The contribution of pan-European research collaboration to evidencebased zero pollution and health policy



SIGNE RATSO Deputy Director General DG Research & Innovation (RTD) European Commission



WHO 7th Ministerial Conference on Environment and Health

Over 10% of annual premature deaths in the 27 EU Member States are related to environmental pollution.

European Environmental Agency https://www.eea.europa.eu/publications/zero-pollution/health/air-pollution



The European Green Deal: protect, conserve and enhance the EU's natural capital, and protect the health and well-being of citizens from environment-related risks and impacts.



Horizon Europe: supports research and innovation through Work Programmes, which set out funding opportunities for research and innovation activities.







Fundings attributed to Environment & Health



EU funded research in Environmental and Health:

Biggest allocation of resources goes collectively to the areas of pollution.





Environment & Health Clusters: 10 clusters of project with a total EU contribution close to 400 million EUR.



Promoting collaboration between the projects and Increasing policy and societal impact

EU-funded research on Environment Health		PROJECTS	SUDGET (in milling	COUNTRIES	LE LARCH GROUPS
Clusters under HORIZON 2020	EURION ¹	8	€49	19	70+
	EHEN ²	9	€105	24	120+
	CUSP ³	5	€30	22	70+
	Urban Health ⁴	6	€30	26	90+
	Green Deal ⁵	6	€51	23	70+
	ASPIS ⁶	3	€60	16	60+
Clusters under HORIZON EUROPE	IDEAL ⁷	7	€47	25	100+
	Climate Change & Health ⁸	6	€59	28	100+
	CLUE-H ⁹	4	€29	18	60+
		5	€20	21	50+



Ongoing Horizon Europe Calls:

Expected EU contribution of 60 million EUR.



HORIZON-HLTH-2023-ENVHLTH-02-01:

Planetary health: understanding the links between environmental degradation and health impacts

Closure: 13.04.2023 Tot: 30M€ Project size: 5-6M€ HORIZON-HLTH-2023-ENVHLTH-02-03: Health impacts of endocrine-disrupting chemicals: bridging science-policy gaps by addressing persistent scientific uncertainties

Closure: 13.04.2023 Tot: 40M€ Project size: 6-7M€



HORIZON-HLTH-2023-CARE-04-03:

Environmentally sustainable and climate neutral health and care systems

Closure: 13.04.2023 Tot: 20M€ Project size: 4-6M€ HORIZON-HLTH-2023-ENVHLTH-02-04: Global coordination of exposome research

Closure: 13.04.2023 Tot: 3M€ Project size: 3M€



HORIZON-HLTH-2024-ENVHLTH-02-06-twostage: The role of environmental pollution in non-communicable diseases: air, noise and light and hazardous waste pollution

Closure: 19.09.2023 Tot: 60M€ Project size: 7-8M€



Two Research Initiatives: provide key evidence to inform policy action on reducing the health impacts of pollution.



Ensure continuity on human biomonitoring in the EU



Safe and Sustainable by Design Framework (SSbD):

an approach to the design, development and use of chemicals and materials.





Thank you.



#HorizonEU

https://europa.eu/!wXBg9v



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EU ACTION PLAN 'Towards Zero Pollution for Air, Water and Soil' in the context of citizens' health

DG Environment of the European Commission

06/07/2023

The triple planetary crises and health are closely intertwined



Photoa by Julia Joppien on Unsplash



The **zero pollution vision** for 2050

"Air, water and soil pollution is reduced to **levels no longer considered harmful to health and natural ecosystems** and that **respect the boundaries our planet can cope with**, thus creating a toxic-free environment."

2030 targets complementing SDGs





-> Progress tracker: Actions



Flagship 1 ongoing activities

Legislative

- Oct 2022: Proposals for revision of the Ambient Air Quality and Urban Wastewater Treatment Directives and water pollutants list
- March 2023: Implementation Report on the Environmental Noise Directive
- April 2023: Pharmaceutical package
- July 2023: Proposal for the revision of the Mercury Regulation
- 2023: Upcoming assessment of pathways and policy options to improve **indoor air quality**
- 2023: Upcoming proposals linked to **chemicals legislation** (e.g. 'one substance, one assessment)

Initiatives and events

- The EU Cancer Inequalities Registry integrating pollution data
- 3 May: Launch of the EEA Environment & Health Atlas
- 14-15 June: Workshop on pollution and health, organized by the EC and EEA



1st Zero Pollution Monitoring & Outlook

Commission Report (COM(2022) 674)



The <u>zero pollution action</u> plan sets the zero pollution targets for 2030

EEA Monitoring Assessment 2022



The zero pollution monitoring assessment 2022 assesses the past trends and the latest monitoring data available

JRC Outlook 2022



The Zero Pollution Outlook 2022 provides modelling and foresight, assessing the expected pollution-reduction benefits of EU policies

https://environment.ec.europa.eu/strategy/zero-pollution-action-plan/zero-pollution-targets_en

Pollution & health: policy and research priorities

- Focus on preventive actions, reducing and eliminating health risks
- Seek a holistic view of health risk factors, beyond the strict health domain
- Expose and address environmental health inequalities
- Address knowledge gaps on environmental determinants, for example:
 - Exposure to emerging air and water pollutants
 - Health impacts from noise
 - Exposure to chemicals and mixtures of chemicals
 - Living near contaminated sites





Thank you!

More information:

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- Zero Pollution webpage
- Zero Pollution Monitoring and Outlook
 - Zero Pollution Stakeholder Platform

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Monitoring pollution reduction and its health benefits: The contribution of European research

Martin Adams, Head of Biodiversity, Health and Resources (BHR) | 7th Ministerial Conference on Environment and Health 6 July 2023

2050 Zero Pollution Ambition

Air, water and soil pollution is reduced to levels <u>no</u> <u>longer considered harmful</u> to health and natural ecosystems and that <u>respect the boundaries our planet</u> <u>can cope with</u>, thus creating a toxic-free environment

ЕЪ В

EU-funded research on E&H contributions to pollution and impacts monitoring



The zero pollution action plan is a cornerstone of the EU's ambitions to improve the well-being and health of citizens and future generations under the European Green Deal. It sets out the

https://www.eea.europa.eu/publications/zero-pollution/

EU-funded research on E&H contributions to pollution and impacts monitoring

The health dimension of the Zero Pollution Monitoring Assessment

- Air pollution and health
- Noise pollution and health
- Water pollution and health
- Chemicals and health
- Soil pollution and health
- Signals emerging pollutants, AMR, regrettable substitution, etc



EU-funded research in other E&H EEA products

- Web reports beating disease with better environments (Cancer, CVDs, upcoming Respiratory Disease)
- European Environment and Health Atlas
- Work series on children, environment and health



Slow progress on reducing the impacts of transport noise



TARGET 2

oosition/trend (2017 data): Reduce the share of people chronically

noise by 30%

disturbed by transport

Tackling anti-microbial resistance



Milligrams per Population Correction Unit (mg/PCU)



Health signals – mainly from EU research

EEA ZP Assessment based on formal EU-wide indicators. Broadened through research findings from EU projects and studies

Topic area	Signals
Air	New approaches to assessing air quality Good indoor air quality cannot be taken for granted — example of CO2 traffic light for schools Impacts of asbestos on health Vulnerable groups' exposure to pollution Emerging air pollutants
Noise	Combined impacts of road traffic noise and air pollution in urban areas Emerging evidence on the adverse health effects of noise
Water	Antimicrobial resistance Health risks from cyanobacteria Pesticides in drinking water
Chemicals	Regrettable substitution How chemical mixtures affect human health
Soil	Long-term impacts of sludge spreading on agricultural land

Beating cardiovascular disease – the role of Europe's Environment

assessments



Check out also "Beating cancer - the role of Europe's environment"



European environment and health atlas



https://discomap.eea.europa.eu/atlas/

Children and air pollution – a lot of results from EU funded research

- Children and adolescents more sensitive and vulnerable
- They breathe more pollution per body weight
- Their **exposure is different** from that of adults, starting even before birth
- Potentially very serious health outcomes: reduced lung function, asthma, allergies
- Consequences into adulthood: increased risk of cardiovascular, respiratory diseases, possible link with mental health issues



In summary, and as food for thought...

- European/EU research is crucial for pollution & health impact monitoring
- Used for agenda setting, policy formulation, evaluation and monitoring
- Easy, open access of EU funded research results, databases, deliverables

Really useful for our needs regarding:

- National-level estimates of exposure, particularly in difficult-to-measure risks
- Prevalence and incidence of known health outcomes
- Identifying emerging patterns of disease, unknown health outcomes
- Emerging threats

But:

- Lack of coherence and comparability of estimates
- Big, persistent gaps, in results coverage in many countries
- Lack of follow up of important results
- Unclear strength of some of the results



WHAT IS "IDEAL"





HOW IS IDEAL CONTRIBUTING TO SOCIETY

TOOLS & RESOURCES



https://www.idealcluster.eu/



The projects that form the European Health Cluster have received funding from the European Union's Horizon 2020 research and innovation programme, under grant agreement, No. 945307 (eMOTIONAL cities), No. 945238 (*ENLIGHTENme*), No. 945105 (HEART), No. 945095 (RECETAS), No. 945391 (URBANOME), No. 945097 (WELLBASED).

https://www.urban-health.eu

HOW is the Urban Health Cluster contributing to society?

ANALYSIS NO. Dust 26 COUNTRIES ····· » 29 CITIES Steps, Intensity --oo--32 EXPERIMENTS 5 Smartphone apps Time - Activity Diaries **=** & SES Questionnaires $\rightarrow e^{\circ} - \frac{+6000}{\text{PARTICIPANTS}} - \circ \textcircled{B}$ EEG HEADSE PUPIL LABS Ö March 1 2021 February 28 2025 101 30.5 partners months million EAL-TIME BIOSIGNA



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https://www.urban-health.eu

Data Collection

Temperature, Humadity,CO ΡN

UNECE UN®

(World Hea

HEART RATE

SPATIAL DATA

What is the Green Deal cluster





https://alternative-project.eu/chemicals-cluster/

How is the Green Deal cluster contributing to society



Union's Horizon 2020 research and innovation program.

What is the European Research Cluster to Understand the Health Impacts of Micro- and Nanoplastics (MNPs)





Union's Horizon 2020 research and innovation program.

How is CUSP contributing to society

- Standards for MNPs characterization
- Methodologies for MNPs identification & quantification
- Human models & MNPs representative materials
- MNPs risk evaluation



■ **Biomonitoring** → High-risk population groups







https://cusp-research.eu/about/