



**EANET Workshop on
The relationship between atmospheric
environment and human health and ecosystems**

Work of the Task Force on Health under the CLRTAP and relevant work of WHO beyond cooperation with CLRTAP

Dr Dorota Jarosinska, WHO ECEH



WHO work on air quality and health

- Normative work – consolidation of scientific evidence
- Development of policy advice, methods and tools
- Strengthening capacities in Member States
- Assisting Member States in identifying and implementing policies to protect and promote health
- Facilitating intersectoral and multistakeholder action
- Advocacy



WHO work on air quality and health

- WHA Resolution *Health and the Environment: Addressing the health impact of air pollution*
- WHO 13th General Programme of Work 2019-2023
- WHO global strategy on health, environment and climate change



Environment and Health Process:

a series of Ministerial Conferences on Environment and Health, endorsed by Regional Committee Resolutions

1989
Frankfurt

1994
Helsinki

1999
London

2004
Budapest

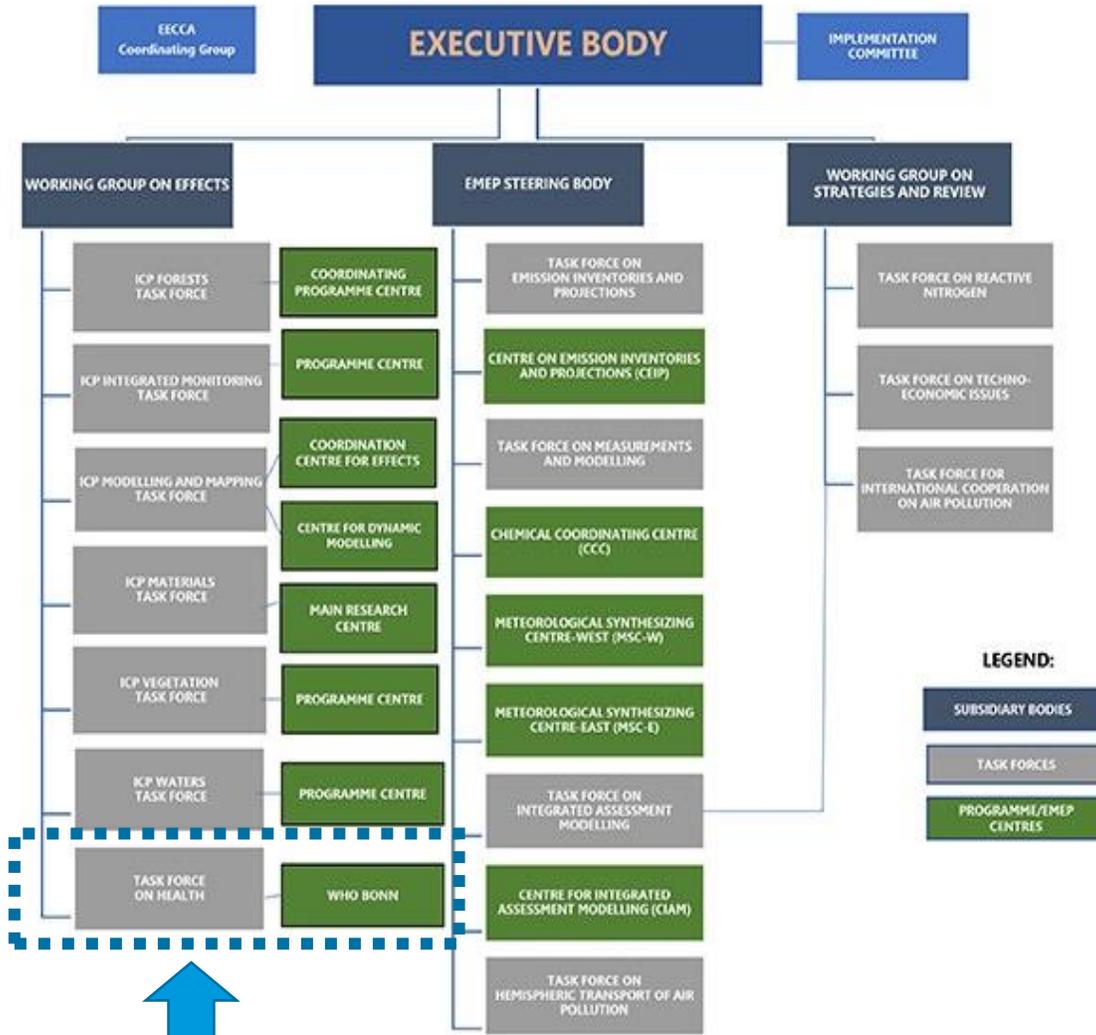
2010 Parma

2017 Ostrava



European Region

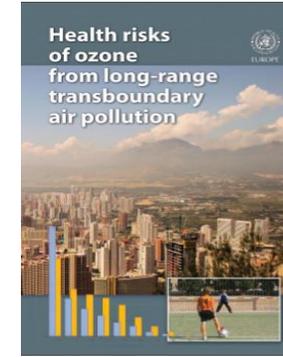
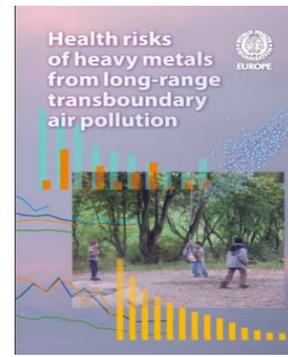
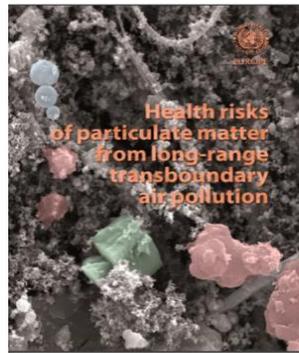
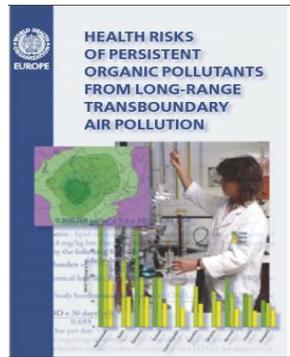
Joint Task Force on the Health Aspects of Air Pollution (TFH)



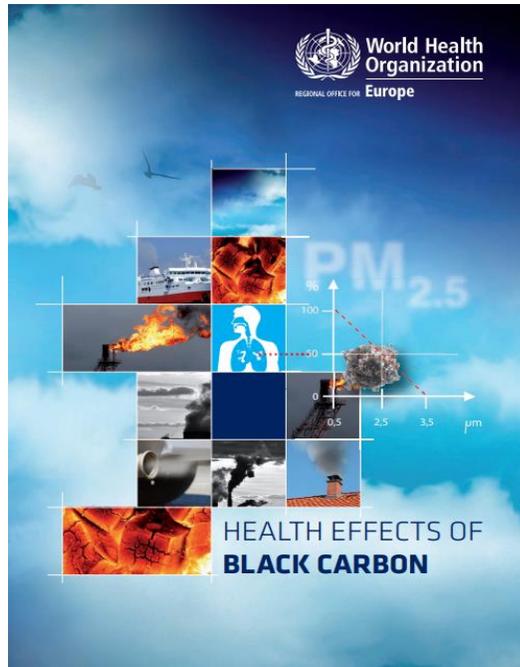
- UNECE Convention on Long-range Transboundary Air Pollution (CLRTAP)
- Working Group on Effects (WGE)
- Task Force on Health (TFH)
 - Established in 1998
 - Chaired by WHO ECEH
 - Members are experts designated by countries that are Parties to the Convention

Task Force on Health

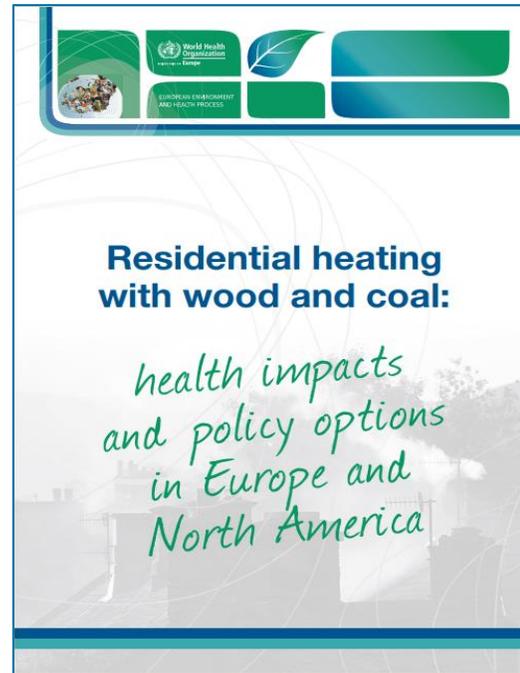
- To assess the health effects of air pollution and provide supporting documentation to the Executive Body of the Convention
- To quantify how long-range transboundary air pollution affects human health
- To help define priorities to guide future monitoring and abatement strategies
- To advise on monitoring and modelling activities to improve the quality of assessments



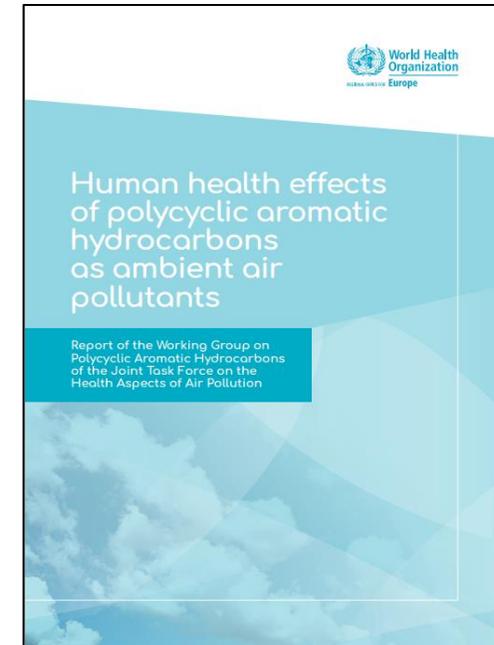
Examples of the TFH accomplishments in the last 10 years



Published in 2012



Published in 2015



Published in 2021



<https://apps.who.int/iris/bitstream/handle/10665/352615/9789289002653-eng.pdf?sequence=1&isAllowed=y>

<https://apps.who.int/iris/bitstream/handle/10665/153671/9789289050760-eng.pdf?sequence=3&isAllowed=y>

<https://apps.who.int/iris/bitstream/handle/10665/350636/9789289056533-eng.pdf?sequence=1&isAllowed=y>

WHO global Air Quality Guidelines



Robust public health recommendations



Support informed decision-making



Intended for worldwide use



Comprehensive assessment of the evidence



European Region

[New WHO Global Air Quality Guidelines aim to save millions of lives from air pollution](#)

[WHO global air quality guidelines: particulate matter \(PM2.5 and PM10\), ozone, nitrogen dioxide, sulfur dioxide and carbon monoxide](#)

Systematic reviews of evidence

Pablo Orellano, Julieta Reynoso, Nancy Quaranta, Ariel Bardach, Agustin Ciapponi. [Short-term exposure to particulate matter \(PM10 and PM2.5\), nitrogen dioxide \(NO2\), and ozone \(O3\) and all-cause and cause-specific mortality: Systematic review and meta-analysis](#)

Kuan Ken Lee, Nicholas Spath, Mark R. Miller, Nicholas L. Mills, Anoop S.V. Shah. [Short-term exposure to carbon monoxide and myocardial infarction: A systematic review and meta-analysis.](#)

Jie Chen, Gerard Hoek. [Long-term exposure to PM and all-cause and cause-specific mortality: A systematic review and meta-analysis.](#)

Peijue Huangfu, Richard Atkinson. [Long-term exposure to NO2 and O3 and all-cause and respiratory mortality: A systematic review and meta-analysis](#)

Pablo Orellano, Julieta Reynoso, Nancy Quaranta. [Short-term exposure to sulphur dioxide \(SO2\) and all-cause and respiratory mortality: A systematic review and meta-analysis](#)

Xue-yan Zheng, Pablo Orellano, Hua-liang Lin, Mei Jiang, Wei-jie Guan. [Short-term exposure to ozone, nitrogen dioxide, and sulphur dioxide and emergency department visits and hospital admissions due to asthma: A systematic review and meta-analysis](#)



European Region

Perez Velasco Roman, Jarosinska Dorota. [Update of the WHO global air quality guidelines: systematic reviews – an introduction](#)



What the AQGs provide

| Pollutant | Averaging time | IT1 | IT2 | IT3 | IT4 | AQG level |
|---------------------------------------|--------------------------|-----|-----|------|-----|-----------|
| PM _{2.5} , µg/m ³ | Annual | 35 | 25 | 15 | 10 | 5 |
| PM _{2.5} , µg/m ³ | 24-hour ^a | 75 | 50 | 37.5 | 25 | 15 |
| PM ₁₀ , µg/m ³ | Annual | 70 | 50 | 30 | 20 | 15 |
| PM ₁₀ , µg/m ³ | 24-hour ^a | 150 | 100 | 75 | 50 | 45 |
| O ₃ , µg/m ³ | Peak season ^b | 100 | 70 | – | – | 60 |
| O ₃ , µg/m ³ | 8-hour ^a | 160 | 120 | – | – | 100 |
| NO ₂ , µg/m ³ | Annual | 40 | 30 | 20 | – | 10 |
| NO ₂ , µg/m ³ | 24-hour ^a | 120 | 50 | – | – | 25 |
| SO ₂ , µg/m ³ | 24-hour ^a | 125 | 50 | – | – | 40 |
| CO, mg/m ³ | 24-hour ^a | 7 | – | – | – | 4 |

Air quality guideline levels for both long- and short-term exposure in relation to critical health outcomes

Interim targets (IT) to guide reduction efforts for the achievement of the air quality guideline levels

Good practice statements for certain types of particulate matter, for which evidence is insufficient to derive quantitative air quality guideline levels, but points to their health relevance

How can the updated AQGs be used?

As an evidence-informed tool

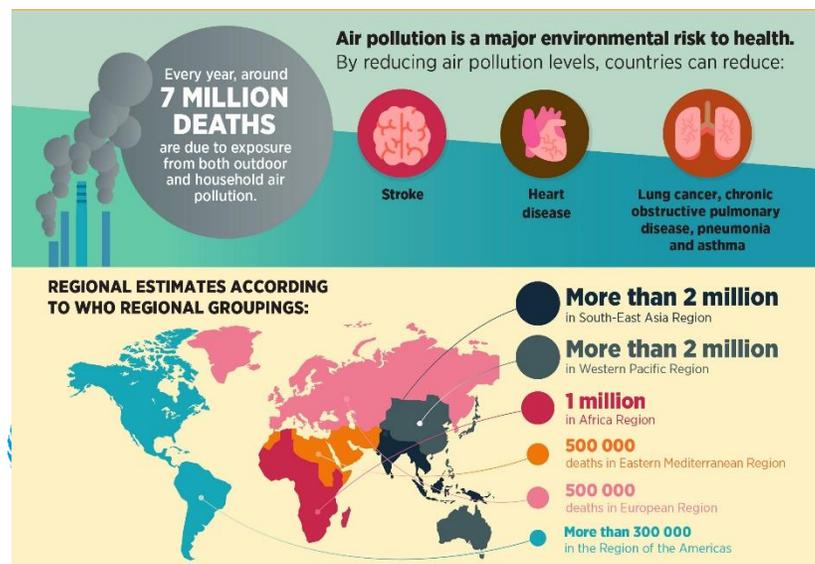
To stimulate research

For climate action

To guide legislation and policies, to reduce levels of air pollutants and decrease the disease burden due to air pollution exposure worldwide

To identify critical data gaps for future research to better protect people from the harmful effects of air pollution

Reducing air pollution and mitigating climate change together act to protect health



How can the WHO AQGs be used? An example from the European Union

An official website of the European U



Search

Brussels, 26.10.2022
COM(2022) 542 final

ANNEXES 1 to 11

ANNEXES

to the

**Proposal for a Directive of the European Parliament and of the Council
on ambient air quality and cleaner air for Europe (recast)**

{SEC(2022) 542 final} - {SWD(2022) 345 final} - {SWD(2022) 542 final} -
{SWD(2022) 545 final}

the
| to assess



European Region

[Revision of the Ambient Air Quality Directives \(europea.eu\)](https://europea.eu)



Annual TFH meetings

- ✓ International policies and processes on air quality and health
- ✓ Progress in research on air pollution and health
- ✓ Sharing country experiences
- ✓ Tools for air quality and health
- ✓ Communication and public health messages
- ✓ Implementation of the TFH workplan

2022-2023 Workplan

- **1.1. Improving tools to assess air pollution and its effects in the ECE region**
- **1.1.1. Monitoring and modelling tools**
- **1.1.1.27. Consolidate existing evidence** on health outcomes of exposure to air pollution
 - A report on **methods** for health risk/impact assessment of air pollution and cost-benefit analysis (update to **HRAPIE** project)
 - An overview on air pollution and COVID-19 (optional, pending resources)
- **1.1.1.28. Further develop methodologies for assessment of direct and indirect impacts of long-range transboundary air pollution on human health**
 - Update of **tools** for quantification of the health impacts of **air pollution**, including links to **climate change mitigation**
 - Assessment of health co-benefits and trade-offs between climate change and clean air agendas (optional, pending resources)

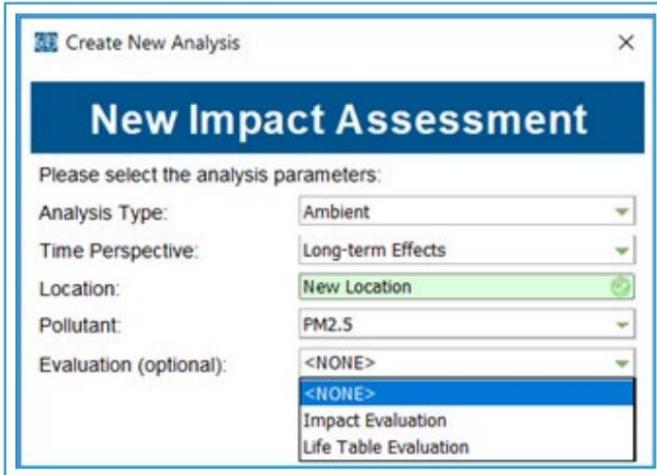
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WHO tools - air quality, climate change mitigation and health



The screenshot shows a web interface titled "Create New Analysis" with a sub-header "New Impact Assessment". Below the header, there is a section "Please select the analysis parameters:" followed by several dropdown menus. The "Analysis Type" is set to "Ambient", "Time Perspective" to "Long-term Effects", "Location" to "New Location" (which has a green checkmark), and "Pollutant" to "PM2.5". The "Evaluation (optional)" dropdown is open, showing options: "<NONE>", "Impact Evaluation", and "Life Table Evaluation".

AirQ+: a tool for health risk assessments of air pollution can be used, with some limitations, for cities, countries or regions to estimate:

- How much of a particular health effect is attributable to selected air pollutants?
- Compared to the current scenario, what would be the change in health effects if air pollution levels changed in the future?



The screenshot shows the "CLIMAQ-H" interface from the World Health Organization. It features a "Projects Overview" sidebar on the left with a tree view containing "Single Country Analysis", "Multiple Country Analysis - North Macedonia", "Multiple Country Analysis", "Multiple Country Analysis", and "Regional Analysis". The main content area has a "Welcome to CLIMAQ-H" message and instructions: "Start new analysis or select an existing analysis from the projects overview list on the left." Below this are three search boxes labeled "What is CLIMAQ-H?", "Getting started", and "Acknowledgements". At the bottom, there are three buttons: "Create new Single Country Analysis", "Create new Multiple Country Analysis", and "Create new Regional Analysis".

CLIMAQ-H (formerly CaRBonH): a tool to quantify health and economic effects of climate change mitigation through air quality improvements. Key questions addressed:

- Which air pollution and health benefits have been achieved through reductions in domestic carbon emissions for the proposed climate policies under the NDCs submitted by Member States to the UNFCCC?
- What would the magnitude of the economic benefits due to the future changes in health effects expected under the NDCs be?

2022-2023 Workplan

- **1.2. Cooperation with Parties**
- **1.3 Cooperation with other projects and bodies (outreach activities)**
- **1.2.3./1.3.5. Capacity-building for the health impact assessment of air pollution at regional and subregional levels**
 - Development and implementation of the **capacity-building** curriculum to address different needs
- **1.3.6. Promote health messages related to air pollution in Europe**
 - Formulation of health messages in air pollution, including on personal-level interventions
 - Workshop on risk communication, including for medical professionals, on health messages related to air pollution to the public and at individual level

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Thank you

The background image shows a park with a large, calm lake in the foreground. The water reflects the sky and the surrounding trees. The trees are mostly bare, with some showing autumn colors like yellow and orange. In the background, there are several modern buildings, including a prominent tall, cylindrical glass skyscraper. The sky is blue with scattered white clouds. The overall scene is peaceful and scenic.

Funding and in-kind support for AQGs provided by: European Commission, Swiss Federal Office for the Environment, German Federal Ministry for the Environment, Nature Conservation, Nuclear Safety and Consumer Protection, German Federal Ministry of Health, United States Environmental Protection Agency, Government of the Republic of Korea

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