

# ICP Materials

GP review

8th Joint Session of the EMEP Steering Body and Working Group on  
Effects

12 September - 16 September 2022

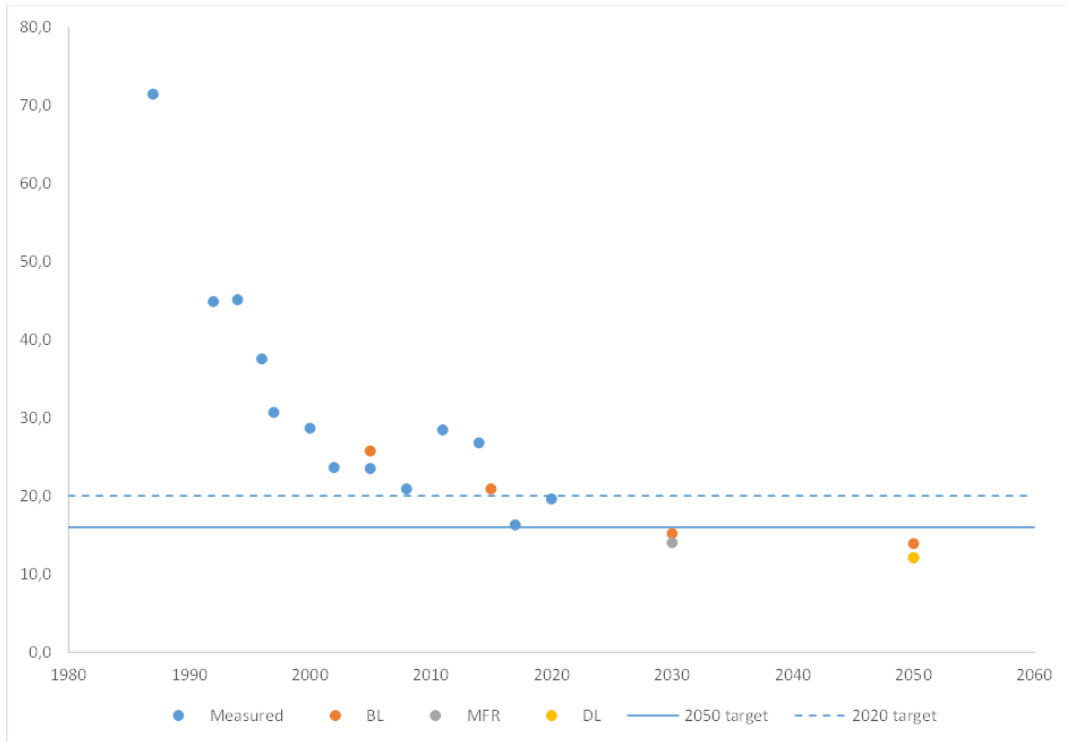
# Targets for corrosion and soiling

“Indicators and targets for air pollution effects” (ECE/EB.AIR/WG.1/2009/16  
Mapping Manual, Ch 4 (2022))

- Corrosion
  - Carbon steel
    - 20  $\mu\text{m}$  (2020)
    - 16  $\mu\text{m}$  (2050)
  - Limestone
    - 8  $\mu\text{m}$  (2020)
    - 6,4  $\mu\text{m}$  (2050)
- Soiling
  - Modern glass (2050)
    - 3 % (technical constructions)
    - 1 % (cultural heritage)

# Methodology

- Query of data from maps at locations with test sites
- Calculation of corrosion data for the different scenarios
  - BL – baseline
  - MFR – maximum feasible reduction
  - DL – diet low
- Presentation in trend diagrams combining measured data, scenario data and targets for corrosion and soiling
- Some examples follow

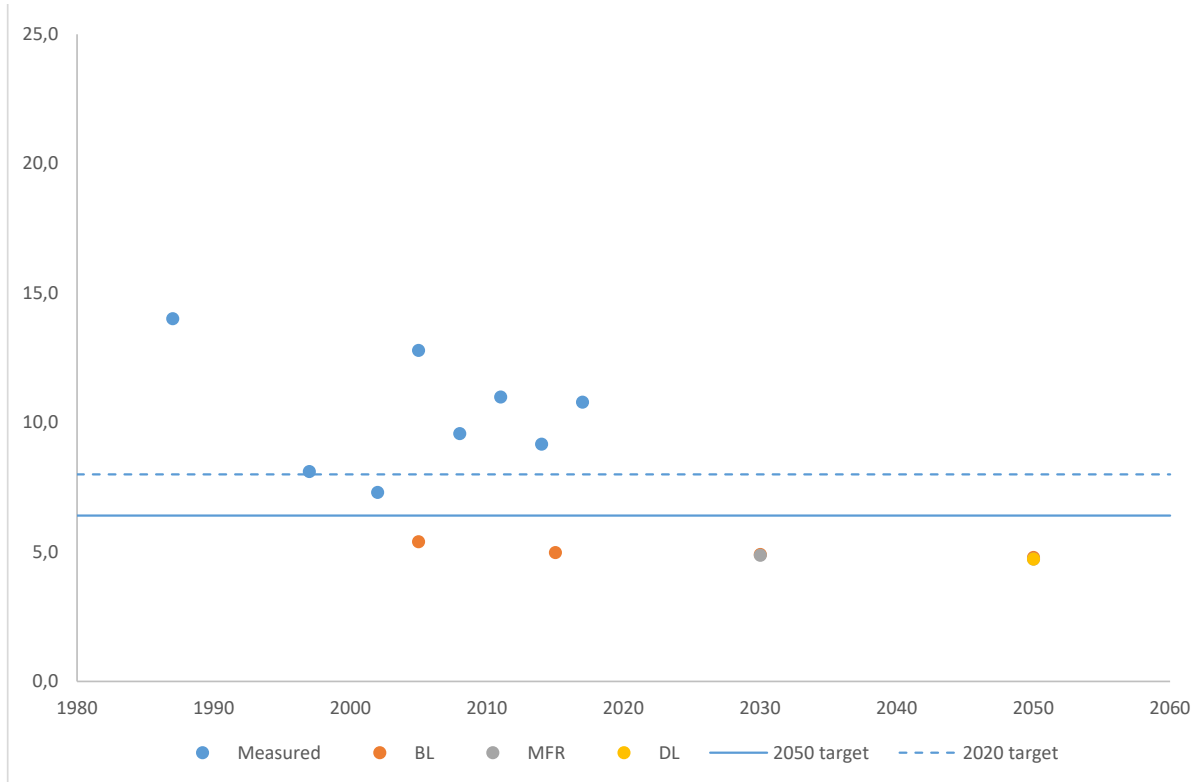


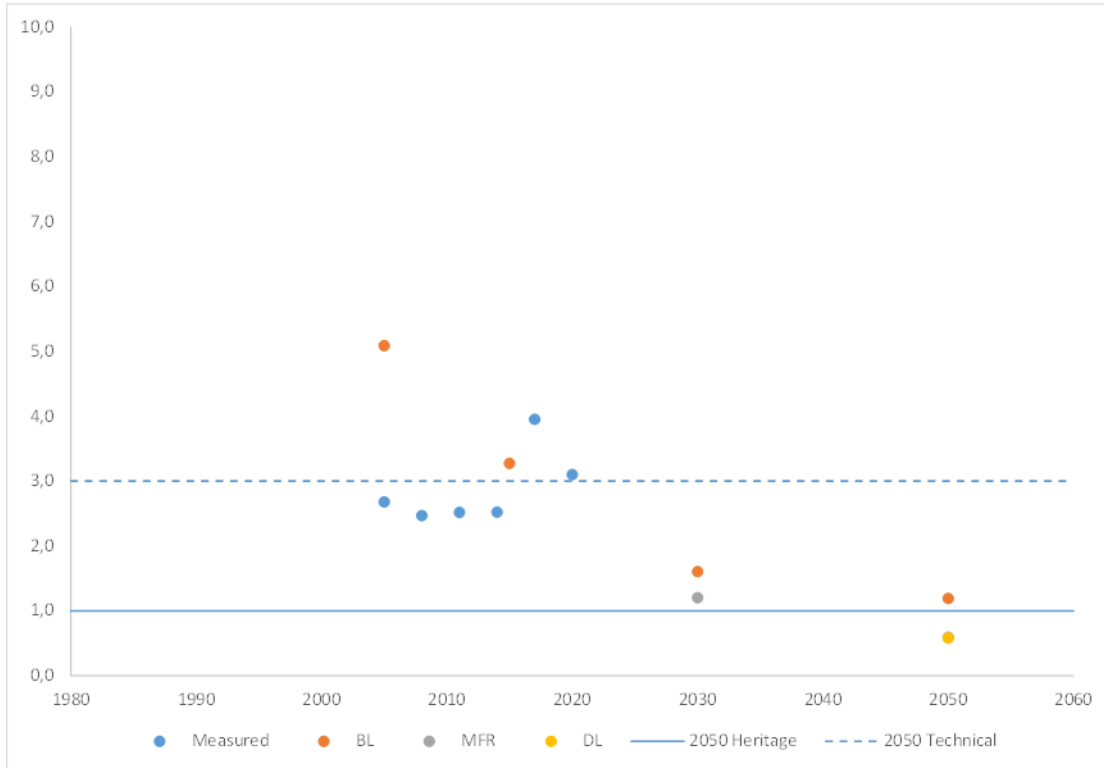
## Carbon steel - Kopisty

- Polluted site
- Sensitive to SO<sub>2</sub> pollution
- Good agreement between measured and baseline data
- 2050 target reached in 2030

## Limestone - Stockholm

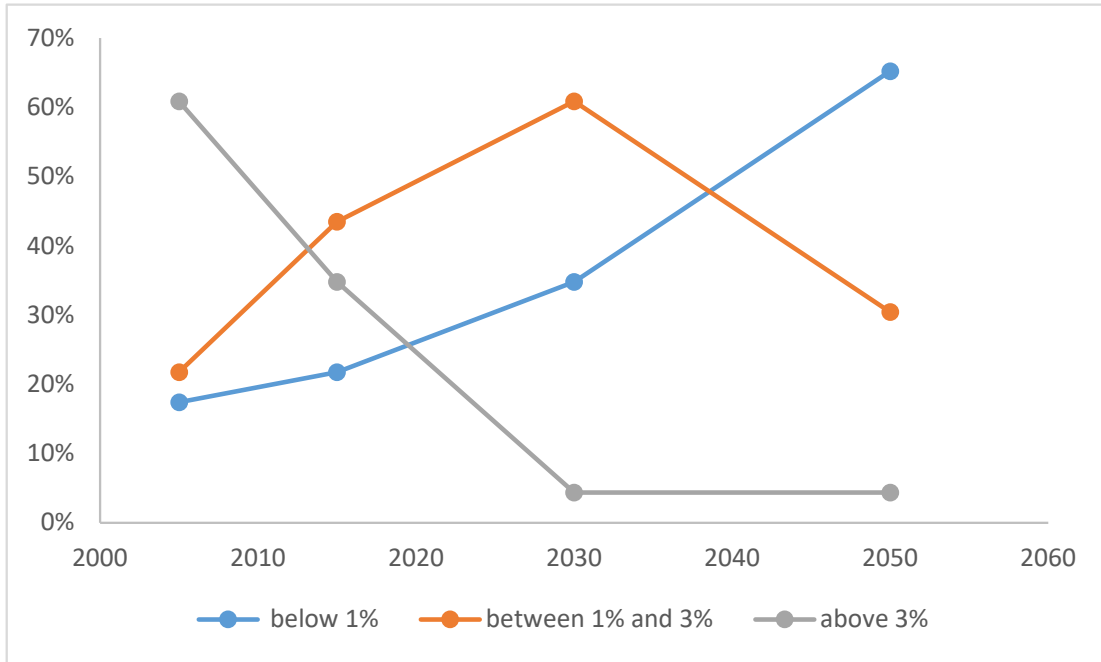
- Low pollution
- Sensitive to several pollutants
- Difference between measured and baseline data
- At the moment difficult to assess if the target will be reached





## Modern glass - Kopisty

- Polluted site
- Sensitive to PM pollution
- Variability in haze from year to year makes it impossible to evaluate the trend in measured data but ok agreement with baseline data
- Modelled data show improvement



## Modern glass – 23 sites

- Calculations based on baseline scenario
- In 2050 there is still 30% of sites where values are above target for cultural heritage.

# Conclusions

1. The Head of ICP Materials programme Centre reported on developments and the outcomes of the Gothenburg protocol review (“ex post analysis”). The analysis includes a comparison of measured data, scenario data and targets for corrosion and soiling at individual test sites.
2. Results show that for some materials (i.a. carbon steel which is sensitive to SO<sub>2</sub>) 2050 targets are expected to be reached while for other materials (i.a. modern glass which is sensitive to PM) 2050 targets are not expected to be reached in all areas. For some materials (i.a. limestone which is sensitive to several pollutants) it is necessary to improve the methodology (dose-response functions) in order to better predict corrosion data.