

THADE Towards Healthy Indoor Air in Dwellings in Europe

EFA Project 2002 – 2004

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Introduction

This project was undertaken 2002 in the wake of the very successful 'EFA Indoor Air Pollution in Schools' (2000) study. It is well established that the indoor environment contributes significantly to human exposure to pollutants. Indoor air pollution increases the risk of respiratory symptoms/diseases, atopic sensitization, bronchial hyper-responsiveness, lung cancer, respiratory infections and irritations. Since people spend most of their time inside, especially at home, exposures from outdoor and indoor sources should be separately assessed.

Actions and programmes on indoor air quality in dwellings are in place in many countries. The main implementation strategies are legislation, codes and norms, research projects and information for the general public. However, these actions are usually targeted to a specific topic or issue rather than an overall national strategy. The difficulty in establishing global policies and programmes on indoor air quality stems from the partition of jurisdiction of indoor air problems among governing bodies. In fact, comprehensive national programmes must necessarily involve many different governmental departments and integrate various levels of political and technical responsibility. Particularly in large countries, actions and programmes are planned and managed also at region/country/municipal level and are subjected to regional and national control. Therefore, national and international bodies active in this area should be encouraged to use their experiences to produce comprehensive national plans.

The results of the THADE project confirm that air pollution in dwellings is a real health problem. It is a complex issue that must be approached at European and international level, and involves the medical profession, scientific societies, patients' organisations, lawmakers, architects, builders and the building industry as a whole, ventilation experts, etc.

Objectives

- Review the data and evidence-based information related to exposure and to the health effects of air pollution in dwellings particularly as regards allergies, asthma and other respiratory diseases.
- Review cost-effective measures and technology to improve air quality in dwellings.
- Review legislation and guidelines on air pollution and air quality in dwellings.
- Produce maps of pollutants in dwellings.
- Recommend an integrated strategy that defines appropriate indoor air quality policies for implementation in Europe, and identify appropriate technology.

The THADE Report is available at www.efanet.org
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Avenue Louise 327, 1050 Brussels, Belgium. E-mail efaoffice@skynet.be.

The core messages of the THADE project can be summarised as follows:

1. Everyone has the right to breathe healthy indoor air.

This important statement was endorsed by the WHO in June 2000, subsequent to a body of scientific data that revealed the risks related to poor indoor air quality (IAQ) and the technical means to counteract it.

2. IAQ is not taken in due consideration by either the public-at-large or policy decision makers.

Thus far, only allergy and asthma patients have experienced the consequences of bad IAQ (at home, in school, in hotels, etc.). Therefore, poor IAQ is mistakenly believed to be a problem that concerns only a limited number of people. However, IAQ is an important problem for everyone, including 'healthy' people.

3. The public-at-large is unaware of the negative effects of poor IAQ.

The public-at-large is more conscious of the negative effects of bad outdoor air quality, particularly as regards traffic pollution. The impact of IAQ is very high because we spend almost all our time indoors. Moreover, the public is not aware that various substances found in homes (cleaning products, furniture components, paint etc.) and in building materials are dangerous, 'hidden' sources of pollution.

4. Air quality, mainly outdoor air quality, has received great attention in recent decades, whereas IAQ has been largely ignored. It is important to understand the effect of pollutants originating outdoors and indoors on IAQ and control both of them.

5. Health determinants of the indoor environment have been identified. The most relevant are: second hand smoke, dust mites, mould, pollen, nitrogen oxide, formaldehyde, volatile organic compounds, suspended particulate matter, man-made mineral fibres, cockroaches, allergens from pets, carbon monoxide and carbon dioxide.

6. Reduction of indoor air pollution requires a combination of public health policy and protective measures taken by the individual. This is particularly true for IAQ in dwellings. The actions that can be taken at political and industrial level are: abolish tobacco smoking; elimination of sources of pollution, and substitute materials and equipment that are sources of pollution, with more environmental-friendly materials. On the other hand, families can avoid smoking at home, they can use cleaning products that do not emit polluting substances, and ensure adequate ventilation, etc.

7. Indoor air pollution may cause or aggravate health effects, particularly in more susceptible people (i.e. people with allergies, asthma and COPD, the very young and the elderly).

8. National and international bodies, together with all parties concerned should draw up comprehensive national/international plans to improve IAQ based on recent advances in this field and should encourage industry to produce building products that emit low levels of pollution. These plans should include actions to avoid smoking indoors, information campaigns for the public on how to maintain a healthy indoor environment.

9. Guidelines for a healthier indoor environment should be developed on European and national level with the help of professional societies. These guidelines should include but not be limited to:

- Controlling moisture in buildings to avoid problems related to mould and dust mites.
- Ventilation for residential and non-residential buildings to control pollutants generated indoors.
- Measuring emissions from building materials and consumer products including criteria for low polluting materials and products, and labelling systems.
- Criteria for buildings to ensure a healthy indoor environment, including the limit values of known pollutants.
- For the public on how to check and control the indoor environment of their home to ensure it is 'healthy'.
- For the operation and maintenance of buildings as regards health.
- For heating and cooking to avoid indoor pollution and moisture problems.

From the data collected and reviewed in this report, we have identified a series of highly feasible actions that will undoubtedly lead to healthy indoor air in Europe.