

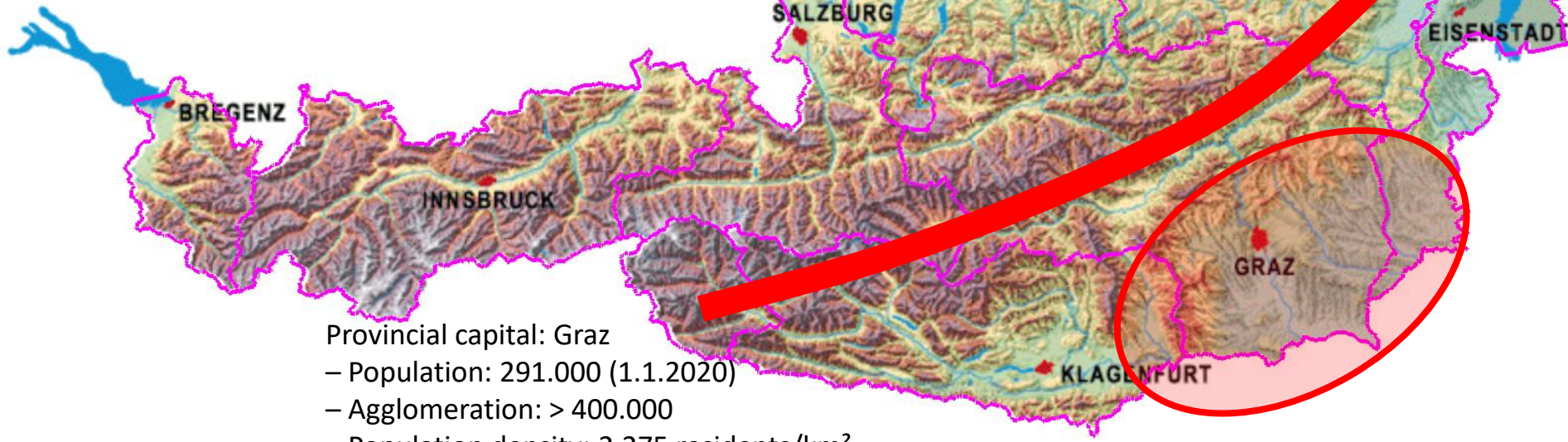


Ambient Air Quality and Improvement Strategies in Styria/Austria

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Das Land
Steiermark



- Provincial capital: Graz
- Population: 291.000 (1.1.2020)
 - Agglomeration: > 400.000
 - Population density: 2.275 residents/km²



Legislative Background

Immissionsschutzgesetz – Luft (IG-L)

National implementation of directive 2008/50/EC on ambient air quality and cleaner air for Europe and current European Regulations





Limit Values for

SO₂

PM₁₀

PM_{2.5}

NO₂

CO

Benz(a)pyrene

Benzene

Lead (in PM₁₀)

Arsenic (in PM₁₀)

Cadmium (in PM₁₀)

Nickel (in PM₁₀)

Dustdeposition



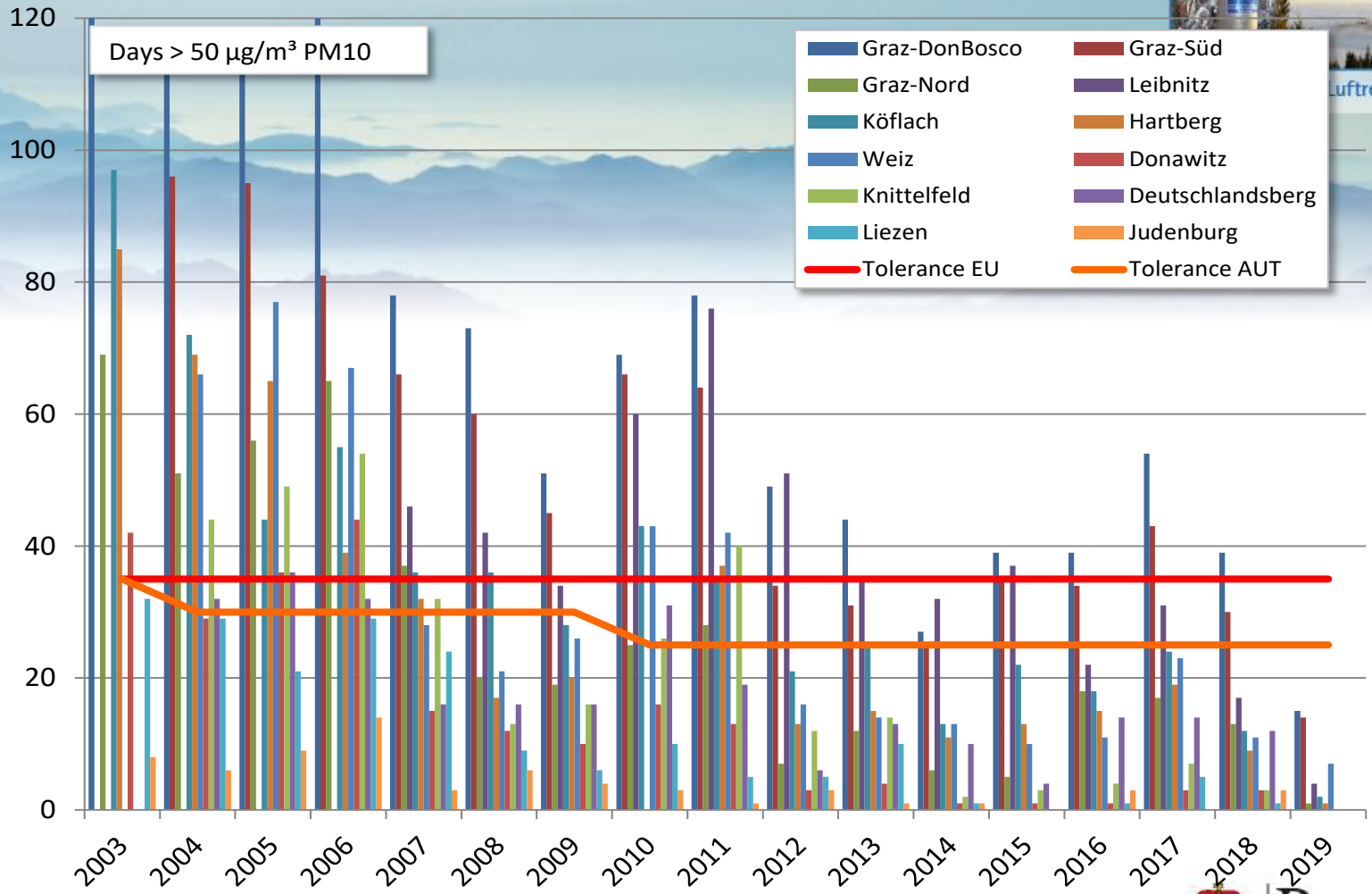


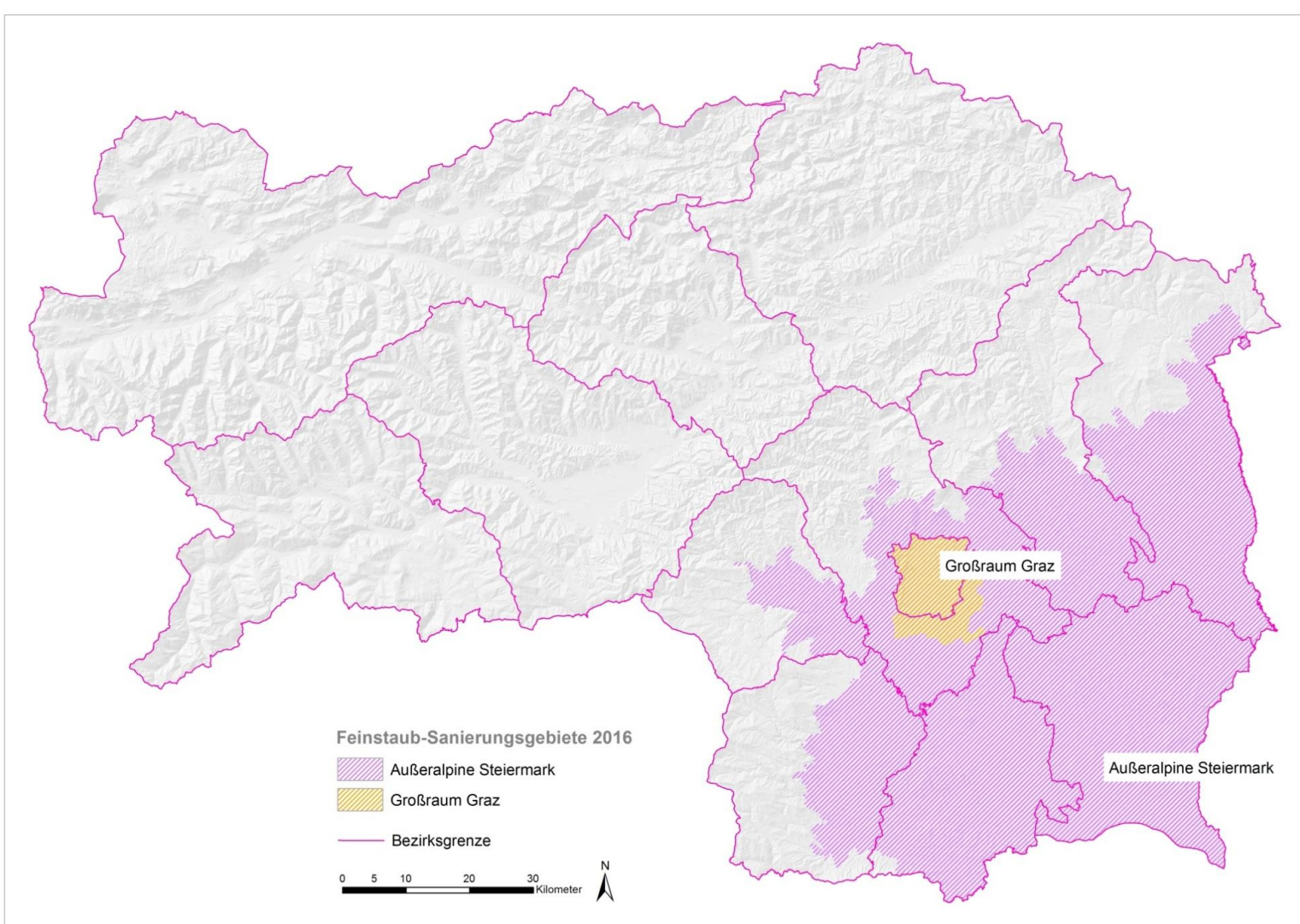
Main Challenges

NO₂: 35 µg/m³ as an Annual Mean Value (EC: 40 µg/m³)

PM₁₀: 50 µg/m³ as a Daily Mean Value

Tolerated Exceedances per Year: 25
(EC: 35 days per year)

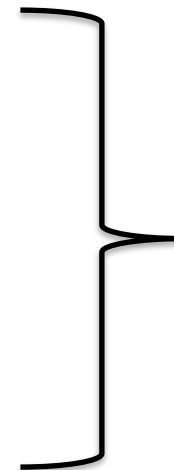






Recent Action Plans

- PM₁₀ Reduction Program 2004
- PM₁₀ Reduction Program 2008
- Air Quality Management Plan 2011
- Air Quality Management Plan 2014
- Air Quality Management Plan 2019



about 6,5 Mio EURO
per year since 2012

- Legislation
- Funding
- Information

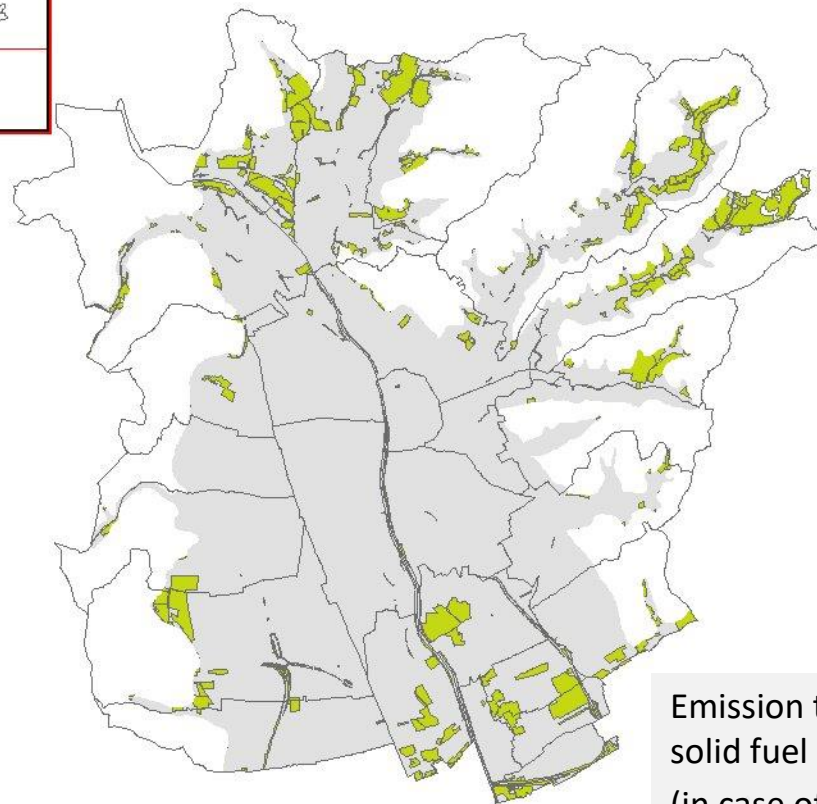
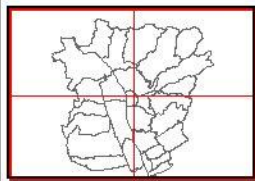


Luftreinhaltung

Examples

Restrictions for solid fuels in polluted areas and fresh air aisles

(new construction or exchange of heating system)



Karte / Ansicht

Karte
3.0 Flächenwidmungsplan

Ansicht
Deckplan 2

Suche

Adressen

Straße

Hausnummer

Darstellung in:
 Detail Übersicht

Suche starten

Suchergebnisse & Info

© Stadtplanungsamt
© Stadtvermessungsamt

Emission threshold: 4,0 g PM/m² gross floor area per year for solid fuel heating systems over 8 kW heat capacity (in case of new construction or exchange of heating system)



Examples

Areas with obligatory
connection to DH
networks

Approx. 40 areas
Long transition periods
Financial support





Examples

Expansion of DH networks (+56 km; +90 MW) and additional connections of households - approx. € 6.9 Mio

Support of connection to district heating systems in the wider Graz area in cooperation with communities and providers





Luftreinhaltung

LH/DH network potentials in styria



KH-WB Straße



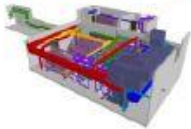
BWS-Sappi



Solaranlagen



Marienhütte



Eishalle Liebenau



Solar



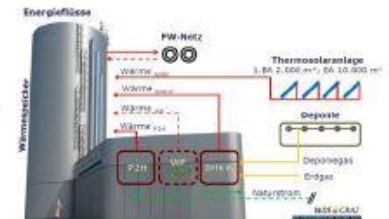
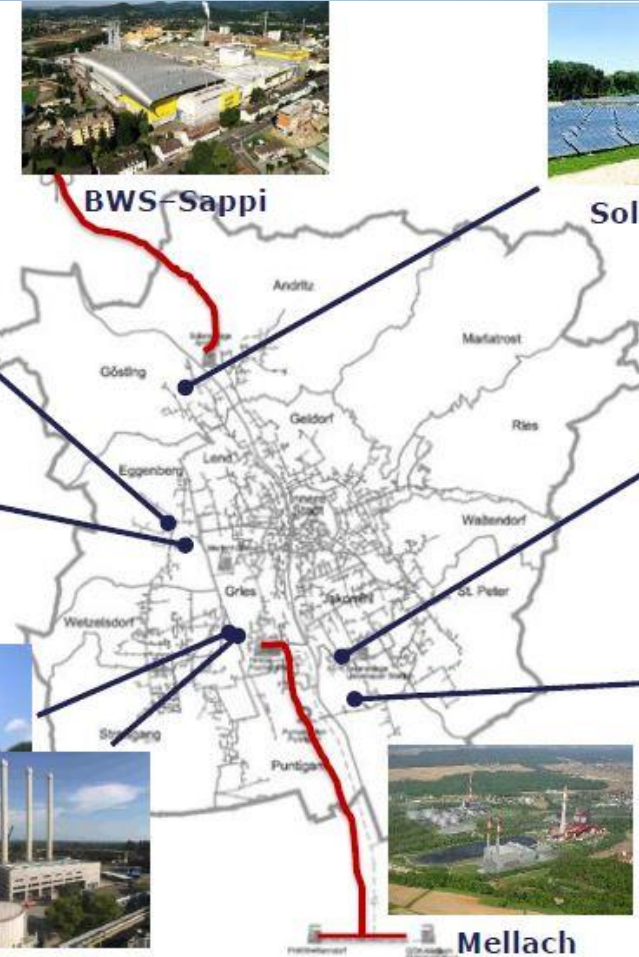
FHW Graz



ARP Graz



Mellach

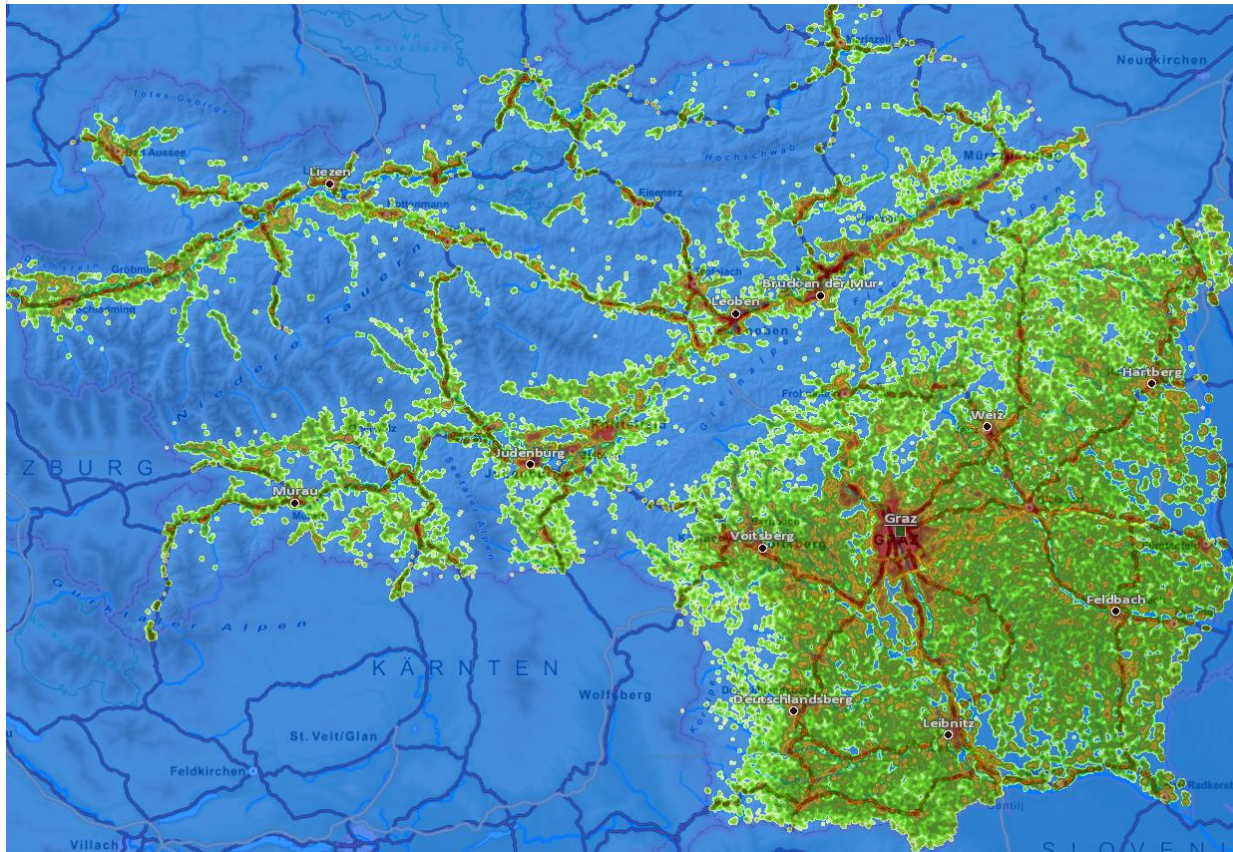


Solar Helios



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LH/DH network potentials in styria



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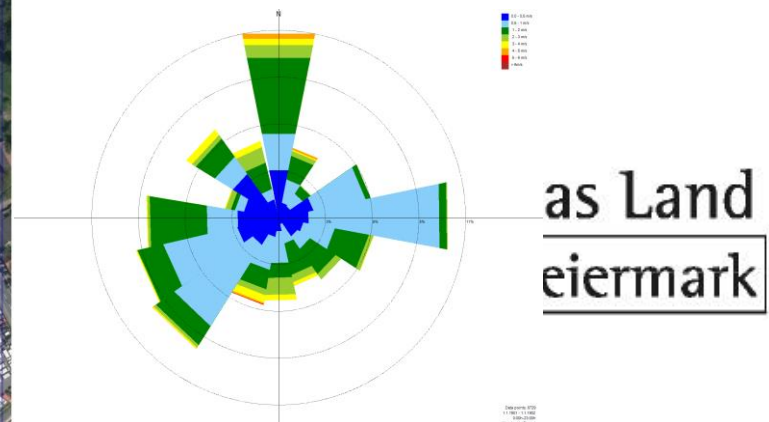
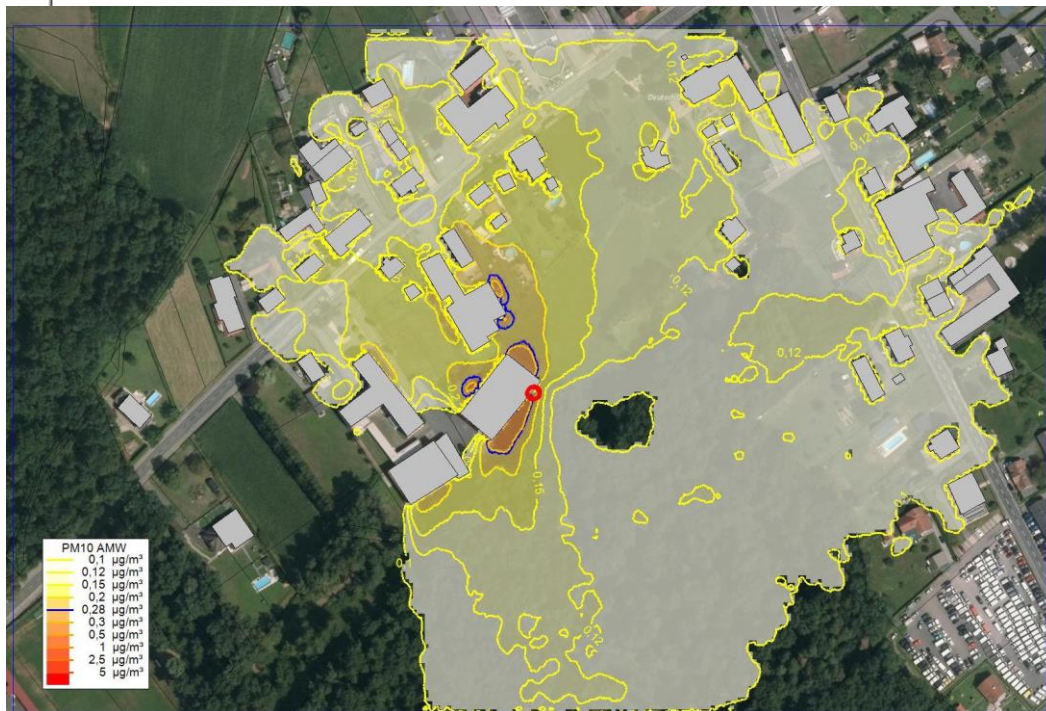
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Official Approval Procedure

Estimation of impact on local pollution situation

Via dispersion modelling based on technical project data, legal

emission limits and meteorological data



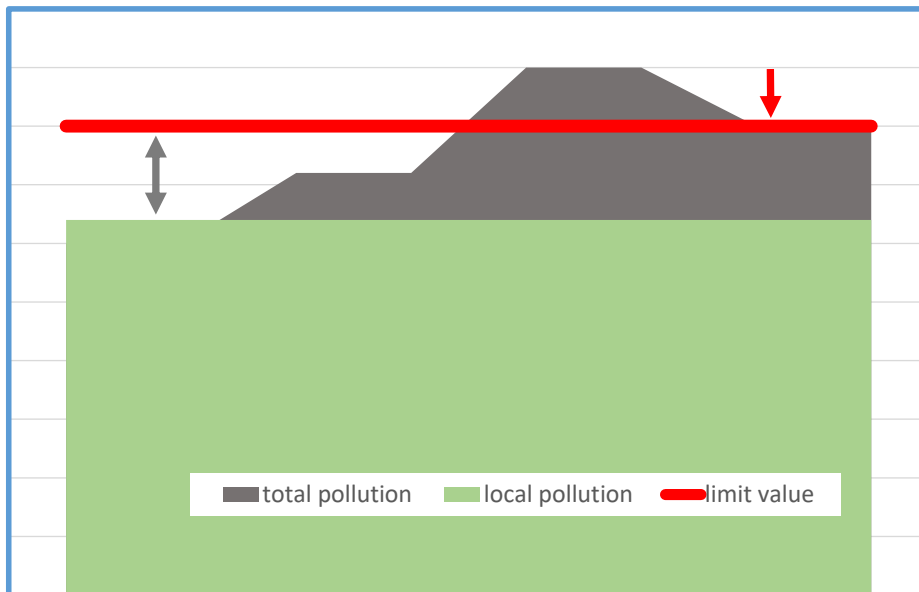


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Official Approval Procedure

Estimation of impact on local pollution situation

Existing pollution below limit values



- total pollution has to comply with limits



Official Approval Procedure

In this case the compliance with emission regulations is not sufficient.

Technical improvements of the installations are inevitable:

- Raise of stack height, exhaust exit speed

- Reduction of emissions (economic challenge)

- Variation or change of location



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Official Approval Procedure

Estimation of impact on local pollution situation

Limit value (LV) (e.g. $10 \mu\text{g}/\text{m}^3$) (e.g. $10 \mu\text{g}/\text{m}^3$)

Thank you for your attention!

- only irrelevant additional impact (1% of LV) is tolerated

