

# Recent TFH activities on air quality and health



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# Presentation outline

1. 17<sup>th</sup> meeting of the WHO TFH (14-15 May 2014)
2. Recent TFH activities
  - a) WHO Expert meeting on “Methods and tools for assessing the health risks of air pollution at local, national and international level”
  - b) TFH paper on “Residential Heating with Wood and Coal: Health Impacts and Policy Options”
3. Other WHO activities

➤ *Funding from Switzerland, Germany, France and USA acknowledged*

# 17<sup>th</sup> TFH meeting

## (14-15 May 2014, Bonn, Germany)

1. Review of the progress in research on health impacts of PM and ozone;
  2. Update on the revision of the EU air policy;
  3. Discussion on WHO public health recommendations for air quality;
  4. Methods and tools for assessing the health risks of air pollution at local, national and international level (summary of WHO Expert Meeting);
  5. Monitoring and modeling of air pollution and its health impacts in countries;
  6. Presentation of scientific evidence for communication with policy makers
    - Includes various national activities and update on publication on health effects of residential heating with wood and coal
- *50 participants from 34 countries and other international organizations*

# Recent activities: expert meeting on Health Risk Assessment

- WHO expert meeting on “**Methods and tools for assessing the health risks of air pollution at local, national and international level**”
  - Held 12-13 May 2014 in Bonn, Germany
  - Attended by 50 experts
  - Propose an overview of available indoor and outdoor air pollution methods and tools
  - Identify general principles and appropriate methods and tools for conducting assessments for various scenarios and purposes
  - *Advice will inform a variety of HRA efforts (activities under UNECE TFH and TF HTAP, CCAC, others...)*

# Outcome of the WHO expert meeting

- Discussions and advice from the meeting will be used for the development of WHO publication
- Target audience:
  - community of policy makers;
  - health risk assessment practitioners at local, national and international level;
  - end users from various sectors in international agencies, research and advocacy groups.

# Residential heating with wood and coal: health impacts and policy options in Europe and North America

- Policy-relevant summary of health impacts and implications, developed following the recommendation of the TFH Network
- Paper for submission to LRTAP EB
- WHO publication currently being developed

Category of Information	Focus of this report	Less emphasis
Geographic scope (regions)	Europe and North America	Other countries where residential heating is required, including China and India
Type of fuel	Wood and coal	Other solid fuels, such as charcoal, peat, agricultural waste, and garbage
Type of heating	Single-home residential heating	District heating
Type of exposure	Population-level exposure to ambient air pollution from heating appliances	Indoor (in-home) air pollution; emissions from cooking with solid fuels

# Key messages (1/3)

- Burning solid fuels in the home creates air pollution indoors AND outdoors and is an important contributor to the air pollution problems in many areas
- There is evidence linking solid fuel heating emissions to serious health effects

# Key messages (2/3)

There are regulatory and/or voluntary measures available to reduce emissions from wood heating in developed countries:

- Fuel switching
- Heater and woodstoves exchanges
- District heating
- HEPA filtration
- Educational campaigns
- Regulatory emissions limits
- Non-burn days
- Model bylaws and codes of practice
- Ecolabelling

# Key messages (3/3)

- Policy needs regarding future use of biomass for heating and energy production are identified.
- There is a need for better alignment between climate policy and air pollution policies in many countries.
- There are co-benefits for health and climate of reducing residential heating emissions.

# Other WHO activities

- WHO burden of disease from air pollution
- Launch of WHO indoor air quality guidelines for household fuel combustion (October 2014)
- Update of WHO ambient air quality guidelines (tentative start end of 2014)

# Burden of disease from air pollution

- Almost 600,000 deaths in the European Region in 2012
    - 482,000 attributable to (outdoor) ambient air pollution
    - 117,200 attributable to (indoor) household air pollution
- [http://www.who.int/phe/health\\_topics/outdoorair/databases/en/](http://www.who.int/phe/health_topics/outdoorair/databases/en/)

*Source: WHO (2014)*

# WHO Air Quality Guidelines

- Evidence-based, normative guidance
  - Air quality guidelines
    - Guidelines for Europe (1987, 2000)
    - Global update (2005; **next revision pending**)
  - Indoor air quality
    - Dampness and mould (2009)
    - Selected pollutants (2010)
    - **Household fuel combustion (October 2014)**

# WHO Indoor air quality guidelines for household fuel combustion

- Provide guidance on policies and impact of different fuels and technologies (for cooking, heating and lighting) on health
- Recommendations for emission rate targets in order to meet the WHO ambient Air Quality Guidelines for CO and PM2.5
- Recommendations for household energy transition from traditional and low emission biomass to clean fuel use.
- *“Unprocessed coal should not be used as a household fuel”*
- *“Household combustion of kerosene should be discouraged while further research into its health impacts is conducted”*

# WHO Indoor air quality guidelines for household fuel combustion

- The home does not exist in isolation:
  - Household emissions enter ambient air, re-enter homes and lower IAQ: hence, total emissions should be minimized.
  - Local ambient air quality (from homes and other sources) affect IAQ: this must be considered in order to achieve clean indoor air
- Based on evidence, exclusive use of clean fuels is required to achieve WHO AQG (PM<sub>2.5</sub>)
- Launch of guidelines in October 2014

# WHO AQG update: pollutants for consideration

Organic pollutants	Inorganic pollutants	Classical pollutants
<ul style="list-style-type: none"><li>• Acrylonitrile</li><li>• Benzene</li><li>• Butadiene</li><li>• Carbon disulfide</li><li>• Carbon monoxide</li><li>• 1,2-Dichloroethane</li><li>• Dichloromethane</li><li>• Formaldehyde</li><li>• Naphthalene</li><li>• PAHs</li><li>• Styrene</li><li>• Tetrachloroethylene</li><li>• Toluene</li><li>• Trichloroethylene</li><li>• Vinyl chloride</li></ul>	<ul style="list-style-type: none"><li>• Arsenic</li><li>• Cadmium</li><li>• Chromium</li><li>• Fluoride</li><li>• Hydrogen sulphide</li><li>• Lead</li><li>• Manganese</li><li>• Mercury</li><li>• Nickel</li><li>• Platinum</li><li>• Vanadium</li></ul>	<ul style="list-style-type: none"><li>• Nitrogen dioxide</li><li>• Ozone and other photochemical oxidants</li><li>• Particulate matter</li><li>• Sulphur dioxide</li></ul> <p>Other:</p> <ul style="list-style-type: none"><li>• Black carbon</li><li>• ???</li></ul>

# Upcoming WHO activities

- WHO Conference on Health Economics of Air Pollution, 27-28 November, Bonn, Germany
  - Joint publication WHO/OECD
- TFH meeting May 2015:
  - Special session on communication of air pollution health messages to the public
  - Special session on economics aspects
- Air pollution monitoring and related health risk assessment in countries

# THANK YOU!

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