

*PMinter*

MARIBOR, 18. - 19. SEPTEMBER 2013

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# The Styrian Air Quality Management Plan 2011

**Maribor**  
**18./19.9.2013**



**Dr. Thomas Pongratz**



**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

*PMinter*



REPUBLIC OF SLOVENIA  
MINISTRY OF ECONOMIC DEVELOPMENT  
AND TECHNOLOGY



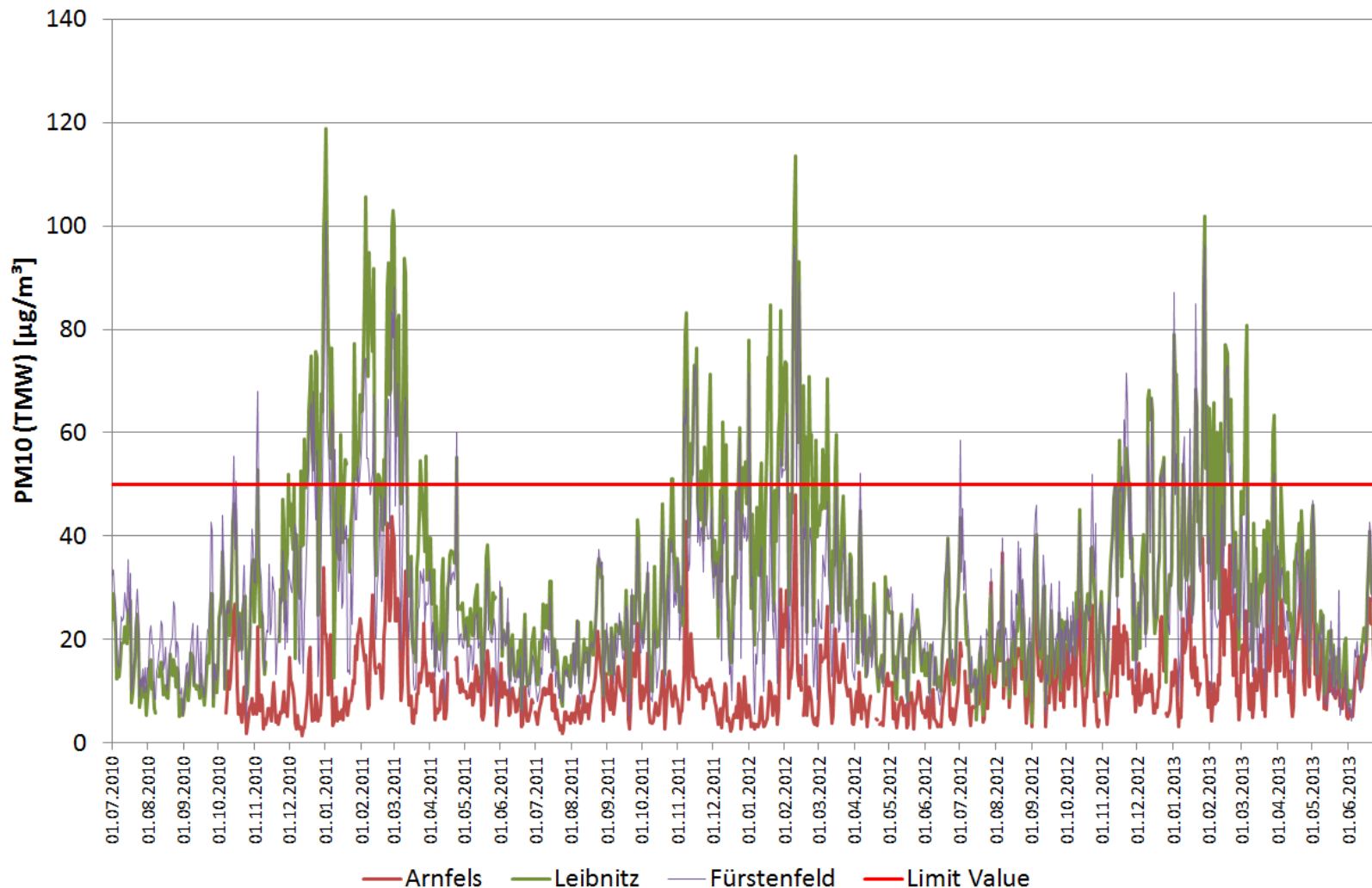
LAND KÄRNTEN



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- Air quality situation in Styria
- History of Air Quality management plans
- AQMP 2011
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# PM<sub>10</sub>-Concentrations in PMInter region



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# PM<sub>10</sub>-Concentrations in PMInter region

## PM<sub>10</sub>-Exceedance days

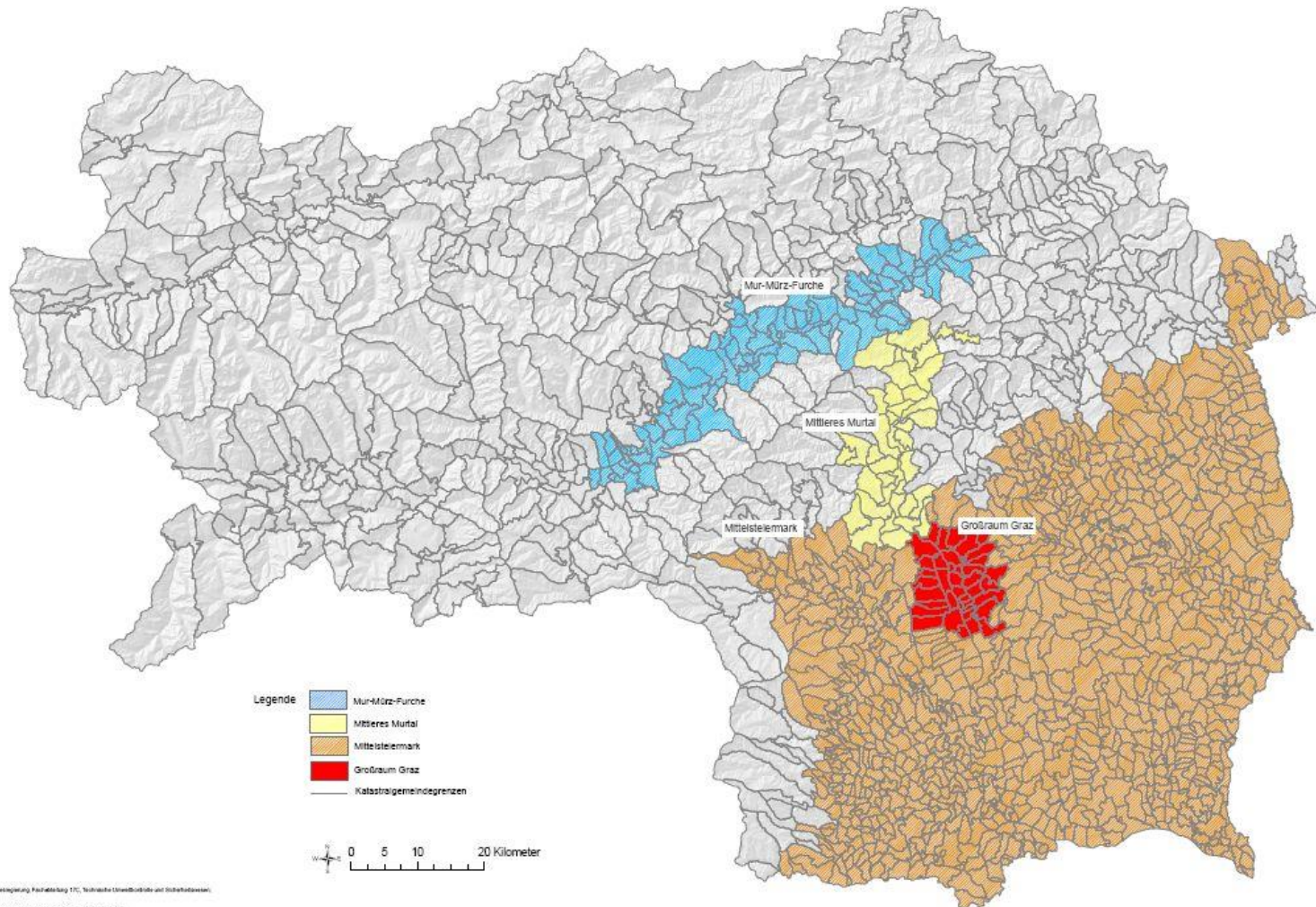
Station	2007	2008	2009	2010	2011	2012
Deutschlandsberg	16	16	16	31	19	6
Leibnitz	46	42	34	60	76	50
Fürstenfeld	26	14	22	42	41	32

## PM<sub>10</sub> Annual mean value

Station	2007	2008	2009	2010	2011	2012
Deutschlandsberg	22	21	22	23	24	20
Leibnitz	30	29	28	30	35	30
Fürstenfeld	26	24	25	28	29	27



# Polluted Area



Cartographie:  
nach der Österreichischen Landesregierung, Fachabteilung 17C, Technische Umweltkontrolle und Sicherheitswesen;  
Kartographie:  
nach der Österreichischen Landesregierung, Landesarchiv, Statistik (G);  
Kartographische Bearbeitung:  
nach der Österreichischen Landesregierung, Fachabteilung 17C, Technische Umweltkontrolle und Sicherheitswesen; Historische Projekt;  
Kartographie: April 2005

# History of AQMP in Styria

- ⇒ Fine Dust Programme 2004  
62 measures
- Traffic
  - Industry
  - Diffuse emissions
  - Agriculture
  - Domestic heating

**Bericht**  
**der Projektgruppe**

„Programm zur Feinstaubreduktion in der Steiermark“



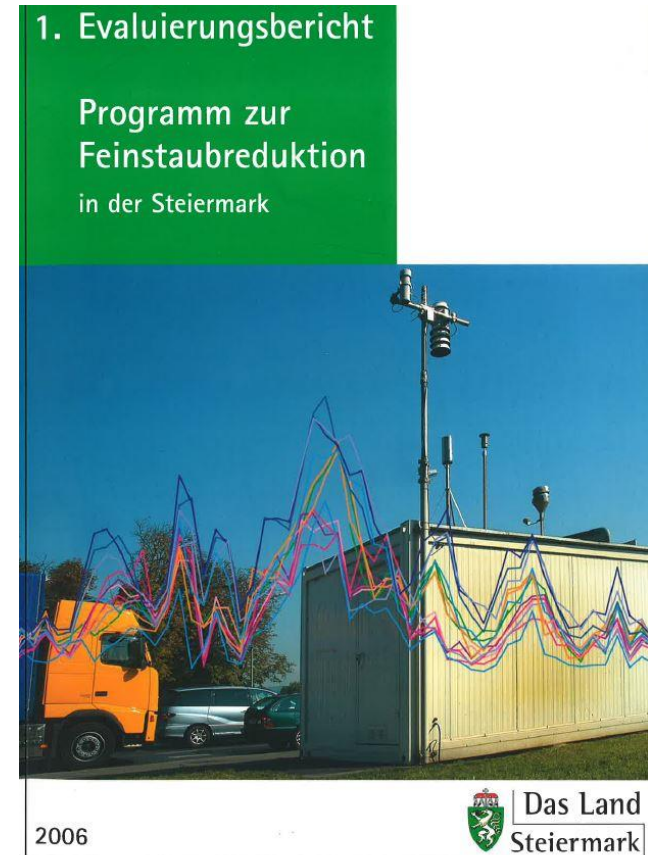
Quelle: [http://www.schundfisch.at/aktuelles/bilder/steiermark\\_008.jpg](http://www.schundfisch.at/aktuelles/bilder/steiermark_008.jpg)

I.d.F. des Regierungsbeschlusses vom 11. Oktober 2004

# History of AQMP in Styria

⇒ Fine Dust Programme 2004

⇒ 1. Evaluation of the Fine Dust Programme 2006



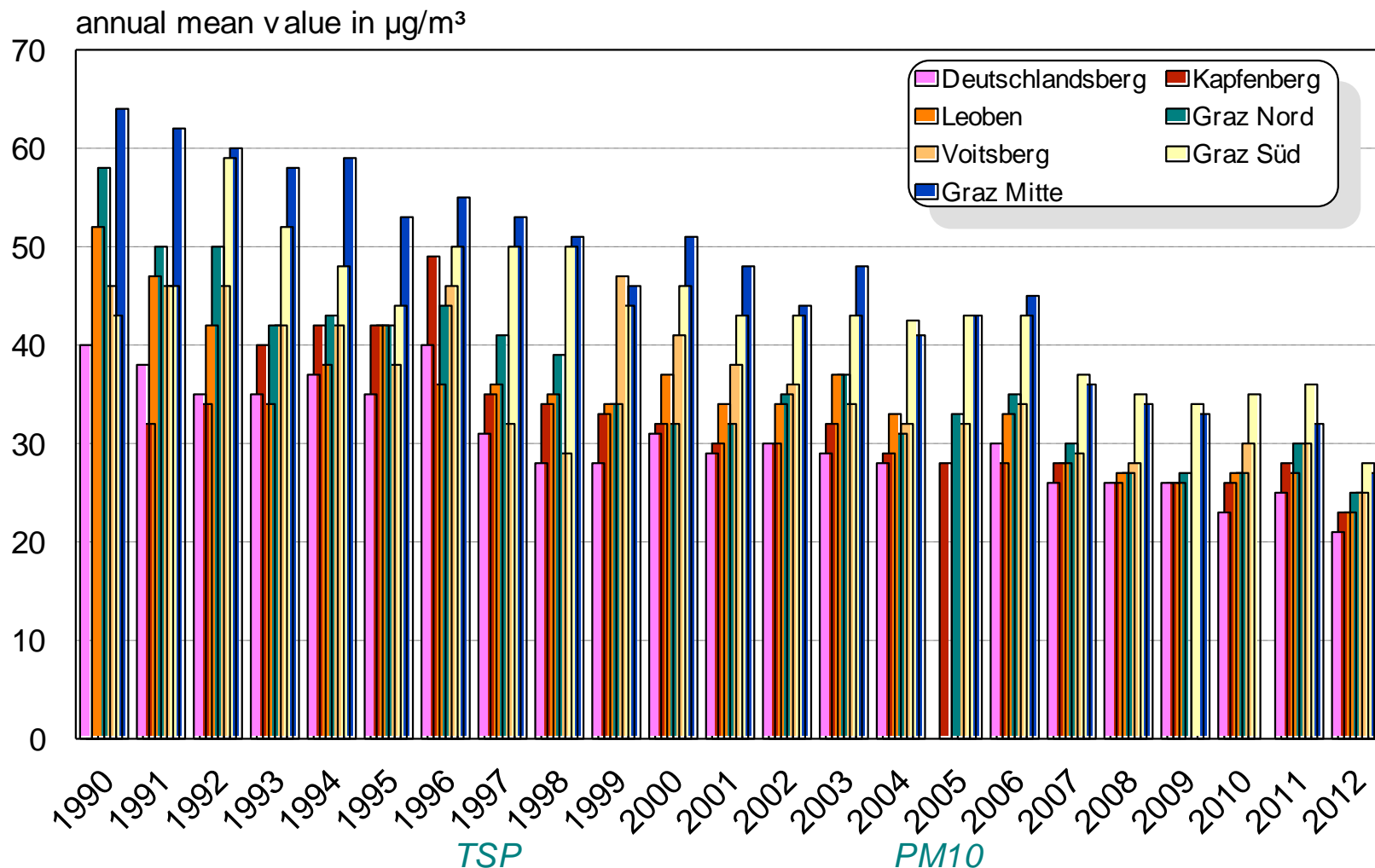
# History of AQMP in Styria

- ⇒ Fine Dust Programme 2004
- ⇒ 1. Evaluation of the Fine Dust Programme 2006
- ⇒ Fine Dust Programme 2008  
14 additional measures





# Trend of PM-Pollution in Styria



# Air Quality Management Plan 2011

## Tasks

- ⇒ Evaluation of AQMP 2008 (PM10)
- ⇒ New AQMP 2011, additional pollutants:  
NO<sub>2</sub>  
Benzo(a)pyren
- ⇒ 10 key measures  
5 additional/side measures  
30 furthermore measures



# Air Quality Management Plan 2011

## Working Groups/Topics

- ⇒ Domestic Heating
- ⇒ Traffic – Mobility, Public Transport
- ⇒ Traffic – Exhaust emissions
- ⇒ Industry
- ⇒ Winter road services
- ⇒ Agriculture
- ⇒ Spatial planning
- ⇒ Legislation

# AQMP 2011: Domestic Heating

## Measures – Main Points

- ⇒ District heating: Legislation, financial support
- ⇒ Changing to low emission fuels
- ⇒ Old stoves: Legislation, financial support



# AQMP 2011: Domestic Heating

## Legislation

### **Steiermärkische Feuerungsanlagen-VO**

§ 3a Zweitheizungsverbot (use of stoves, fired with solid fuels on high polluted days is forbidden, if there is another possibility for heating)

### **Sachprogramm Luft**

Basis for the connection to the network of district heating (in Graz there are two areas fixed - about 100 objects - where people have to connect to district heating system, 11 additional areas are planned)

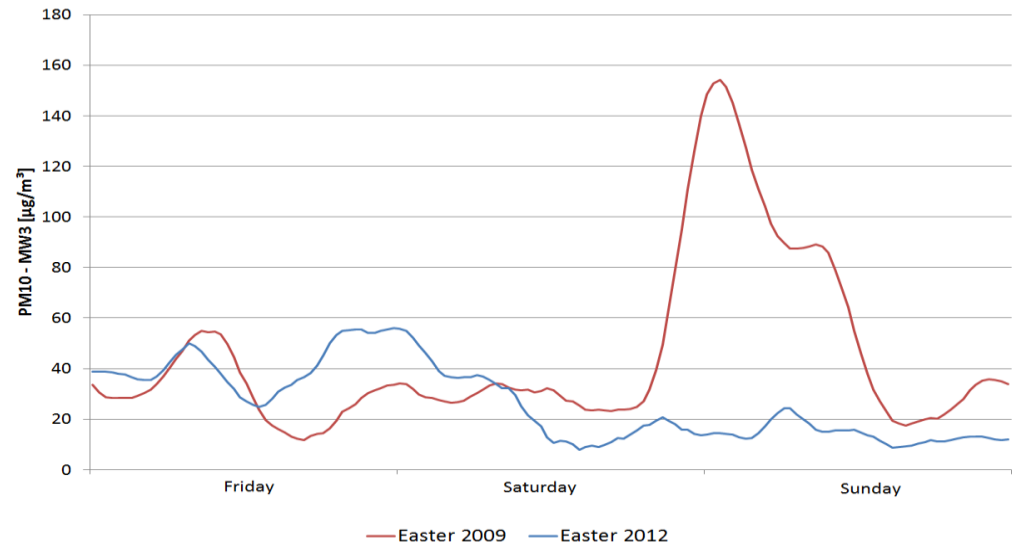


# AQMP 2011: Domestic Heating

## Legislation

### Brauchtumsfeuer-VO

- ⇒ Bonfires are forbidden in Graz
- ⇒ one bonfire (easter saturday and the 21<sup>th</sup> of June) per community is allowed in Grazer and Leibnitzer Feld
- ⇒ other communities: bonfires at easter saturday and the 21<sup>th</sup> of June are allowed



# AQMP 2011: Domestic Heating

## Activities in 2011/2012

- ⇒ Expansion of lines (new areas)
- ⇒ additional connections of households
- ⇒ Replacement of old stoves (low emission fuels)

## Activities in 2013/2014

- ⇒ Support of district heating systems in Graz will be continued
- ⇒ Support of district heating systems south of Graz and in the greater Leibnitz area
  - In cooperation with the communities and the provider
  - Additional information campaigns
  - Funding: appr. € 2 Mio.

# AQMP 2011: Traffic - Public Transport

## Measures

- ⇒ **Provide the level of service** (suburban trains, busses)
- ⇒ **Provide the financial support for public transport**
- ⇒ **Expansion of the service** (if possible - Busses, trains, trams)
- ⇒ **Park & Ride Areas**
- ⇒ **Marketing, public relations**
- ⇒ **Additional measures** (charges for parking areas, support for biking)

# AQMP 2011: Traffic - Public Transport

## Activities in 2011/2012

- ⇒ **New public service vehicles (busses) for Graz and suburban bus services**  
€ 765.000,--

## Activities in 2013/2014

- ⇒ **Provide the level of service** (suburban trains)  
ca. € 400.000,--/a
- ⇒ **New Park & Ride areas** (e.g. Leoben,  
ca. € 1 Mio.)
- ⇒ **Improvement in regional Bus services**  
(Hartberg-Fürstenfeld; Gratkorner Becken)  
ca. € 1,3 Mio. Hartberg-Fürstenfeld  
ca. € 250.000,--/a Gratkorner Becken

# AQMP 2011: Traffic – Exhaust emissions

## Measures

### ⇒ **Environmental zones**

- taxis in Graz
- heavy duty vehicles in polluted areas
- Off-road machines in pollutes areas

### ⇒ **Heavy duty vehicles**

- Measurements of Ad-Blue

### ⇒ **Installation of phased traffic lights**

- Some main roads in Graz



# AQMP 2011: Traffic - Public Transport

## Legislation

### Ban of old heavy duty vehicles in polluted areas

Euro 0: 1.6.2012

Euro 1: 1.1.2013

Euro 2: 1.1.2014

Affected vehicles in Styria (2010):

EURO 0 = 817 LKW

EURO I = 677 LKW

EURO II = 1519 LKW

### Ban of old taxis in Graz

EURO 0,1,2                      1.3.2012

EURO 3                              1.1.2013

# AQMP 2011: Traffic – Motor emissions

## Legislation

### VBA-Verordnung IG-L Steiermark

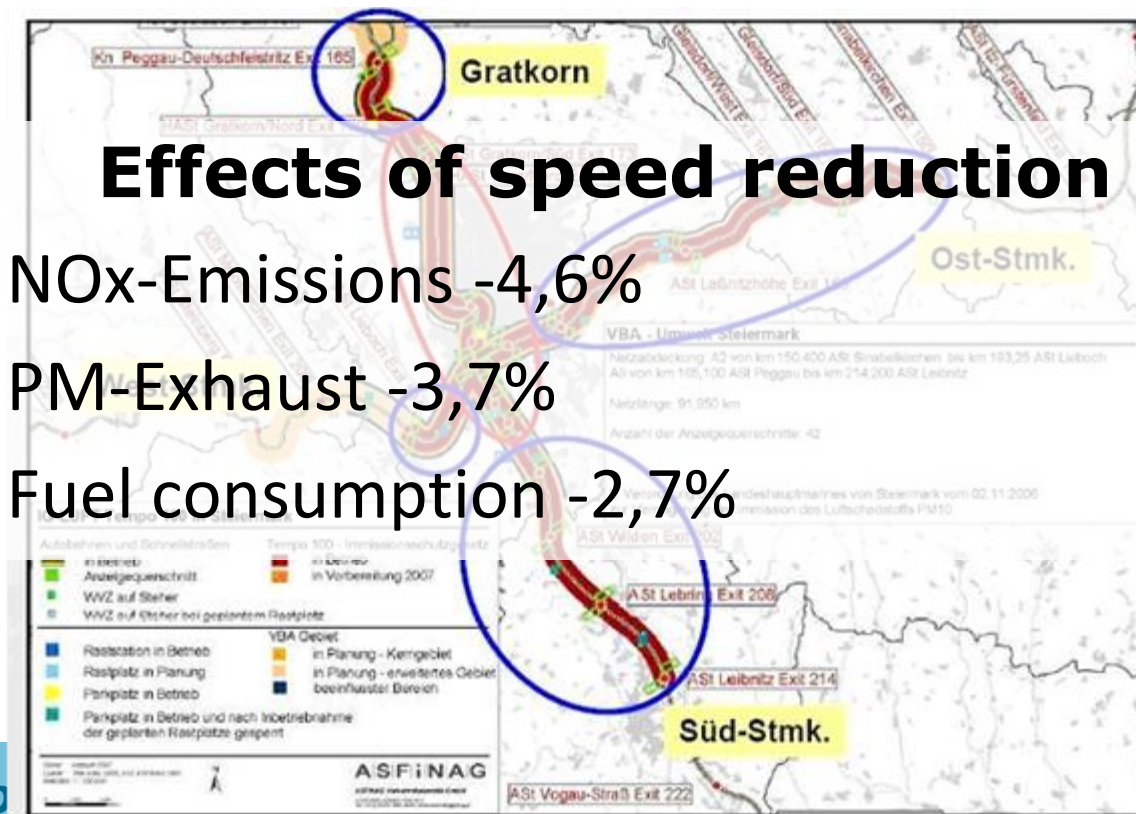
Speed limits on motorways in case of high levels or high contributions from passenger cars

#### Effects of speed reduction

⇒ NOx-Emissions -4,6%

⇒ PM-Exhaust -3,7%

⇒ Fuel consumption -2,7%



# AQMP 2011: Winter service

## Measures

**„Differenzierter Winterdienst“ (effective removal of snow, salting in low concentration instead of sanding)**

- ⇒ Great success in Graz, the method should be used in other regions
- ⇒ Sanding (gravel) should only be used in special cases (e.g. steep roads)
- ⇒ New vehicles for winter road services

# AQMP 2011: Industry, Construction sector

## Measures

- ⇒ **Reduction of emissions from construction sites**  
Guidelines for low emission construction sites
- ⇒ **Inspection of industrial sites**  
legal compliance, use of best available technology
- ⇒ **Ban of „Heizöl leicht“** (light fuel oil)

# AQMP 2011: Agriculture

## Measures

### Reduction of $\text{NH}_3$ -Emissions

- ⇒ storage of liquid manure in closed pits
- ⇒ New stables: ventilation
  - Discussion about  $\text{NH}_3$ -scrubber and multi-phase feeding of fattening pigs
- ⇒ application of liquid manure close to the ground



# AQMP 2011 - Budget – financial support

**2011/2012**

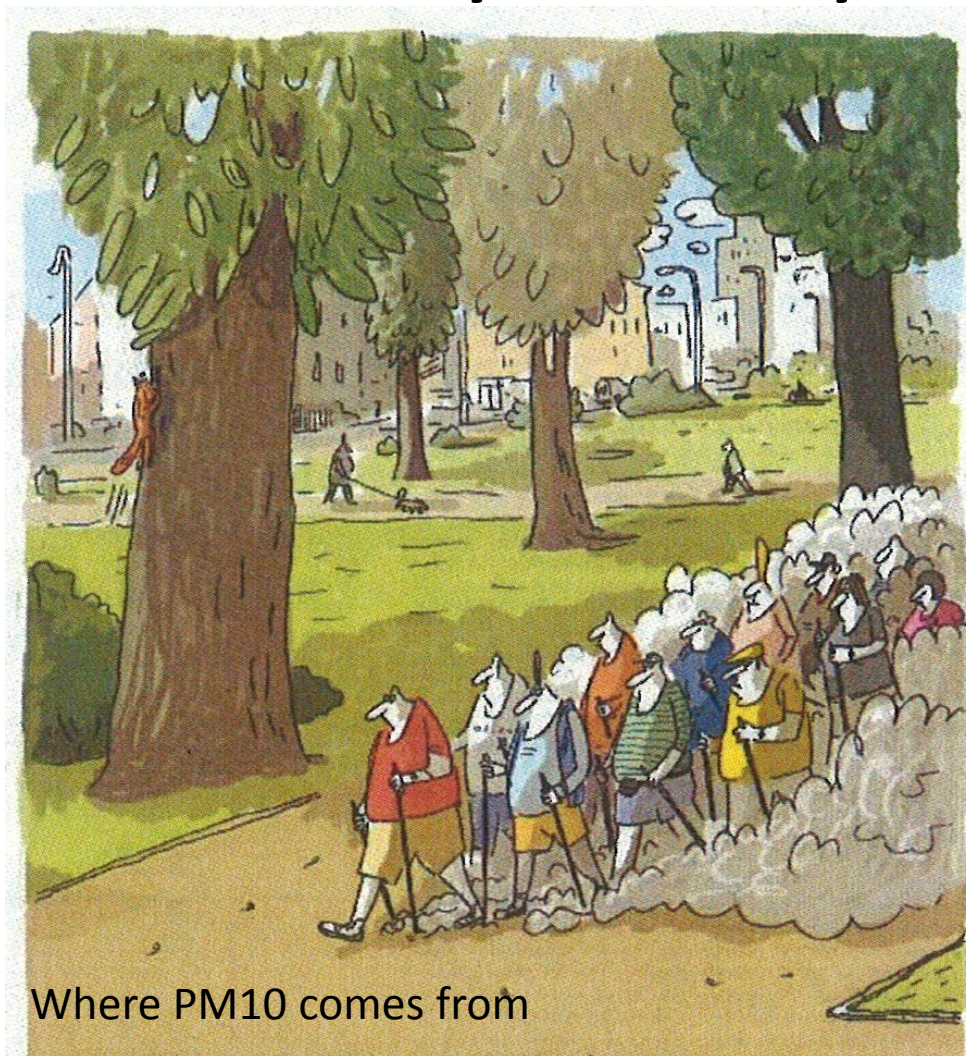
measures	
New public service vehicles for Graz	€ 765.000
„Differenzierter Winterdienst“	€ 250.000
District heating	
Expansion of lines (new areas)	€ 2,905.000
additional connections of households	€ 2,950.000
Replacement of old stoves (low emission fuels)	€ 578.000
Public transport	€ 537.000
Traffic bans of Taxis	€ 200.000
Ban of old heavy duty vehicles	€ 960.000
Sum 2011 – 2012	EUR 9,145.500

# AQMP 2011 - Budget – financial support

**2013/2014**

measures	
District heating	
Expansion of lines (new areas)	€ 2,940.000
additional connections to households & buildings of the Styrian government	€ 800.000
	€ 1,000.000
Replacement of old stoves	€ 578.000
Public transportsuburban trains	€ 1,020.000
Park& Ride	€ 2,400.000
Bus services	€ 1,100.000
Vehicles for winter road services	€ 680.000
Ban of old heavy duty vehicles	€ 45.000
<b>Sum 2013 – 2014</b>	<b>€ 13,140.000</b>

# Thank you for your attention



Where PM10 comes from

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