

# Indoor health priorities and policies

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# agenda

- Brief recap of our study on indoor health priorities
- Some thoughts about the next steps & policies



# Objectives

1. the health impacts, including uncertainties, and to make recommendations for filling any information gaps;
2. the key indoor air pollutants in homes and key public spaces across the EU, with an indication of the potential for intervention;
3. and, based on the Member States' current practice, to inform the Commission on:
  - a) the risks associated with the exposure to indoor air pollutants in public spaces;
  - b) the existing surveillance monitoring schemes of public spaces and private homes;
  - c) the implementation of exposure limits.



# Key messages

1. **Consensus on a cross-section of priority pollutants:** ETS, formaldehyde, CO, particles (PM2.5 and PM10), NO2, benzene, naphthalene, moulds and mites, dampness/moisture, CO2 (measure for ventilation) and radon.
2. **Participation** and consensus, EWGIA offers a good platform.
3. A **common framework**, supported by guidelines or limit values.
4. Consider the development of **European guideline values or limit values** for these pollutants.
5. **The basic tools and instruments should be harmonised** at EU level.
6. A **harmonized monitoring** approach
  1. for chemical pollution and ventilation (CO2) in **schools**.
  2. to monitor microbial contamination in **hospitals**, and care centres for the elderly.
  3. More knowledge on the acute exposure in different **transport** systems.
7. How to tackle indoor **moulds and dampness in existing private residences**.
8. **Reduce children's exposure to ETS in private residences**.
9. **European research**



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2. **Participation** and consensus, EWG **INTEGRATION**

3. A **common framework**, supported by guidelines or limit values.

4. Consider the development of **European guideline values or limit values** for these pollutants.

5. **The basic tools and instruments** should be harmonised at EU level.

6. A **harmonized monitoring** approach **HARMONIZATION**

1. for chemical pollution and ventilation (CO2) in **schools**.
2. to monitor microbial contamination in **hospitals**, and care centres for the elderly.
3. More knowledge on the acute exposure in different **transport** systems.

7. How to tackle indoor **moulds and dampness in existing private residences**.

**TARGETTING the vulnerable**

8. **Reduce children's exposure to ETS in private residences**.

9. **European research** **INNOVATION**





# FOR WHICH POLLUTANTS?

- ***ETS, formaldehyde, CO, particles (PM2.5 and PM10), NO2, benzene, naphthalene, moulds and mites, dampness/moisture, CO2 (measure for ventilation) and radon.***
  - INDEX, THADE, SCHER opinion, WHO indoor air working group,
  - Consensus on a cross section
    - the opinion of workshop participants,
    - Current practice in MS
- This prioritization relies on the existing body of evidence, more than on a formal health impact assessment.
- A formal health impact assessment is however crucial to include the health impacts of indoor air pollution and the benefits of indoor air quality interventions in a cost-benefit assessment.



# FOR WHICH INDOOR ENVIRONMENTS?

- For most of the priority pollutants, information on indoor air concentrations in various micro-environments is available.
  - However, different measurement techniques/periods,
  - Most studies are limited to a short period of time,
  - not necessarily representative for the EU, nor for a EU region.
- The most useful information in the **pan European studies** like EXPOLIS, MACBETH, PEOPLE and AIRMEX.
  - In these studies, the same methods and study-setup is applied across different EU cities.
- Specific selection of public spaces more based on national studies, consensus, common sense rather than EU-wide RA
  - Schools, hospitals/elderly homes, transport (?)



# HOW?

- Expand existing instruments and methods
- With a focus on health, via exposure limits
- Backed by a monitoring of implementation
- In a harmonized way
  - Of emission testing procedures
  - Of monitoring requirements
  - What, how, where and when to measure?
    - →ECA, CEN ...





# HOW?

- Communicating benefits...
  - The succes of smoking ban as example
  - Passively exposed vs. Active ETS polluters
  - Children are always passively exposed
- ... And limitations
  - the majority of indoor problems requires a DIY solution,
    - with individuals understanding the risk, managing the risk and reducing the risk.
    - Policy makers role is to communicate and to enable this!



# Gaps and uncertainty

- Exposure-Response Functions from small panel studies
  - Extend the epi database through research (APHEA/expolis-like)
  - Review and meta-analysis in (WHO)working groups
  - Causality and transferability for use in HIA
- Country-specific exposure and prevalence data
- Exposure assessment is the challenge for indoor air
- Particles – house dust !
  - Excellent risk assessment in INDEX should continue
- Specify the inclusion of emerging pollutants in EU research.



# Overall

- Consensus based on evidence about health and exposure.
- Technical problem of implementation of IAQ policies: logistics of monitoring compliance → this requires innovative solutions



# A reflection (on EnVie)

- We are quite good in describing the complexity of indoor (air) policy making
  - It needs to take into account
    - Outdoor policies
    - Climate policies
    - Prevention policies
    - Product policies
  - It requires consistency across
    - Policy domains
    - Industrial sectors
    - Countries
    - Building styles...
  - It is important to address physical, chemical, biological and behavioural aspects at the same time, depending on their overall importance, their risk...



# And now ... policy...action!

- We know who needs to be involved and what needs to be tackled
- We urge for a decisive set of playing rules
- And we are generally not satisfied when policy makers come up with something (we always know better 😊)

→ EnVie challenges us to become more precise and practical in our definition of the necessary actions

- This is perhaps not our role
- It requires additional competences (juridical...)

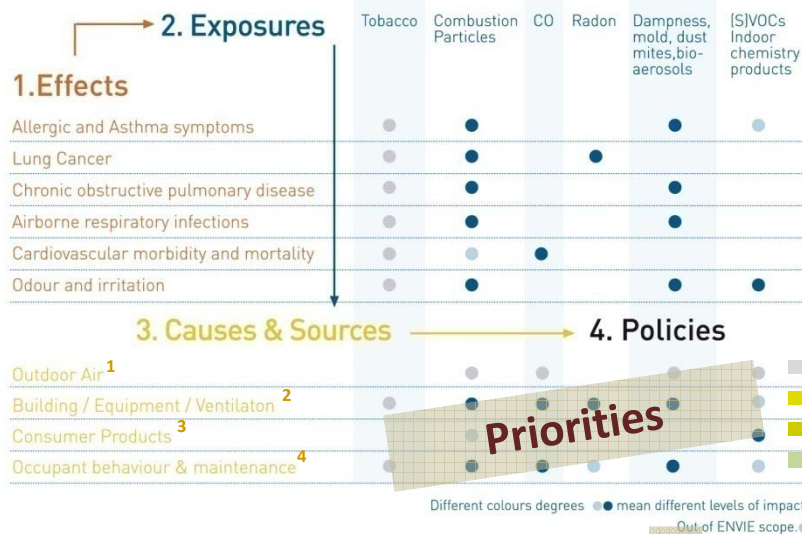






# Essential requirement 1: inventory

Existing policies/legislation



WHO Guidelines	WHO Guidelines for IAQ: Dampness & mould		
CAFE Dir. 96/62/EC 99/30/EC 2000/69/EC 2002/3/EC	90/143/Euratom <sup>5</sup> 2002/91/EC (EPBD) <sup>6</sup> 2002/95/EC <sup>7</sup> 2005/32/EC <sup>7</sup> 89/106/EEC (CPD) <sup>8</sup> 2004/42/EC <sup>9</sup> 2006/121/EC <sup>10</sup>	2001/95/EC <sup>11</sup> (GPS) 2006/121/EC <sup>10</sup>	90/396/EEC <sup>12</sup> 92/42/EEC <sup>13</sup> 2006/121/EC <sup>10</sup>
	Building codes EPBD + IAQ (PT)		Voluntary labelling schemes for materials (FI, DK, GE, FR,...)

## Proposed policies

- Directive on IAQ (!)
- REACH + CPD + EPBD (incl. IAQ response)
- Harmonised voluntary labelling schemes
- Consumer products labelling
- Monitoring systems & schemes through EU

- 1) Taken as granted. Out of EnVIE scope.
- 2) Building materials; paints; HVAC systems;...
- 3) Furniture; mattresses; upholstery; candles; incense; air 'fresheners';...
- 4) Cooking; fireplaces; cleaning products; air cleaners; varnishes; waxes;...
- 5) Radon
- 6) Energy Buildings Performance Directive
- 7) Electrical appliances
- 8) Construction Products Directive ( E. Req. #3)
- 9) Paints & varnishes
- 10) REACH
- 11) General Products Safety Directive
- 12) Burning appliances
- 13) Boilers

Legend:

- WHO Guidelines
- EC Policies/Legislation
- Member States Policies/Legislation

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# Essential requirement 2: integration

**INTEGRATION OF POLICIES AT THE LEVEL OF GLOBAL SUSTAINABILITY**

Climate & energy policies  
Urban environment and public health  
Socio-economic inequality - Sustainable housing – quality of life

**INTEGRATION OF POLICIES AT THE LEVEL OF PUBLIC HEALTH**

*Environment (Ambient air quality guidelines directive 96/62/EC, CAFE...), Anti-tobacco legislation, Prevention policies (lifestyle and behaviour),*

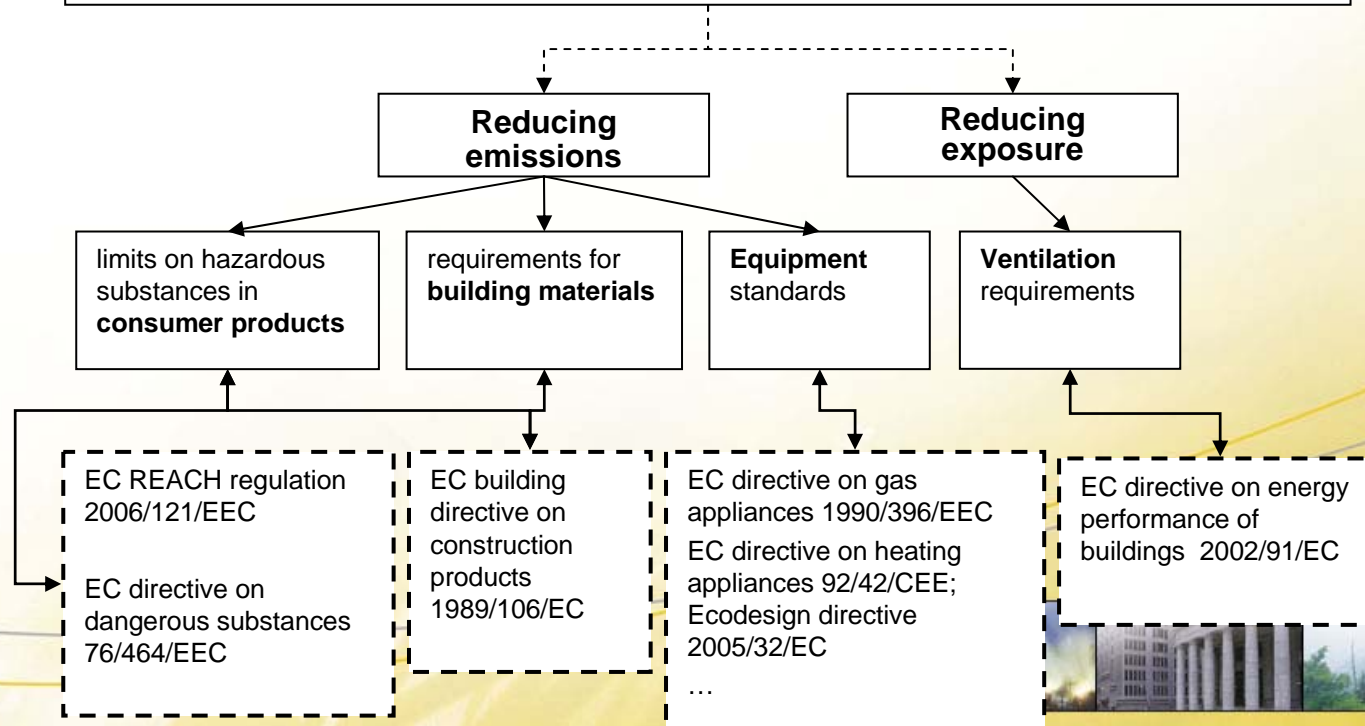
**INTEGRATION OF POLICIES AT INDOOR LEVEL**

*Indoor environment - indoor air quality guidelines  
monitoring programmes  
sanitation plans*

**ALARA**

**CAUSES & SOURCES**

**POLICY INSTRUMENTS AT SECTORAL LEVEL**

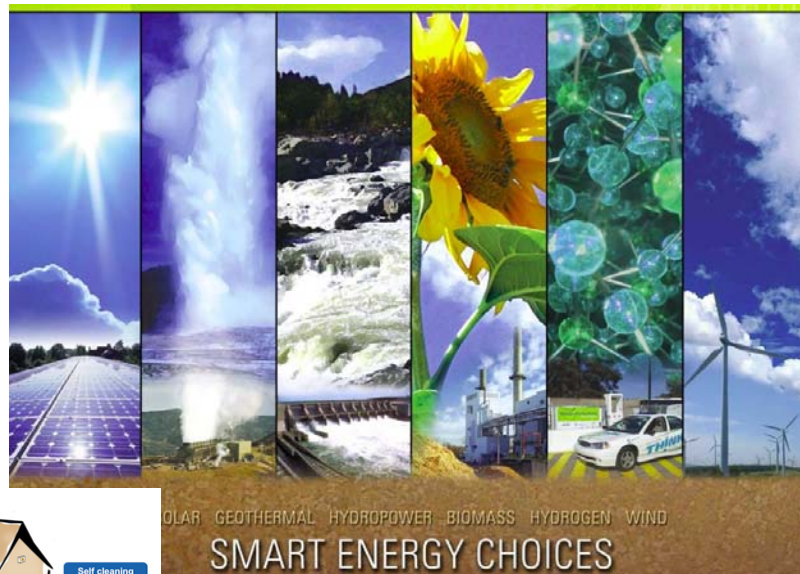


# Essential requirement 3: Be SMART!

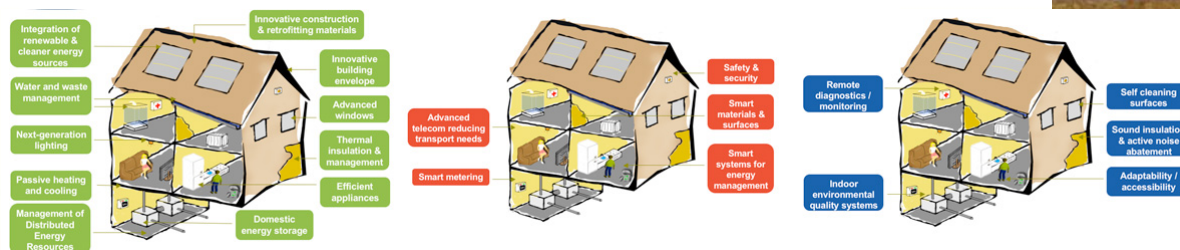
- Smart cars



Smart energy



- Smart buildings



- Smart policies
  - (Specific, Measurable, Achievable (accountable?), Relevant and Time-bound)

# conclusion

- We now have an inventory of policies and instruments
- There is progress in putting the indoor environment on the agenda,
  - integrated in the wider picture of the (built) environment, climate and health.
  - Use (sharpen) existing policies dealing with it;
- Missing links:
  - exposure limits, IAQ guidelines to control (combined) exposures
  - A framework, measurable criteria and consistency between IAQ policy and other policies
  - Reconciliation between climate measures, urban planning, outdoor AQ and IAQ





# FINALLY

- If you had a euro to spend...
- Socio-economic inequality and poor housing
- The exposure of children indoors to privacy related behaviour, lifestyle or through ignorance of risks





# Thank you!

- Report available at EHAP website
- [http://ec.europa.eu/environment/health/pdf/report\\_nov\\_2007.pdf](http://ec.europa.eu/environment/health/pdf/report_nov_2007.pdf)
- Including annex on exposure data, exposure response relationships, country specific information
- [http://ec.europa.eu/environment/health/pdf/report\\_annexes\\_nov\\_2007.pdf](http://ec.europa.eu/environment/health/pdf/report_annexes_nov_2007.pdf)

