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Horizon 2020 Work Programme for Research & Innovation 2018-2020

Environment and Health

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Research and
Innovation



Agenda

16.00 – 16.15 Priority 1.5 *'Decoding the role of the environment, including climate change, for health and well-being'* - background and topics

Maria Pilar Aguar Fernandez - Head of Unit, Innovative Tools, Technologies and Concepts in Health Research, Health Directorate, DG RTD

16.15 – 16.25 Q&A on 'beyond business as usual' parts



The political frame

Evidence of the impact of environmental factors on human health

'Genetics loads the gun but environment pulls the trigger'

Dr. Francis Collins, NIH Director



- Sustainable Development Goals (2015-2030)
- WHO Environment and Health Process (since 1989)
- The UNFCCC Paris Agreement

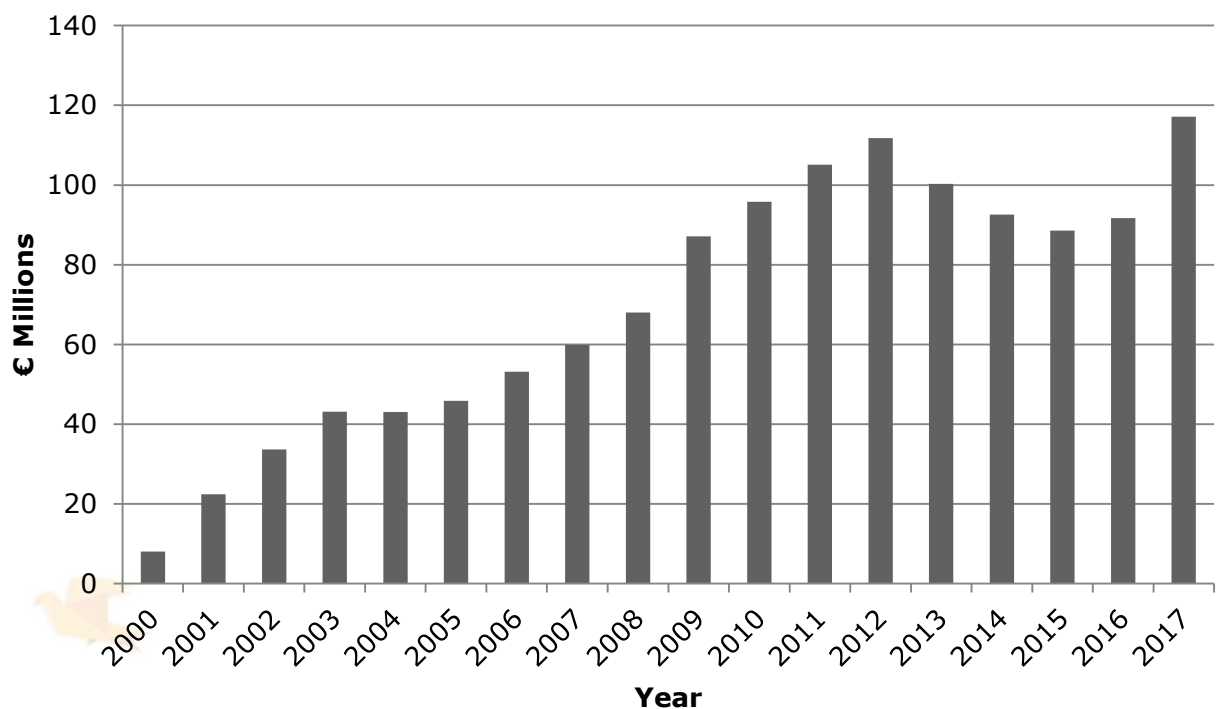


- The EU's 7th Environment Action Programme (2013-2020)
- Horizon 2020 (2014-2020)
- EU policies & regulations addressing environmental stressors

Some background reading

- Environment and Health Research: <https://ec.europa.eu/research/health/index.cfm?pg=policy&policyname=environment>
- Ostrava Ministerial Declaration: <http://www.euro.who.int/en/media-centre/events/events/2017/06/sixth-ministerial-conference-on-environment-and-health/documentation/declaration-of-the-sixth-ministerial-conference-on-environment-and-health>
- The Lancet Commission on pollution and health: <http://www.thelancet.com/commissions/pollution-and-health>
- Communication from the Commission on draft acts setting out criteria for the determination of endocrine disruptors: https://ec.europa.eu/health/sites/health/files/endocrine_disruptors/docs/com_2016_350_en.pdf
- Report from a EC funded study on Thyroid disruption <https://publications.europa.eu/en/publication-detail/-/publication/472d2c88-a8b1-11e7-837e-01aa75ed71a1/language-en>
- The European Human Biomonitoring Initiative, HBM4EU: www.hbm4eu.eu
- Information Platform for Chemical Monitoring, IPCheM: <https://ipchem.jrc.ec.europa.eu/RDSIdiscovery/ipchem/index.html>

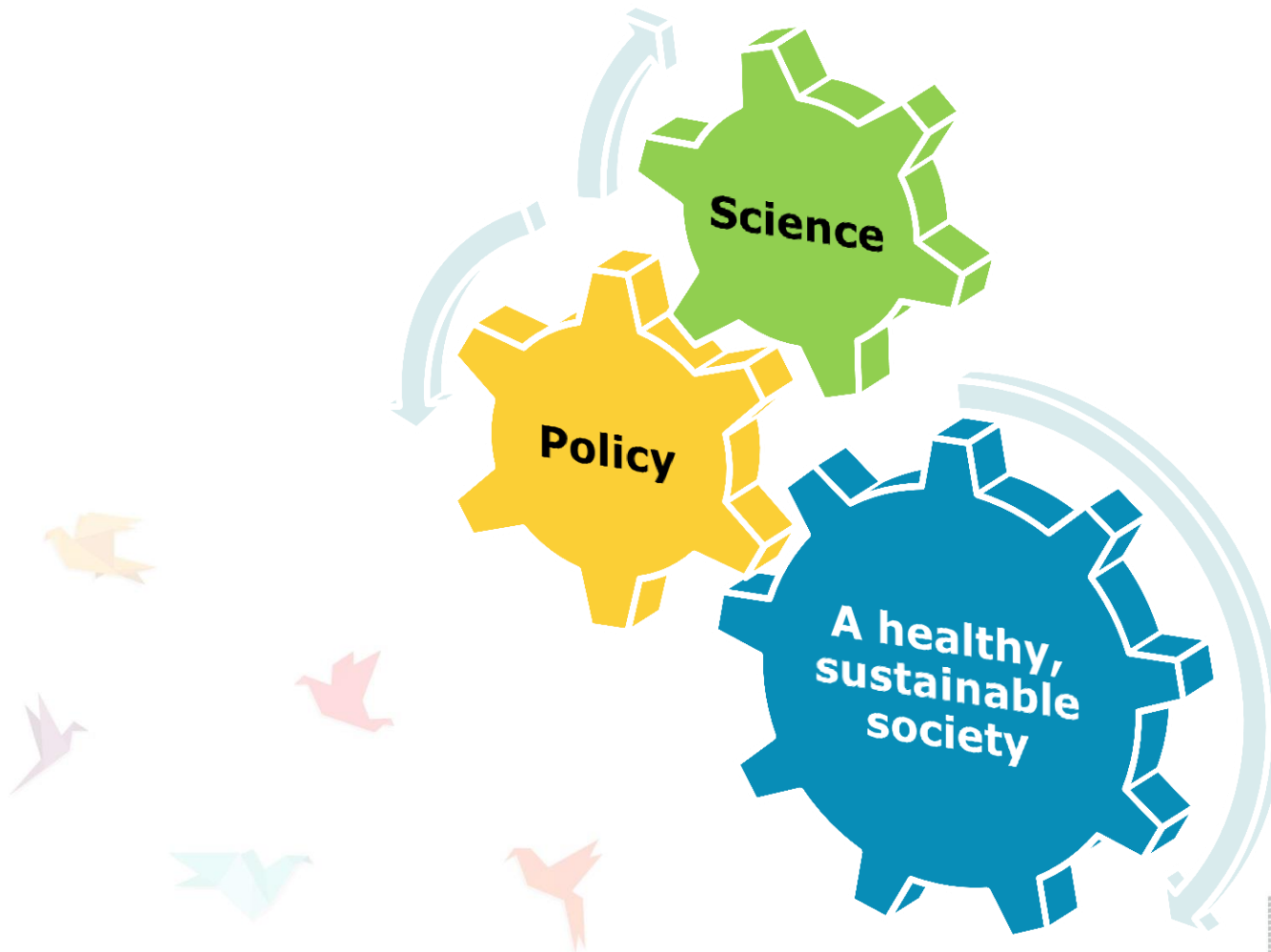
What has been achieved so far?



1. Exposure & health assessment, monitoring, exposome
2. Risk assessment, management and communication
3. Policy support: foresight, coordination, interventions, mitigation
 - Lifestyle determinants
 - Air pollution
 - Chemicals
 - Noise
 - Pathogenic agents
 - Radiation
 - Nanomaterials
 - Climate change
 - Water contamination
4. Epidemiology
 - Geographic information tools

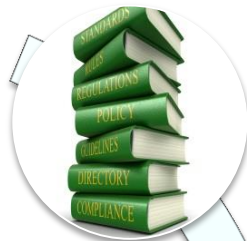


The challenge



2018-2019 E&H topics

Environment & Health in SC1



Support to regulations and risk assessment



2018

- Screening and testing methods for **endocrine disruptors**



Identifying environmental and lifestyle risk factors contributing to burden of disease



2019

- **The Human Exposome** a toolbox and case studies for assessing and addressing the impact of environment on health



Setting the research agenda of the future



2018

- European **research and innovation strategy** and **agenda** covering **research and policy**

SC1-BHC-27-2018: New testing and screening methods to identify endocrine disrupting chemicals

Practical aspects

- Research and Innovation action, 52M€ - 4-6M€/proposal
- Call closes 18 April 2018, single stage



Challenge

- Current screening and testing tools do not target less studied endocrine pathways and related health outcomes
- Lack of knowledge about mode of action and adverse effect

Scope

- New tools, methods and models for e.g. thyroid axis, developmental neurotoxicity, metabolic disorders, female reproduction and non-genotoxic carcinogenicity
- *In vitro*, *in vivo*, *in silico* models with clear links to human health effects
- Increased knowledge about pathways leading to adverse outcomes

SC1-BHC-27-2018: New testing and screening methods to identify endocrine disrupting chemicals

Expected Impact

- Improved hazard and risk assessment of EDs, including in the workplace
- Novel ED assay candidates for regulatory use
- Support for the OECD work on testing and assessing chemicals for ED identification
- Enhanced international cooperation
- Contribution to the development of an international strategy and guidelines for testing EDs and assessing associated hazard and risk

Beyond business as usual

- Open data pilot
- JRC will collaborate with successful proposals:
<https://eurl-ecvam.jrc.ec.europa.eu/horizon-2020-call-on-new-testing-and-screening-methods-to-identify-endocrine-disrupting-chemicals>
- Strong collaboration between successful proposals and
- Links to HBM4EU encouraged



SC1-HCO-13-2018: Setting the priorities for a European environment, climate and health research agenda

Practical aspects

- Coordination and support action, 3M€ - 2-3M€/proposal
- Call closes 18 April 2018, single stage



Challenge

- E&H research and policies spread across sectors and organisational structures
- Increased cross-fertilisation, coordination and collaboration needed to raise visibility and induce a strategic approach with added value

Scope

- Establish a coordination group of relevant actors across domains, from science to policy
- Identify policy areas requiring specific scientific support and develop a strategy and agenda on how to address these
- Agree on guidelines reflecting current-state-of-art health impact and risk assessment of environmental factors across sectors

SC1-HCO-13-2018: Setting the priorities for a European environment, climate and health research agenda

Expected Impact

- Development of a research and innovation agenda for the environment (incl. climate change) and health nexus, including for occupational settings and quantification and monetisation of health impacts of policies
- Contribution to the European WHO environment and health process and the implementation plan resulting from the Ostrava Declaration on Environment and Health
- Increased coordination between environment, climate change and health projects supported across H2020 and development of a cross-cutting stakeholder community
- A set of guidelines for evaluating the socio-economic impact of environmental influences on health and wellbeing recognised by the international community

Beyond business as usual

- Keep flexibility to adapt to policy processes over projects life-time (3 Years)
- Inclusive



SC1-BHC-28-2019: The Human Exposome Project: a toolbox for assessing and addressing the impact of environment on health

Practical aspects

- Research and Innovation action, 50M€ - 8-12M€/proposal
- Call opens 26 July 2018, closes 16 April 2019, single stage



Challenge

- Persistent uncertainty as to the global burden of disease attributable to environmental factors, incl. resulting healthcare costs
- Several combined risk factors during life course – a complex picture

Scope

- Make use of new technologies to collect, combine and analyse large data sets
- Agnostic or targeted approaches to identifying and assessing environmental risk factors
- Target long standing policy/regulatory need –> proposals for preventive actions
- Connections with industry for sensors, omics, biomarkers

SC1-BHC-28-2019: The Human Exposome Project: a toolbox for assessing and addressing the impact of environment on health

Expected Impact

- Innovation in environmental health sciences, in particular for external and internal exposure assessments and data management
- Enabling researchers and policy makers to continuously include new knowledge in the policy making processes by using the toolbox to generate data and information
- Better prediction of disease risk by acquisition of new knowledge on the influence of external exposures on biological pathways at different life-stages

Beyond business as usual

- Open data pilot
- International collaboration welcomed!
- Consortium agreement between successful proposals
- Proposal for an environmental exposure assessment research infrastructure submitted to EFRSI roadmap update 2018 -> link to shared data infrastructure and exposome cohort called for here



Thank you for listening!

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<http://ec.europa.eu/research/health>

<http://ec.europa.eu/research/participants/portal>

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