most frequent sources of pollutions are: thermoenergetic objects (thermopower plants, heating plants), oil refineries, combustion products in households, industrial individual boiler units, transport and waste disposal sites, etc.
- WHO data: death of more then 2 mil people per year is caused by air pollution



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MEAs

- **CLRTAP and 4 related protocols**
- **Vienna Convention and Montreal Protocol**
- **UNFCCC and Kyoto Protocol**



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EU legal frame

EU: first leg works on immission (AQ legislation) and the other works on reducing emission from different sources.

Immission leg

Air Quality Framework directive and **The Daughter Directives**

Emission leg

National emission ceilings directive -NEC directive 2001/81/EZ emissions from stationary (including industrial sector and IPPC) and mobile sources (non road emission, fuel quality and road emission)



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EU STRATEGIC DOCUMENTS

- Community strategy on combating acidification (1997)
- Program for clean air in Europe (2001)
- Sixth Action EU Environmental Action Plan for the period 2002-2012 (2002)
- Thematic Strategy on Air Pollution (2005)

The DiRECTIVE 2008/50/EC European council and Parliament on the air quality and cleaenr air in Europe-is one of the key measures outlined in Themtjc Strategy the 2005



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The measures defined by the Law as to improve air quality include:

- regulation for emissions of pollutants from stationary and mobile sources of pollution,
- prescribing the allowed amount of certain pollutants in certain products,
- reduce emissions of greenhouse gases,
- gradually reducing the use of substances that deplete the ozone layer, and
- other measures to prevent and reduce pollution and establish accountability for implementing the measures



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Law on air protection

The law provides for the adoption of 17 by the regulations that will detail the:

- The types of pollutants and air quality standards
- Establishing of the zones of air quality in the territory of Montenegro and the national network to monitor air quality
- Emission limit values from stationary and mobile sources of pollution
- Fuel quality
- limit values for the content of polluting substances in certain products
- Monitoring greenhouse gases
- National annual emissions of certain pollutants



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Law on air protection

The deadline for making all subordinate legislation is end of 2013.

Adopted regulations are:

- Υ Regulation on determining the types of pollutants, limit values and other air quality standards ("Off. Gazette of Montenegro", no. 45/08)
- Υ Regulation on limit values for pollutants content in liquid fuels of petroleum origin ("Off. Gazette of Montenegro", no. 39/10)
- Υ Regulation on the establishment of network of air quality monitoring ("Off. Gazette of Montenegro", no. 44/10)



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Law on air protection

The regulations that was adopted by the end of 2010:

γ Regulation on determining the location of measuring points for air quality monitoring

γ Regulation on limit values for emissions of pollutants from stationary sources



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Italian support

Techne Consulting actions:

- according to LRTAP and UNFCCC is proceeding with emission inventories compilation related to the period 1990 – 2009
- technical assistance for the harmonization of national legislation to the European one is going on, together with training sessions with the Environment Protection Agency of Montenegro (EPA) personnel
- the software for projections and air quality modelling will be supplied to the Montenegrin Ministry
- organization of emissions data to be sent in the frame of EIONET priority data flow, in the format required by the European Environment Agency (EEA)



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AIR MONITORING

The continuous measurements were carried out by semi-automatic and automatic stationary stations , and occasionally measurements have been done by mobile automatic stations at busy intersections in all major town.

In accordance with the obtained results it can be concluded that the air in Pljevlja, Niksic and Podgorica is loaded with pollutants from industry, transport and households, while in other urban areas monitored pollutants were within the legal regulations.

The main parameters that are measured and monitored are: SO₂, NO₂, PM₁₀ i O₃

In Montenegro, the main problems with the quality of air originating from industry, traffic, utility problems (inadequate treatment of solid waste and the existence of "wild" dumps), increased use of solid and liquid fuel during the heating seas



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AIR MONITORING

Industry

The technological processes in the Aluminium Plant Podgorica, Niksic Steel and Power Plant Pljevlja, cause the greatest emissions of pollutants into the air, as indicated by the results of measurements

Traffic

Deterioration of air quality due to the use of motor vehicles is one of the biggest problems of urban areas, which is especially evident in the smaller cities and towns in the coastal municipalities during the tourist season.

Utility problems (landfill)

The existence of illegal landfills (dumps), and inadequate technical solutions the city landfill

The use of fuel for heating purposes

District heating, urban, industrial and individual furnaces, household, all facilities, institutions a source of pollutants emissions into the air, especially in winter, during the heating season.



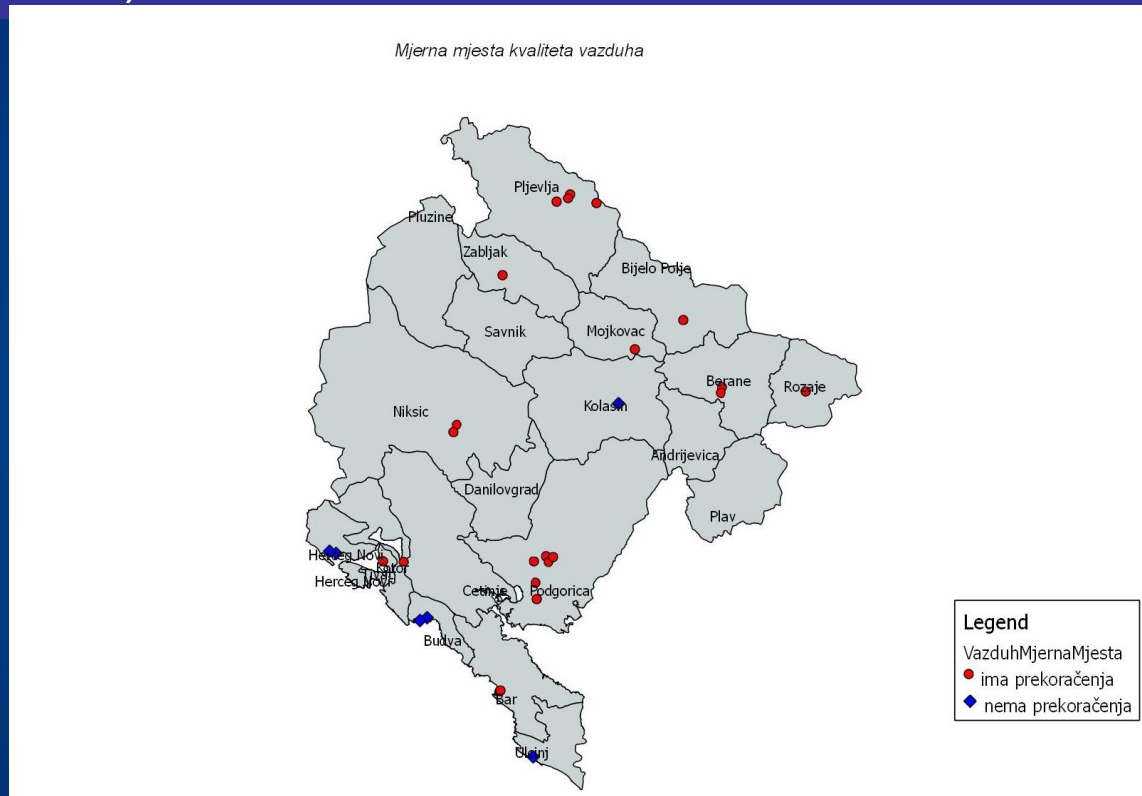
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AIR MONITORING

The measurement locations for monitoring of the air quality
(the source: EPA)



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Thank you

Questions, Suggestions?



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