Estimating the Air Pollution Disease Burden: *The key elements for a successful story*

- **High-Resolution Exposure Data:** advanced use of satellite data and modelling
- **Comparative Risk Assessments:** comparison of air pollution risks with other health risk factors
- **Development of the Burden of Proof Risk Function (BPRF):** improves the characterisation of exposure–response relationships
- **Expanded with Morbidity Outcomes:** not only mortality but also morbidity outcomes, such as NO_2-related childhood asthma
- **Sophisticated Communication Strategies:** initiatives like *The State of Global Air 2024*, using accessible and data-driven platforms

Multiple applications in Europe:

- European Environmental Agency (EEA) annual reports;
- Khomenko et al.[2021, 2022] sector-specific emission contributions to attributable mortality in the EU cities;
- EU AAQD, 2024: all the policy options guided by attributable mortality (Impact Assessment Report, 2022)

Estimating the Air Pollution Disease Burden: *What next to improve decision making at national and local level*

- **Improve Ground-Level Monitoring in Low- and Middle-Income Countries**
  Strengthen local air quality monitoring infrastructure, particularly in data-scarce regions

- **Incorporate More Morbidity Outcomes and account for Vulnerable Populations**
  Expand burden estimates to include a broader range of diseases (see EMAPEC, 2024) and account for vulnerable subpopulations such as pregnant women, children, the elderly

- **Refine ERFs for Long-Term Exposures at Low and High Levels of Exposure**
  Develop better data and models to assess health impacts of chronic, low and high levels of exposures

- **Enhance Methods for Uncertainty Quantification and Risk Communication**
  Develop clearer frameworks for presenting uncertainty in burden estimates and improve tools to communicate risks effectively to decision-makers and the public.