

Small Glossary

Origin

Fine dust is produced by production processes and combustion (e.g. soot from traffic, heating systems), through the chemical conversion of other pollutants, by abrasion processes (e.g. brakes, soil erosion) as well as through other natural processes (e.g. raising of dust).

Fine dust (PM10)

PM refers to particulate matter.

PM10 are particles with an aerodynamic diameter of less than 10 micrometers ($10\mu\text{m} = 0.01\text{mm}$).

Limit values of the European Union

In 2001, measurements began to be taken throughout the EU and the following limit values were defined:
Annual mean value $40\mu\text{g}/\text{m}^3$, daily mean value $50\mu\text{g}/\text{m}^3$
(35 exceedances per year permitted)

Measurements

In addition to the permanent measurement stations in Klagenfurt, Völkermarkterstraße and Koschatstraße within the Province of Carinthia's air quality monitoring network, the City of Klagenfurt also operates three stations which measure fine dust. Complementary to the fixed measurements in the center of Maribor (Titova cesta-street) and at Jadranska cesta-street, PM10 is measured at three other locations in neighbouring municipalities.

Exceedances of fine dust limit values

In Klagenfurt

2003 74 days, 2004 80 days, 2005 82 days,
2006 79 days, 2007 42 days, 2008 31 days, 2009 34 days.

In Leibnitz

2007 in 46 days, 2008 in 42 days, 2009 in 34 days.

In Maribor

2003 in 185 days, 2004 in 130 days, 2005 in 103 days,
2006 in 117 days, 2007 in 95 days, 2008 in 54 days,
2009 in 35 days.

Permitted number of exceedances per year in Austria:

Until 2004: 35 days, from 2005: 30 days,
from 2010: 25 days.

Permitted number of exceedances per year in Slovenia:

35 days.

Project Partners

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Operational
Programme,
Slovenia-
Austria
2007-
2013,
Interreg
Project



PMinter

Interregional interaction of residential heating and traffic related measures with PM-levels within the Slovenian-Austrian border region.



Investing in your future

Operation part financed by the European Union
European Regional Development Fund



Umwelt.Klagenfurt am Wörthersee
Die Landeshauptstadt



KÄRNTEN



Publisher: Municipality of the Provincial Capital City of Klagenfurt am Wörthersee, Environmental Department; Text: Environmental Department; Graphic Design: boss.grafik; Printer: Carinthian
With financial support from the European Commission.
Printed on 100% recycled paper.

www.pminter.eu

Fine dust (particles, PM 10, PM 2.5) **NO₂** (nitrogen dioxide) and **BaP** (Benz(o)apyrene) are currently the major pollutants which have negative effects on health.

European limit values for PM10 (Annual mean value 40 µm/m³, daily mean value 50 µm/m³; Air Quality Directive EC/50/2008) cannot be met in most Austrian, Slovenian and other European cities.

Road traffic is the main cause of this followed by residential heating. At least 50% of the PM10-exposure cannot be defined which means that this PM10-background exposure cannot be directly influenced through local measures.

The overall objective of

PMinter

is a significant improvement in air quality by focusing on PM (particulate matter/ fine dust) in Klagenfurt-Lower Carinthia, Southern Styria and Maribor-Northern Slovenian in order to lower the risk of exposure for the inhabitants of the regions listed. PM10, PM2.5 and NO₂ limit values of the Air Quality Directive should be met.

The following scientific questions will be discussed:

- The origin of the high and unknown PM10-background
- The influence of residential heating, especially through emissions caused by small scale furnaces
- The influence of street canyon effects
- The influence of long distance transports (,transborder emissions')

European air quality goals for PM10 and PM2.5 should be met within the next decade. The combustion of renewable biomass fuels has a positive impact on the balance of greenhouse gases, but currently it still has a negative effect on local air quality. This contradiction has to be reduced. First important PM10 reduction measures will be implemented within the project duration. These will result in an improvement in local air quality and in a reduced impact on human health for the population within the involved regions Klagenfurt, Maribor, Leibnitz and their surroundings.

Information about residential heating

In order to reduce the anthropogenic greenhouse effect (which has been caused by human kind), the European Union and it's member states focus on renewable energy sources and increase efficiency of energy.

When compared with older models, modern small-scale furnaces are easier to handle for users and they are characterized by considerably lower emissions. Thus, one of the most important measures in reducing fine dust effectively is to replace older small-scale furnaces by new biomass fuel heating systems.

Project duration: 01.07.2010 – 30.06.2013

Total costs:

approx. 2.5 Million Euros – a maximum of

85% Community funding from the European Regional Development Fund (ERDF)

15% Own funds

Slo: 10% National public funding (SVLR), 5% Own funds