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MARIBOR, 18. - 19. SEPTEMBER 2013

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# Air Quality Management Plan for Maribor

Brigita Čanč, Suzana Prajnc, Živa Bobič Červek,  
City municipality of Maribor, Slovenia



**Naložba v vašo prihodnost**  
Operacijo delno financira Evropska unija  
Evropski sklad za regionalni razvoj



**Investition in Ihre Zukunft**  
Operation teilweise finanziert von der Europäischen Union  
Europäischer Fonds für regionale Entwicklung

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# Plan preparation

- lead by Ministry of agriculture and environment
- beginning in November 2011  
(also for the municipalities Ljubljana, Celje, Novo mesto, Murska Sobota and region Zasavje)
- appointment of a working group in Maribor in February 2012:
  - subgroup for efficient energy use and renewables
  - subgroup for transport and spatial planning

# Plan components

## 1. Normative part of the decision

- legal act
- city council takes note of it and it is adopted by the government

## 2. annex: plan

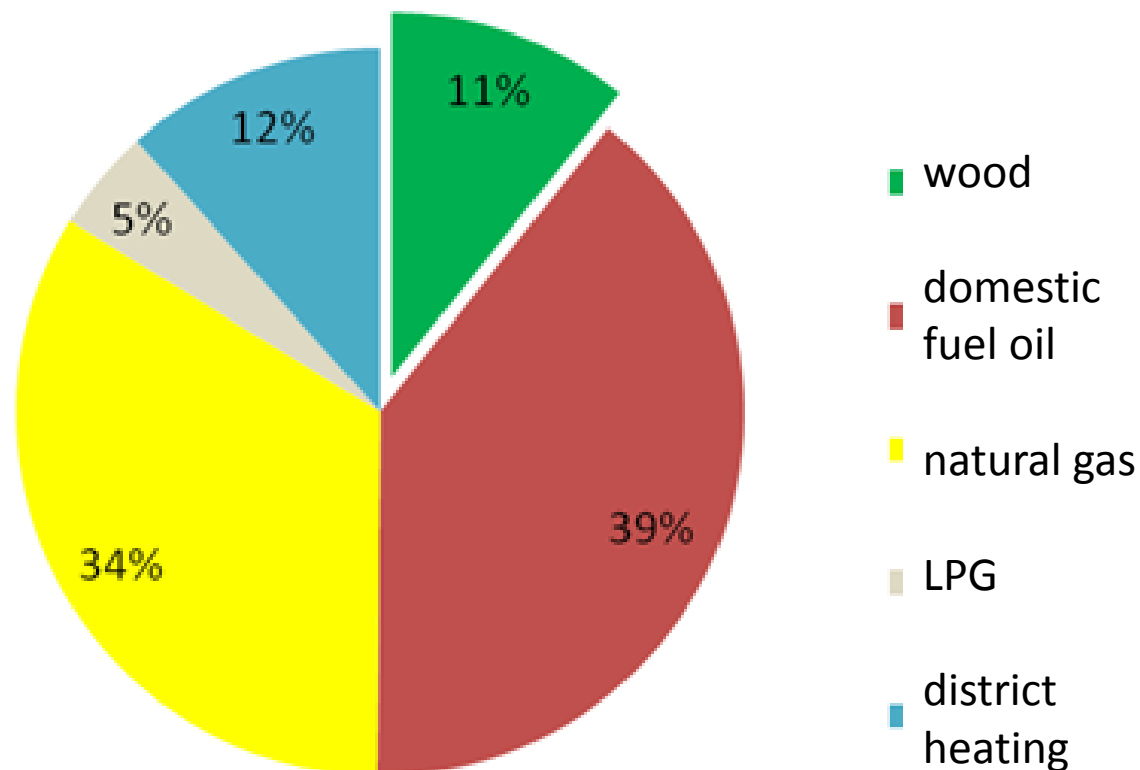
- list of measures
- responsible bodies
- foreseen costs
- city council approves with it and government adopts it

# Normative part

Specifies the following:

- area of implementation of measures which is classified according to the level of the highest pollution of ambient air with PM<sub>10</sub> based on the *Regulation on area definition and classification, on agglomerations and subareas regarding air pollution*
- measures for reducing air pollution with particles PM<sub>10</sub> for reaching conformity with thresholds for PM<sub>10</sub> with the goal to reduce harmful impacts on health and environment,
- changing the implementation effects, amendments and periods for implementing measures from the previous bullet point
- responsible bodies for preparation and implementation of measures for improving air quality, including tasks of the municipality and of the state, the obligations of polluters, obligations of public services for environment protection,
- detailed programme of measures for reducing ambient air pollution,
- programme for pollution cause analysis, monitoring of impacts of measures

### Means for heating power in Maribor, 2011

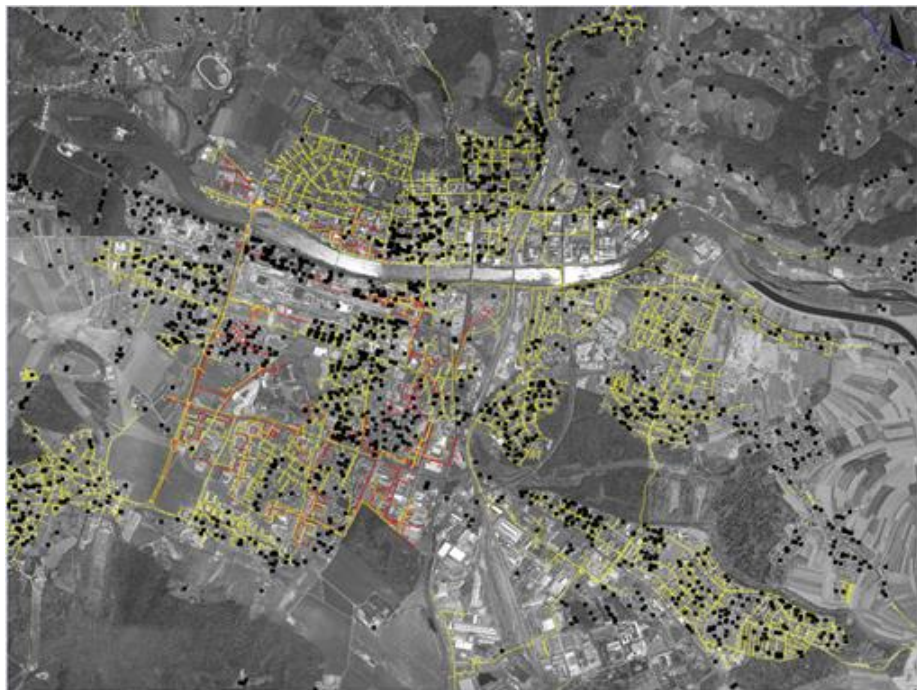


*Structure of energy consumption for heating in households according to thermal power in the municipality in 2011*

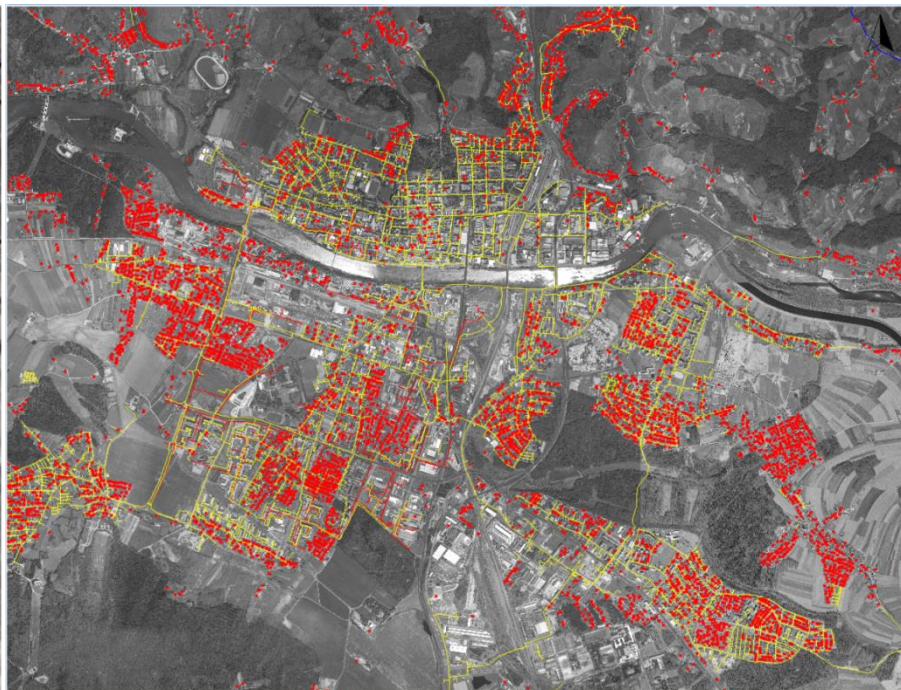


# Heating – combustion plants

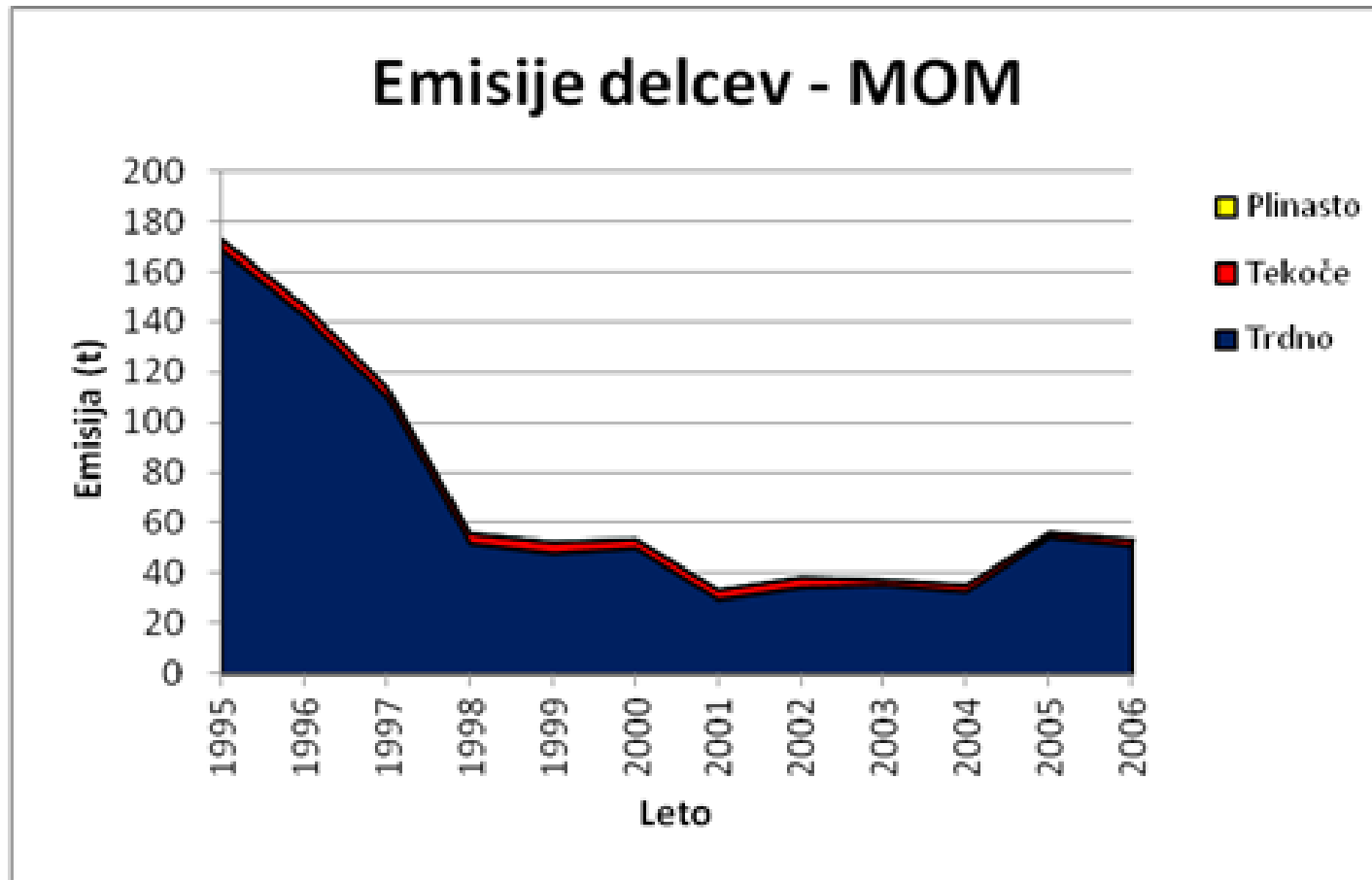
*solid fuels*



*liquid fuels*

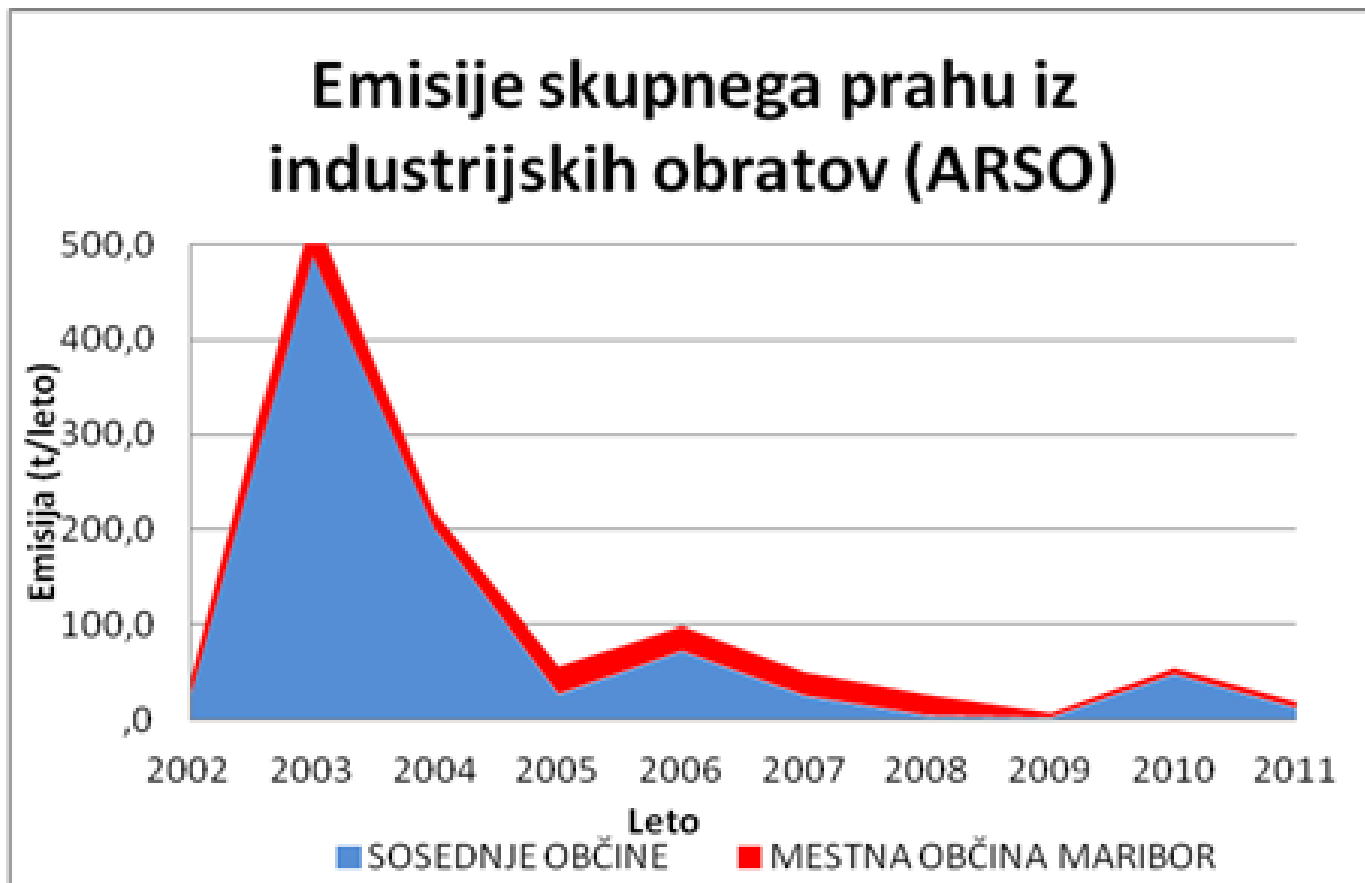


*Spatial distribution of combustion plants together with gas piping (yellow lines) and hot-water piping (red lines) networks in the municipality*



*Particle emissions from households in Maribor from 1995 till 2006*

# Industry



*Ambient air emissions of dust from industrial plants in the municipality of Maribor and neighbouring municipalities*



# Measures for encouraging efficient energy use and the use of renewable energy sources

- improved structure of energy sources in the system of district heating and operational optimisation
- enlargement and increase in consumption from the district heating system
- assessing possibilities and encouraging micro-systems for district heating on wood biomass in suburbs and villages
- enlarging and connecting objects to the gas pipeline network
- restoration of certain heating houses and combining connections for heating from these facilities

# Measures for household heating systems

- additional encouraging of replacement of existing heating systems with more suitable heating sources
- consulting citizens when setting up heating systems with low-emission pollutants
- establishment of a centre for wood biomass
- education and setting up a special website for a smart use of wood biomass as a fuel for residential heating
- conducting strict control over heating in domestic systems

# Horizontal measures

- cooperation with neighbouring municipalities on the area of heating in order to improve air quality in the region of Maribor
- local energy concepts
- informing and encouraging the reduction of heat losses of buildings
- detailed list of small residential heating plants
- energy manager

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# Traffic within the Decree on Air Quality Management Plan



dr. Marjan Lep, University of Maribor, Slovenia



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# General remarks on traffic and mobility in Maribor (problems):

1. General accessibility of marginal, vulnerable and non-driving groups is “endangered” (financially, physically, logical) – problem of public transport
2. Financing, mainly maintenance of the existing infrastructure
3. General impression – in the city offers “no quality” also due but foremost because of road traffic
4. Security: perceived (low); measured in accidents “solid”
5. Readiness to obey rules (low); parking fees (!)
6. Noise, (too)many people exposed to exceeded pollution
7. Ambient air quality – due to road traffic (particles)
8. Access on roads / traffic jams – parking capacities and price:
9. Access by rail: not existing within the city, regional and global



# Methods for reducing the harmful effect of road traffic to air quality?

Road traffic in cities (!) influences air quality, as it causes:

- direct emissions (»from the exhaust pipe«),
- particles due to car wear out,
- particles due to wear out of roadways and road gritting,
- particles (“from traffic and other means”) are spinning because of the suction effect of driving.

In order to improve ambient air quality we need to act on three levels:

- A** Reducing the range of kilometres per vehicle (!)
- B** Speed reduction and elimination of unnecessary acceleration/braking
- C** Improving fleet composition from the viewpoint of fuels, vehicle exhausts.

# A: Measures for reducing the range of kilometres per vehicle

Many measures are implemented to reach a reduction of the kilometres-range, which people spend for motorised individual transport means:

- i. Encouraging sustainable forms (indirect, pull)
- ii. Restrictive measures for cars (direct, push)

## B: Measures for the reduction of resuspension

For the reduction of resuspension we introduce:

- i. A more rational roadways management: new paving, cleaning, gritting, ... (indirectly)
- ii. Zones of traffic noise abatement, mostly 30km-zones and general speed reductions (directly and indirectly)

## **C: Measures for the reduction of direct emissions from motor vehicles**

For the reduction of direct emissions:

- i. Enforcement of restrictions: pedestrian zones, roadblocks, environmental zone (direct, push)
- ii. Encouraging the use of less polluting vehicles (direct, pull)

# Complementarity of measures?

- *We will/could achieve real effects only by meaningful use of all(!) action levels, although each in a restricted scope...*
- *Problem: isolated implementation of specific measure can “do more harm than good”.*

*For example :*

*Reduction of gritting and salting endangers safety ...*

*Excessive encouraging of »environmentally friendly vehicles« basically threatens the measure of reducing km per vehicle by transferring to walking, cycling and busses...*



# Decree

Art. 6:

*Obligation to prepare a SUMP:*

*“the preparers of the SUMP are committed to put air quality among the predominant goals!”*

Art. 7:

*Gives grounds for restricting the use of cars;  
but merely when thresholds are exceeded (wording: ...  
is advisable that)*

# Decree annex

- *Salting and gritting of roads ( B )*
  - *Environmental zone ( C )*
  - *Development of cycling infrastructure ( A )*
  - *Pubic bus transport ( A )*
  - *Construction of gas fuel stations ( C )*
  - *Zone 30 km/h (calming speed)*
  - *Arrangement of roundabouts (?)*
  - *Spreading the white zone (?)*
  - *Areas for pedestrians and areas of calming traffic ( A )*
- 
- *Is anything missing?*

# Thank you for your attention!