



Flanders
State of the Art

HBM4EU

Translating science into policy

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**ENVIRONMENT
NATURE &
ENERGY
DEPARTMENT**

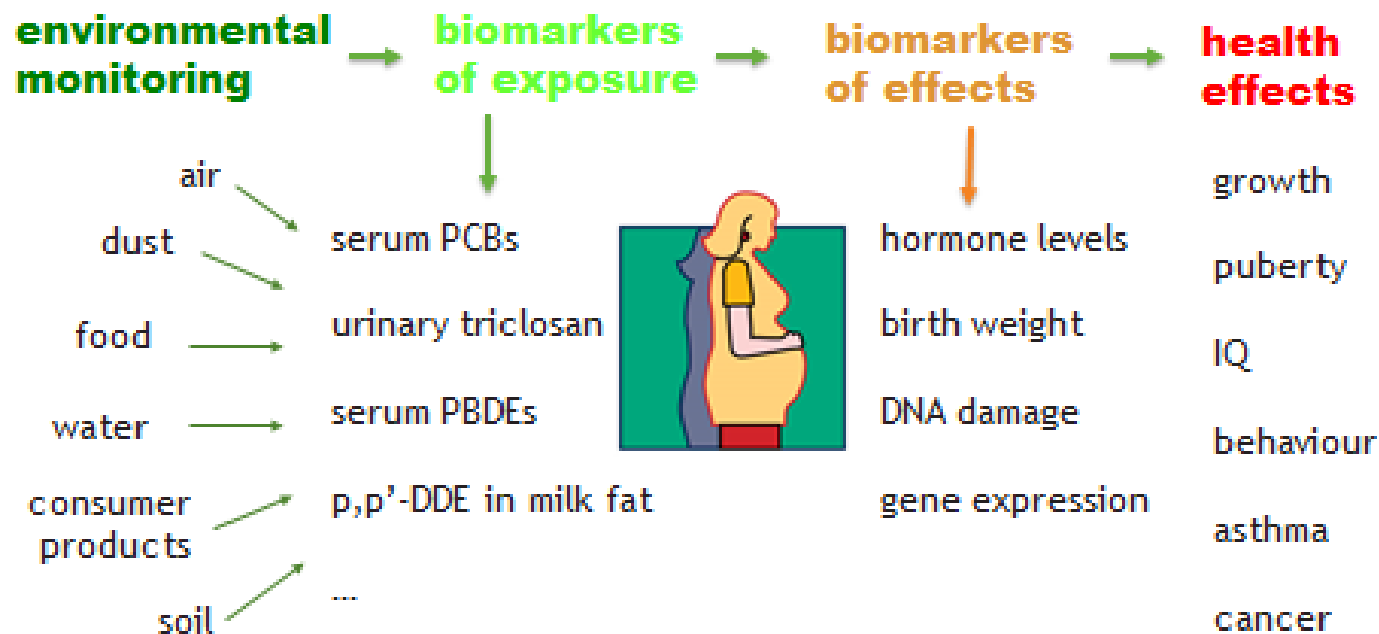


A coordinated HBM for policy

Not an easy job....

“A method for assessing human exposure to chemicals by measuring the chemicals, their metabolites or reaction products in human tissues or specimens, such as blood or urine”

HBM: LINKING ENVIRONMENTAL EXPOSURE TO HEALTH EFFECTS



HBM

assets and responsibilities on different levels

- General public and non-profit stakeholders: pollution gets personal → possibility to optimize life style
- Scientists: development and interpretation, HBM programs stimulate research
- Policy makers: translation of the results into policy actions, building trust and informing the public
- Industry: providing information on and helping to develop monitoring tools

Member states



EUROPEAN
COMMISSION



**Science
and innovation**



Society

FLEHS



Action



science and policy
for a healthy future



Combining forces

Sharing knowledge
and expertise

Harmonizing



Bridging gaps

Creating
sustainable
future



Some Flemish experiences from a policy perspective....



FLEHS

Almost **15 years** of follow up
of **general population** (**3 age groups**)
and **hot spots**

More than 5500 participants
Combination of **cross sectional** and **cohort studies** → **samples stored in biobank**

Reference values for more than 50 biomarkers of exposure and biomarkers of effect

Classical pollutants: heavy metals, dioxins, PCBs, PAHs, DDT, ...

'New' pollutants: phthalates, musks, parabens, organo phosphate pesticides, ...

Biomarkers of effect: genotoxicity markers, hormone levels, non-invasive markers in breath condensate, fertility markers, questionnaires (e.g. asthma and allergy), ...

Future: 4th FLEHS with focus on Space & Health; Ecobehaviour and Emerging chemicals



STIMULANT for SCIENCE AND INNOVATION

- More than **120 publications and 16 PhD's**
- Collaboration between **all Flemish universities and the institutes PIH and VITO within a Policy Research Center of Environment and Health:** co-creation of knowledge based on interdisciplinary research including epidemiologists, toxicologists, food scientists, social scientists, chemists, medical doctors,
- More than **20 policy orientated scientific research projects grafted on HBM surveillance program dealing with:**
 - ***development of biomarkers:*** e.g. biomarkers of exposure to wood burning
 - ***vulnerable populations:*** e.g. exploring risk profiles in the context of social inequality to environmental exposure
 - ***associations between several types of environmental and health data:*** e.g. lining outdoor and indoor air concentrations and in-vitro assays to HBM data



STIMULANT for SOCIETY

HBM as basis for mutual trust....

1. Feeding the political and societal debate...

- FLEHS -> **answers on more than 160 questions** from Flemish parliament to the minister of environment and/or health since 1995
- Structural **collaboration between departments of Science and Innovation, Environment and Public Health, Education** → health in all policies

2. Stimulating community involvement: the HBM program actively responded to specific (local) concerns and public perceptions

Each HBM cycle -> concrete community-based participatory policy translation -> **concrete policy actions** communicated by ministers for environment and health -> **caring government: trust**

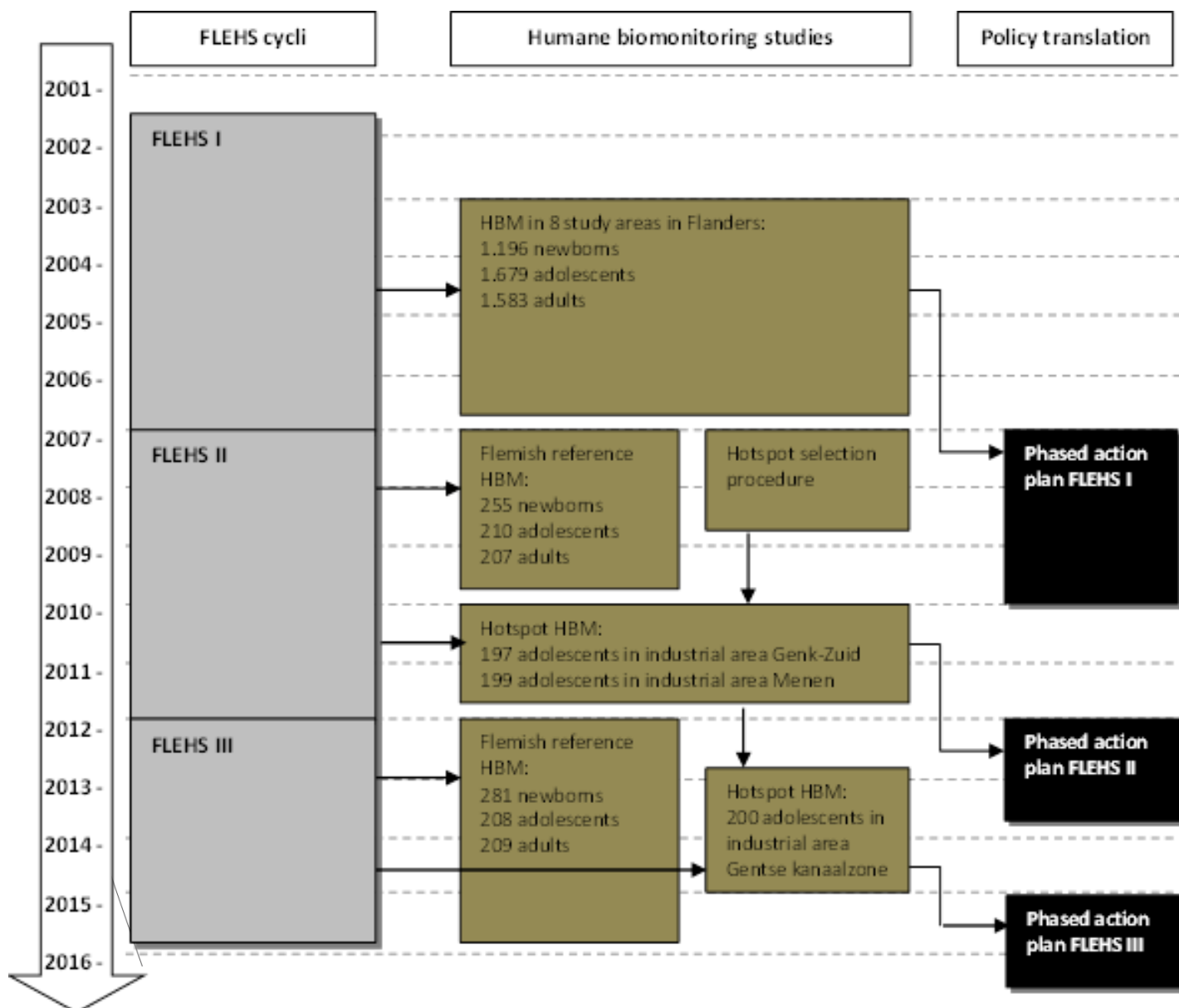


3. Empowering participants

HBM makes pollution personal -> **awareness raising empowerment and support for policy action**

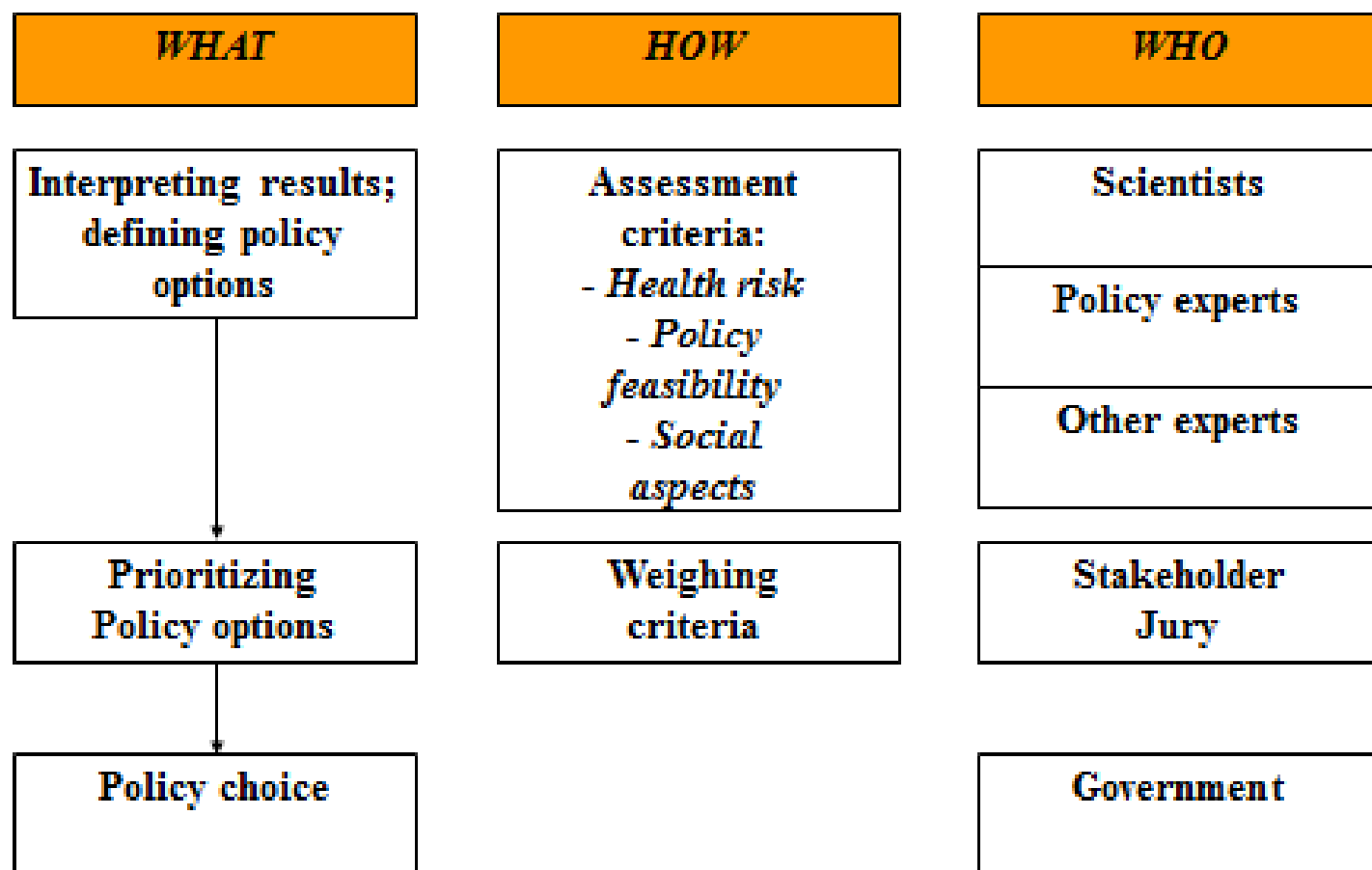


Stimulant for policy ACTION



Flemish 'phased action' plan for policy translation:

Concepts for a close collaboration between Science and policy





STIMULANT for policy ACTION

Source-related regulation

- Further optimisation of existing Flemish legislation on open fires
- Sales ban miniature garbage incinerator



Monitoring

- Optimization of environmental air POPs monitoring programmes: not only source oriented measurements but also
 - determination of background values
 - monitoring of residential and agricultural areas
 - extra monitoring of POPs in mother milk



Communication and awareness raising

- Special campaign of awareness raising and collection of DDT and other forbidden pesticides for waste disposal
- New campaign on outdoor and indoor stoking/wood burning
- Campaign of 'good practise' for cultivation of crops and eggs in (public) gardens



Work in progress

Development of HBM indicators to enhance the use of HBM-results in policy context

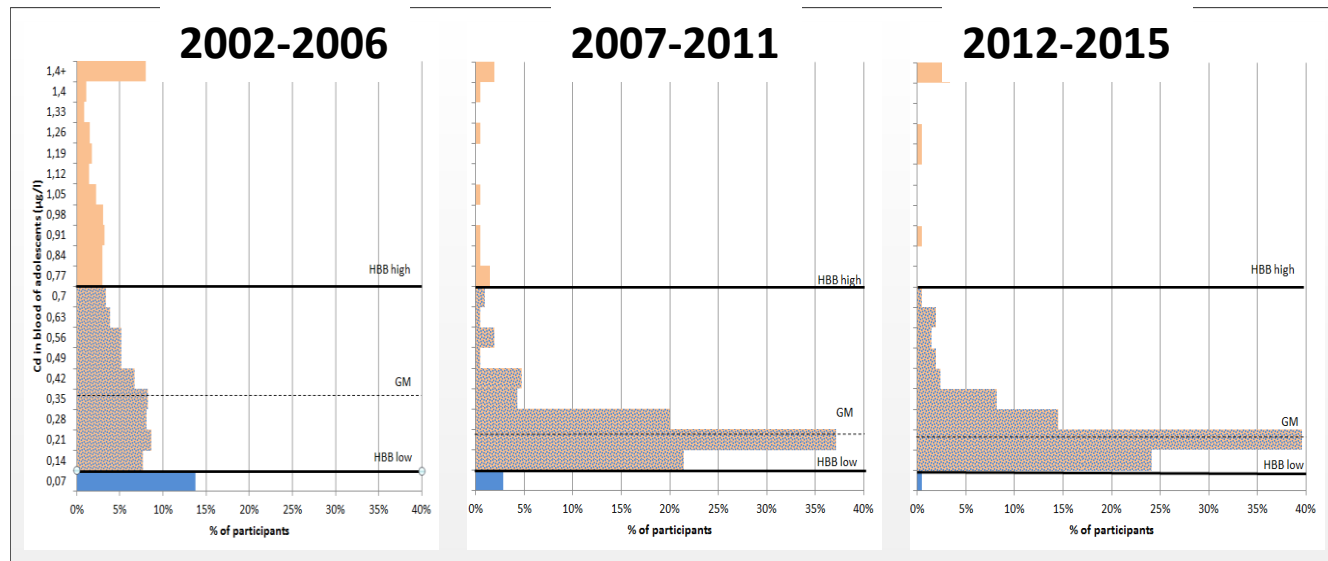
3 FLEHS campaigns

e.g. blood Cd in adolescents

Time trends

HBM-based indicators

Policy-orientated



Principles

- Absolute and relative values
- Range of health based guidance values (science uncertainty)
- Fiche with attendant information
- Neutral colors



science and policy
for a healthy future

Impact of HBM4EU

Science



- **Better understanding** of the nature, level and effects of **chemical exposure** in EU citizens
- **Coordinated HBM initiatives** in Europe at national and EU level

Action



- Establishment of an **EU-wide** base of **human exposure data** for **regulation** and **catalyzation of participatory policy translation**

Society



- Preparation of a possible **public-public partnership** to ensure **Sustainability**
- **Increase awareness** and **mutual trust** --- **increase** utility of HBM

EU-wide base of **human exposure data** for **regulation** and **catalyzation of participatory policy translation**

WP 4 and 5

open dialogue between scientists, risk assessors, policy makers, stakeholders → promote broader use of HBM data by:

- Development prioritisation strategy** -> stimulate policy relevance of results
- European HBM values and statistically derived reference values**
- Improve use of HBM in risk assessment**
- Development of a phased plan for action** → joint and participative policy interpretation of HBM data

Measuring and monitoring Impact of HBM4EU

*If you don't measure it,
you can't improve it.*



A priori development **of indicators** to monitor and measure **performance and impacts** of HBM4EU (WP6) based on **societal, scientific and policy** perspectives

Indicators should capture:

- progress towards and EU-wide HBM platform
- performance of research activities
- impact on policy and regulation
- increase national coordination of HBM related activities
- increased engagement of less active countries



**Crucial tool
for
HBM
Sustainability
discussion**

Thanks to....



Flemish Center of Expertise on Environment and Health
<http://www.milieu-en-gezondheid.be/English/index.html>

Department of Science and Innovation
Department of Health

Participants and all stakeholders of FLEHS from 2001-.....

Phased plan for action partners:



HBM4EU



Contact details

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Flemish government

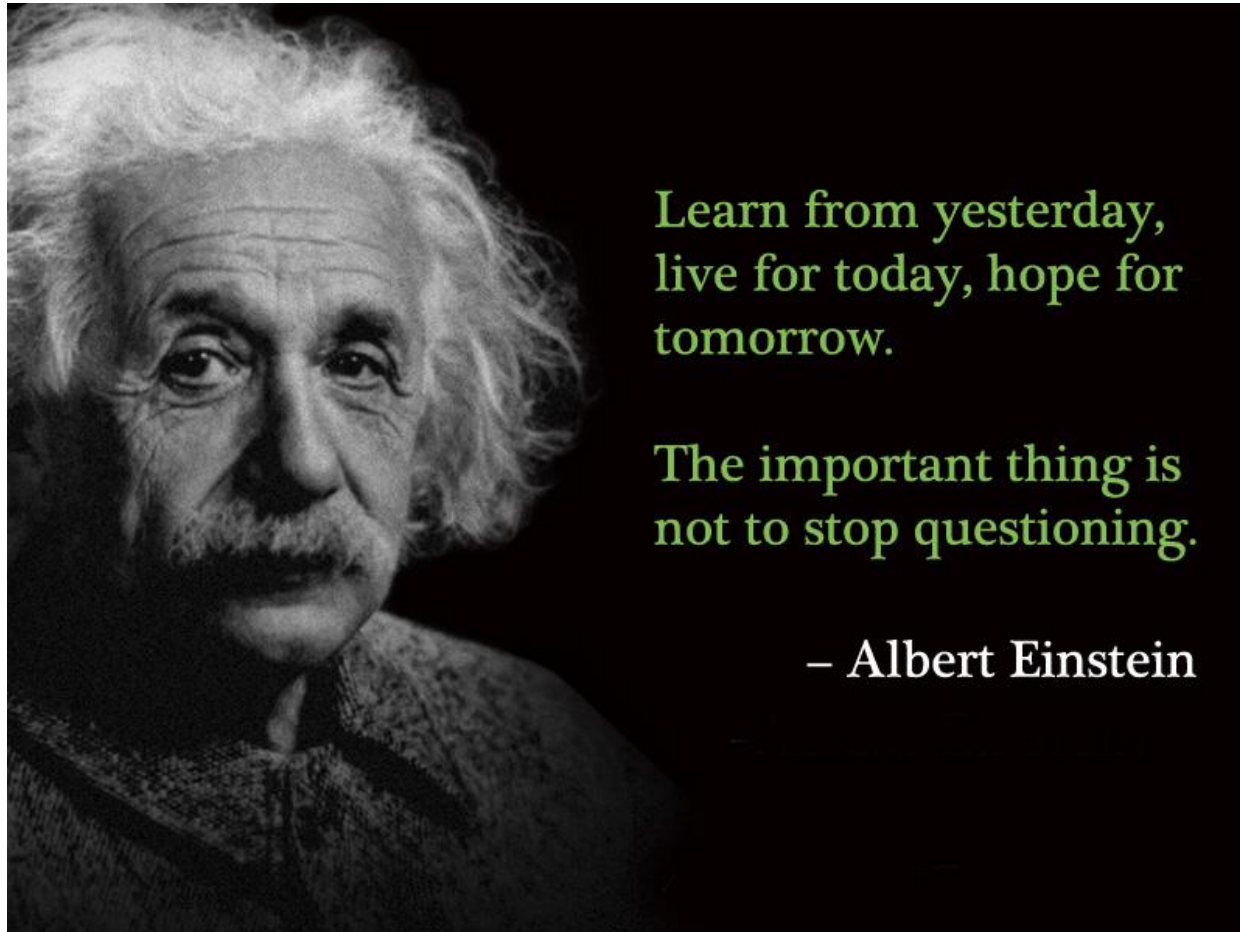
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Questions?



Learn from yesterday,
live for today, hope for
tomorrow.

The important thing is
not to stop questioning.

– Albert Einstein