



**PLANET  
4HEALTH**

Stefano Campostrini ([stefano.campostrini@unive.it](mailto:stefano.campostrini@unive.it)) e Gaia Bertarelli  
Università Ca' Foscari Venezia  
28 Novembre 2024  
DA ONE HEALTH A PLANETARY HEALTH: COME I FENOMENI AMBIENTALI INFLUENZANO LA SALUTE  
CONFERENZA RILANCIO DELLA PLANETARY HEALTH



Funded by  
the European Union



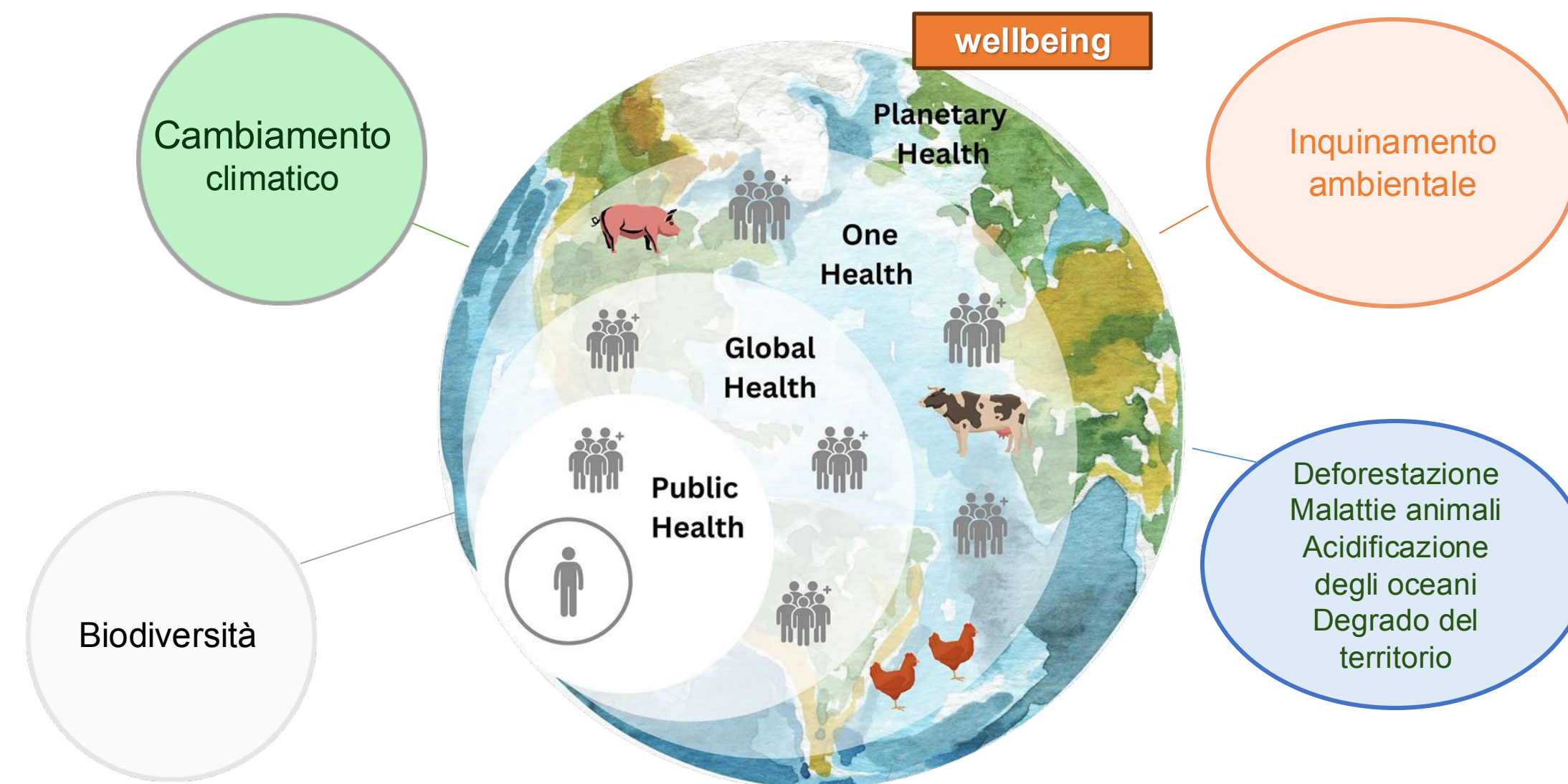


*We are the first generation to feel the impact of climate change and  
the last generation that can do something about it.*

(Barack Obama)



Guardare la salute da una prospettiva planetaria





- Sostenibilità Ambientale
- Resilienza Globale e Sicurezza
- Prevenzione delle Malattie e Pandemia
- Sviluppo Sostenibile
- Collaborazione e Soluzioni Interdisciplinari
- Giustizia Sociale ed Equità
- Benessere Umano

Agenda 2030  
EU Commission's priorities  
...

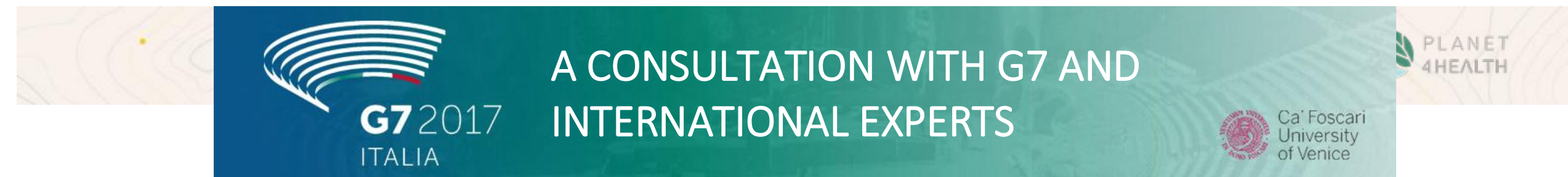
## Influenze e... un viaggio iniziato tempo fa





## Global Strategy for action to reduce the effects of Climate Change on Global Health





## THE APPROACH

### GENESIS

Human health and the health of planet Earth are strictly interconnected: the first is strongly influenced by the latter, and damages to the health result from any injury to the surrounding environment. Referring to this interconnection, there is a strong need for the adoption of an inclusive, comprehensive approach to protect planetary health, as a new concept, and on the basis of the “One Health” principle.

### METHODOLOGY

The G7 Italian Presidency has set up several facilitating activities towards the DECLARATION OF THE G7 HEALTH MINISTERS' 5 – 6 NOVEMBER 2017 IN MILAN:

- Analysis of the evidences provided by the literature
- Draft of a first “matrix” of Exposure produced by the CC -> Health outcome (threats) -> Actions of mitigations/adaptation (G7 and few international experts)
- Prioritization of the actions (Delphi survey on a larger group of international experts)





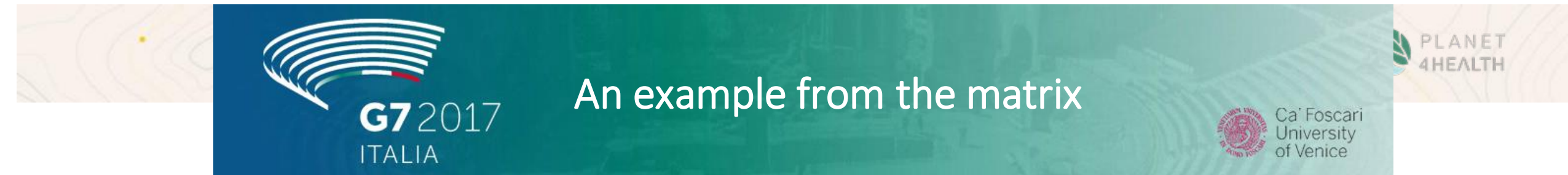


### *MATRIX*

Taking into account the known (from the analysis of the literature) main climate drivers (as identified by the Intergovernmental Panel on Climate Change in its assessment reports), eight topics have been identified in the Matrix, as follows:

- **extreme events** (including floods, droughts, storms and heatwaves)
- health effects of **air pollution** related to climate change
- **vector borne diseases**
- **water access** and waterborne diseases
- **food system and nutrition**
- **animal health** at the animal/human interface
- **migrant flows** (only with regard to health aspects)
- **antimicrobial resistance** (in relation to other environmental changes and drivers)

In the Matrix, each topic is discussed starting from the 'exposures' derived by the climate drivers impact through the 'health outcomes' on human and animal health in order to identify strategies ('expert statements') leading to possible corrective 'actions'.



An example from the matrix

Extreme Events ↑					
Exposure	Health outcome	Expert statement	Action	Context Relation to previous G7 health commitments	Background Reference - Bibliography
<ul style="list-style-type: none"> <li>Intensified heat in cities (urban heat island effect)</li> <li>Increased burden on health and emergency services; increased hospital admissions</li> <li>Blocking of transportation leading to a more difficult access to health and emergency services</li> </ul>	<ul style="list-style-type: none"> <li>Alterations in homeostasis and physiopathology leading to direct and indirect effects on human health increasing diseases and death rates, especially among vulnerable groups. The adverse effects are affecting both physical and mental health.</li> <li>Higher risk of preterm birth and low birth weight</li> </ul>	<p>We need to:</p> <p>A) Improve the resilience to extreme events of health, environment systems and infrastructures, social welfare and services, focusing on the needs of vulnerable groups, also promoting gender equality</p> <p>B) Support cooperation in: research and health training to identify emerging or re-emerging diseases; developing medical and public climate resilient health infrastructures</p> <p>C) promote exchange of: data, best practices, technology and tools at all levels</p>	<p>1)** Improve preparedness and response of health systems, through proactive adaptation planning, that includes e.g.:</p> <ul style="list-style-type: none"> <li>health/cold health action plan;</li> <li>health services in emergency response;</li> <li>medical and public health training.</li> </ul> <p>2)* Scale up public communication and awareness-raising activities on the impacts of extreme events on health (e.g. promote measures to avoid heat stress and dehydration during periods of hot weather)</p> <p>3)** Develop and strengthen integrated systems on:</p> <ul style="list-style-type: none"> <li>a) real-time health surveillance (daily mortality and morbidity)</li> <li>b) timely alert (heat-health watch warning)</li> </ul> <p>4)* Develop and share guidance to identify subgroups at higher risk to better target interventions</p> <p>5)* Facilitate public access to health and social care services, especially for vulnerable groups during extreme events</p>	<p>Climate Change has been included by the international community among the Sustainable Development Goals (SDGs) related to poverty (SDG1) and hunger (2), health (3), education (4), gender (5) and income inequalities (10), good jobs and growth (8), and sustainable cities and communities (11), as well as climate change (13). Furthermore, we should also continue to support other initiatives and efforts towards the end including WHO's programs, the World Bank's effort to promote UHC (Universal Health Coverage), and bilateral programs.</p> <p>The 2018 United Nations General Assembly High Level Meeting on NCDs can provide</p>	<p>Heat waves and health: guidance on warning-system development World Meteorological Organization and WHO 2015<sup>1</sup></p> <p>WHO guidance to protect health from climate change through health adaptation planning WHO 2014<sup>2</sup></p> <p>Protecting health from climate change, WHO 2009<sup>3</sup></p> <p>Climate change impacts and adaptation in cities: review of the literature, Climatic Change, January 2011, Volume 104, Issue 1, pp 13-49<sup>4</sup></p> <p>Second Global Conference on Health and Climate Change, WHO (Paris 7-8 July 2016)<sup>5</sup></p> <p>World Health Organization's Operational Framework for Building Climate Resilient Health Systems<sup>6</sup> WHO</p> <p>Healthy hospitals, healthy planet, healthy people Addressing</p>



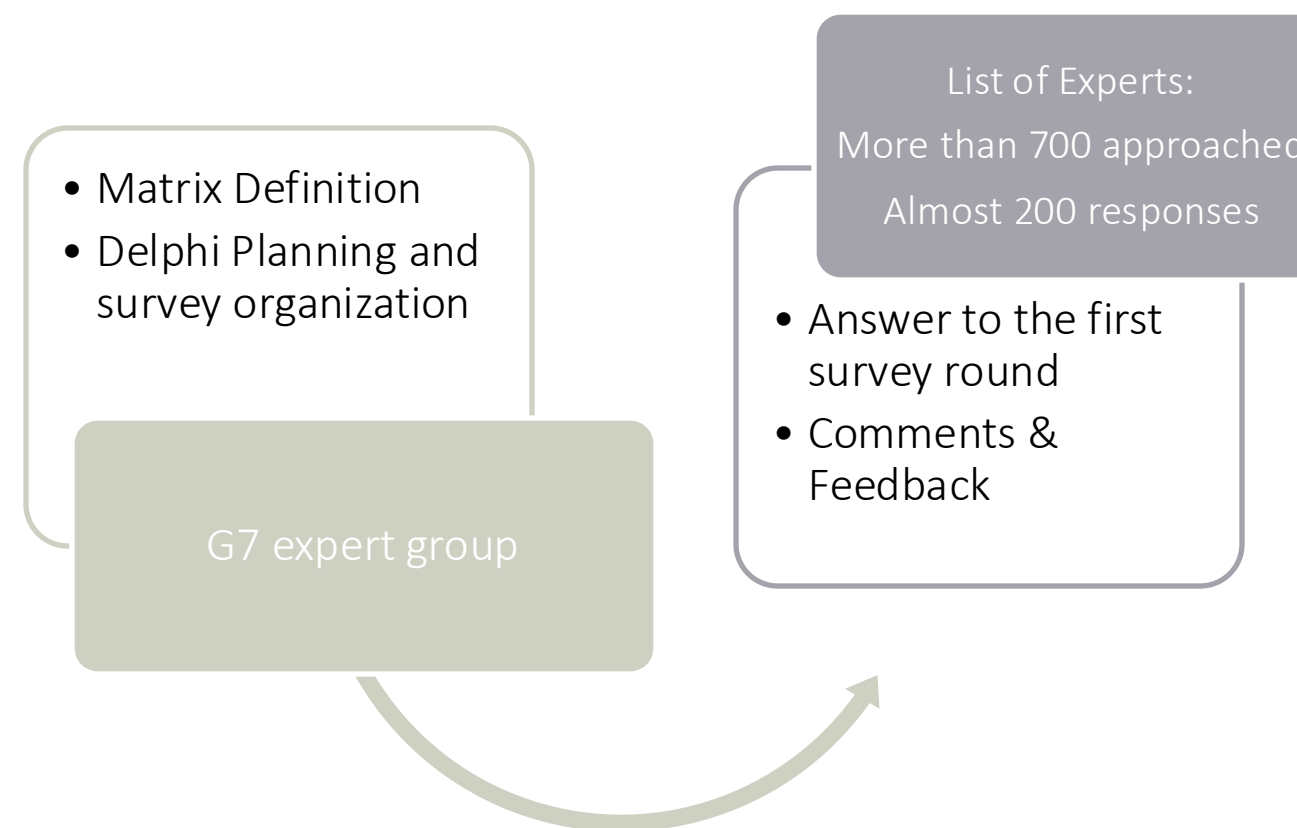
<sup>1</sup><http://www.who.int/globalchange/publications/heat-waves-health-guidance/en/>  
<sup>2</sup>[http://apps.who.int/iris/bitstream/10665/137383/1/9789241508001\\_eng.pdf](http://apps.who.int/iris/bitstream/10665/137383/1/9789241508001_eng.pdf)  
<sup>3</sup><http://www.who.int/globalchange/publications/reports/9789241598880/en/>  
<sup>4</sup><http://link.springer.com/article/10.1007/s10584-010-9975-6>  
<sup>5</sup><http://www.who.int/globalchange/conferences/second-global/conclusions/en/>







*The Delphi survey  
 (1st Round)*



20 Actions selected



Improve the resilience of wastewater and drinking water infrastructure	5,02	Develop integrated cooperation programs in rural Regions, especially in Sub Saharan Africa and in MENA (Middle East and North Africa) Region, in order to help them become resilient (T)	4,60
Scale up public communication and awareness-raising activities on the impacts of extreme events on health (e.g. promote measures to avoid heat stress and dehydration during periods of hot weather) (T)	4,89	Support the work of policy making multidisciplinary teams at national and international level promoting the One Health approach (T)	5,01
Promote policies on emission reduction (actions with co-benefits), e.g (i) improved air quality; (ii) enhanced energy security, (iii) reduced energy and water consumption in urban areas through greening cities and recycling water; (iv) and protection of ecosystems for carbon storage and other ecosystem services	5,08	Foster research on new generation vaccines (likely differentiated on the base of DIVA tests) in order to have effective, safe, cheap, stable, easy to use products	4,98
Promote integrated health prevention for environment as well as climate action policies at city and community level by working with relevant sectors (transport, energy, urban planning, water management, land use and soil sealing, biodiversity, green spaces) and stakeholders	4,95	Ensure that laboratories are: well-equipped, using harmonized diagnostic methods and provided with specialized personnel, in order to guarantee rapid, accurate and innovative diagnosis	4,94
Improvement of indoor air quality (e.g. cooking methods, alternative sources of clean energy, tobacco smoking, use of cleaning products)	4,9	Improve in the countries of transit and arrival health services (preferably culturally oriented), immunization programs and drugs availability, making them easily accessible to migrants	5,08
Implement vector control as a cross-cutting issue for public health, veterinary health and environmental health policies through a One Health approach to vector-borne disease policies and programming	4,98	Support the strengthening of the health systems and immunization programs in the origin countries	5,04
Promote and strengthen integrated surveillance (including entomological surveillance), risk identification and analysis, early warning systems based on meteorological and climatic data to enhance capacity to predict and detect vectors and vector-borne disease spread	4,98	Increase surveillance of infectious diseases (T)	4,94
Support improvement of water, wastewater and sanitation infrastructure	5,14	Support the development, and monitor the effectiveness, of evidence-based strategies, tools and interventions to combat AMR	5,08
Improve public health campaigns for waterborne diseases prevention and control, taking into account latest insights gained in the water supply, sanitation and hygiene sector	4,81	Support the implementation of the Global Action Plan in cooperation with WHO, FAO, OIE as well as Interagency Coordination Group which was recommended by the political declaration of the high-level meeting of the UN general assembly on AMR and encourage the development of national action plans on AMR, including emphases on fostering the appropriate use of antibiotics, improving infection prevention and control measures, and promoting R&D on AMR (T)	5,14
Provide new approach to the challenge, in a sustainable way, to ensure to a growing population nutrition, food security, healthy diets, also by reducing food loss and waste production and supporting food system actors to improve their capacity to detect and deal with contaminants, chemicals and food-borne pathogens	4,64	Support research related to the Strategic Objectives of the Global Action Plan. In particular: research on incidence, prevalence, and geographical patterns related to AMR and AMU, as well as risk analysis and modelling considering the potential impacts of climate change and research on how AMR develops and spreads, including	4,98







A tentative summary (messages from scientists)

- FOR ALL**
- Emission reduction
  - Surveillance IDs
  - Broad surveillance

- G7 COUNTRIES**
- Global Action Plan
  - AMR (research)
  - GAP (research)

- ADVOCACY + HELP**
- Water (infrastructure)
  - Vector Control
  - Water (sanitation)
  - Health system strengthening
  - + immunization

All the proposed actions will impact in the short-medium term

Campostrini, S., & Guerra, R. (2018). Can the scientific world positively influence decision makers on planetary health?. *The Lancet*, 391(10119), 425-426.



Il Cluster



GoGreenNext, TULIPS, PLANET4HEALTH, MOSAIC and SPRINGS are funded under Horizon 2023 Programme with grant agreement no. 101137209, 101138659, 101138652, 101137398 and 101137255.

*Planetary Health Cluster*





PLANET4HEALTH – Il consorzio



Partners



17 consortium partners  
 12 Countries

11 Academic & research organisations  
 4 SMEs  
 2 GOV  
 1 NGO

- UNIVE
- VUB
- LIB
- SAMRC, UP
- BFR, UFZ
- WU
- PRED, UPF
- IMR, ZEN
- UNL, APMVEAC
- CICERO
- FES
- AGES



**Durata:** 48 mesi  
 Inizio: 1 Gennaio 2024  
 Fine: 31 Dicembre 2027



**Coordinatori:**

- Università Ca' Foscari (Prof. Stefano Campostrini & Dr. Gaia Bertarelli)
- Institute for Medical Research (Dr. Suzana Blesic)



## PLANET4HEALTH ha i seguenti obiettivi:



1. Progettare **casi di studio** e studiare gli effetti dei diversi aspetti del degrado ecologico e del cambiamento climatico sulla salute umana e animale per comprenderne meglio le **connessioni**.



2. Fornire alle **istituzioni**, alle autorità e alle parti interessate **opendata**, piattaforme tecnologiche e strumenti digitali per assistere una **migliore preparazione e risposta** al degrado ambientale e agli effetti dei cambiamenti climatici su **OneHealth**.



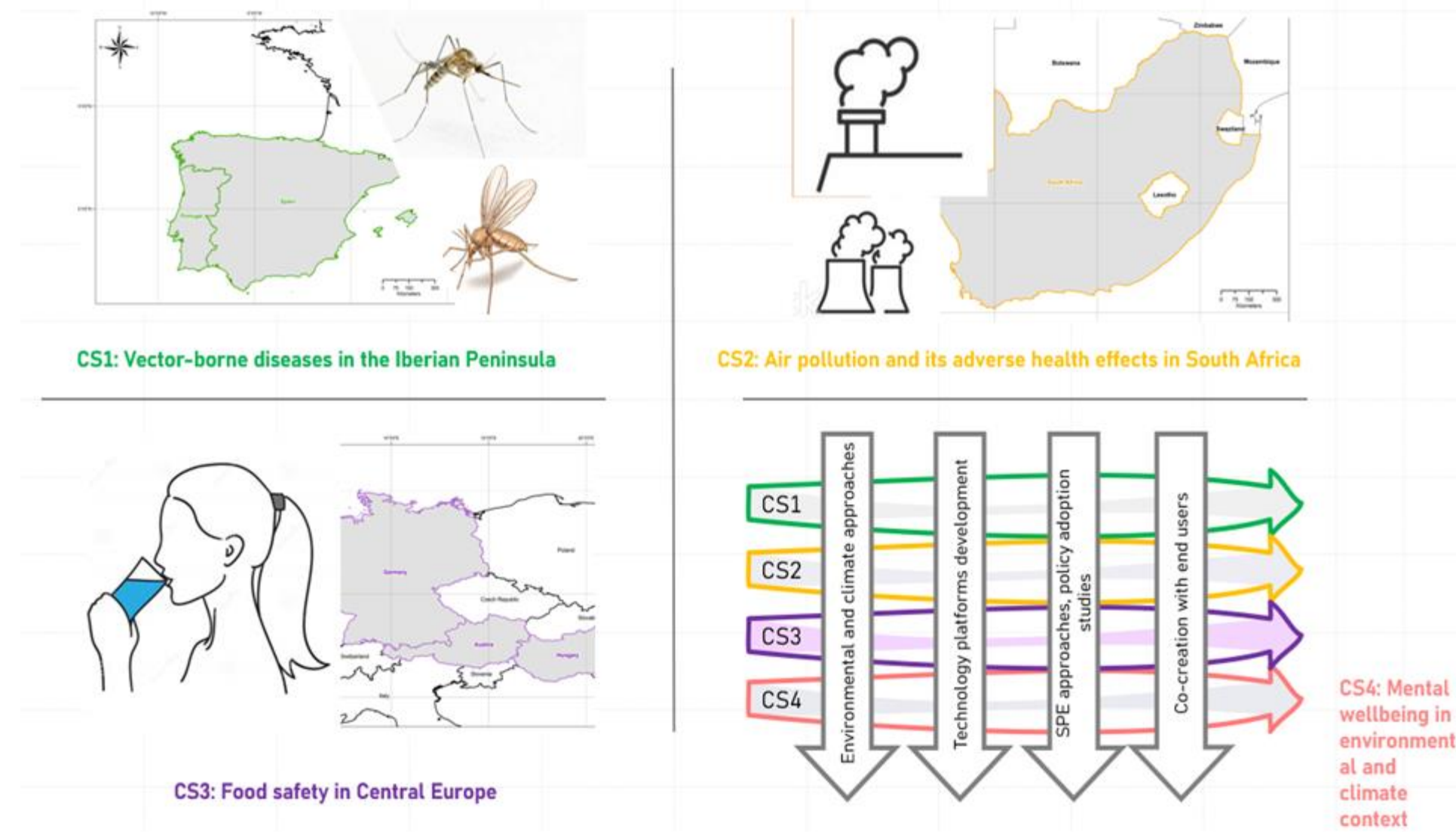
3. Condurre **analisi demografiche e socioeconomiche**, riduzione del rischio e soluzioni per l'adattamento e la mitigazione e studi sull'**adozione delle politiche**.



4. Stabilire la **collaborazione** e la **condivisione** delle conoscenze tra le parti interessate attraverso attività di co-creazione, elaborazione delle politiche, diffusione e formazione.



4 Casi Studio





## 01. Vector-borne disease in the Iberian Peninsula



### A. Leishmaniosi nei Cani:

Le leishmaniosi, trasmesse dai flebotomi, sono importanti malattie infettive trasmesse da vettori nell'UE e nelle regioni mediterranee e rappresentano una grave preoccupazione veterinaria. Questo caso di studio mira a sviluppare un approccio OneHealth per combattere la Leishmaniosi dei cani, sfruttando i dati di sorveglianza dei flebotomi e i dati della ricerca farmaceutica.

### B. Mosquito Alert and Mosquito-borne Diseases:

Utilizzando un'app mobile, gli scienziati cittadini possono segnalare gli avvistamenti di zanzare, che vengono esaminati e classificati dagli entomologi. PLANET4HEALTH mira a potenziare queste capacità in tutta la penisola iberica, migliorando le stime dei rischi legati alle zanzare vettori di malattie.





## 02. Air pollution and its adverse health effects in South Africa



Questo caso di studio mira a comprendere la relazione tra **l'esposizione all'inquinamento atmosferico e vari esiti sulla salute**, comprese le malattie cardiovascolari e respiratorie e la mortalità.

Il progetto mira a caratterizzare l'inquinamento atmosferico residenziale e a identificare le aree con scarsa qualità dell'aria, rivolgendosi in particolare alle popolazioni vulnerabili come i **bambini sotto i 5 anni**.

Inoltre, questo caso di studio mira a contribuire al miglioramento degli **standard di qualità dell'aria ambiente e a fornire prove basate sui dati per informare le decisioni politiche** volte a mitigare i rischi per la salute associati all'inquinamento atmosferico in Sud Africa.





### 03. Food contamination arising from water and soil contamination in Central Europe

I composti alchilici per- e polifluorurati (**PFAS**) sono sostanze chimiche industriali utilizzate in vari prodotti, che contaminano l'ambiente ed entrano nel corpo umano attraverso il consumo di cibo e acqua.

Questo caso di studio si concentra sulla contaminazione da PFAS nell'Europa centrale, evidenziandone l'uso diffuso in vari settori e le sue implicazioni per la salute umana e l'ambiente.

Attraverso il progetto, verranno compiuti sforzi per **migliorare le tecniche di modellazione e analizzare i determinanti ambientali per mitigare l'inquinamento da PFAS nelle fonti alimentari e idriche.**





## 04. Mental wellbeing in the environmental and climate context.



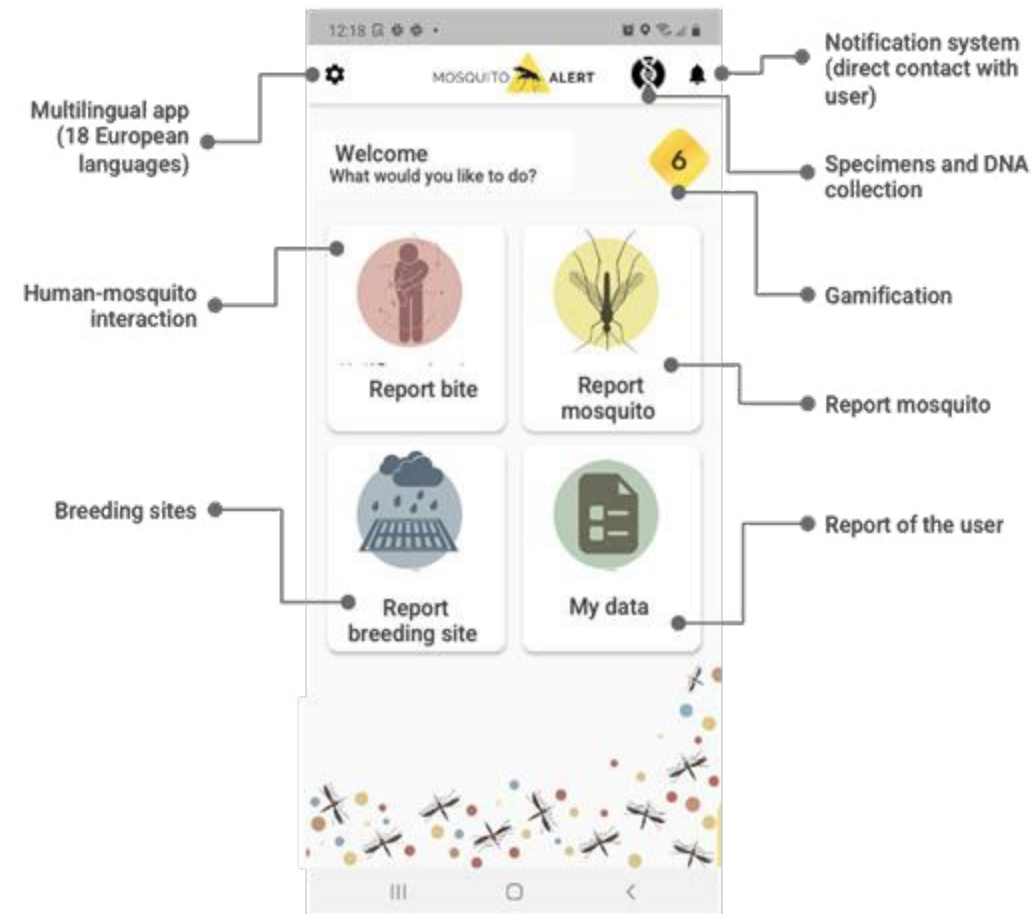
Questo caso di studio mira a **raccogliere e analizzare i dati sul benessere mentale insieme ai dati ambientali** per sviluppare una comprensione completa degli impatti sulla salute mentale.

Il progetto mira a creare sistemi integrati di monitoraggio dei rischi, mappare i punti critici ambientali e fornire soluzioni per una migliore preparazione e capacità di risposta.





CS1: Mosquito Alert ([https://labs.mosquitoalert.com/metadata\\_public\\_portal/README.html](https://labs.mosquitoalert.com/metadata_public_portal/README.html))

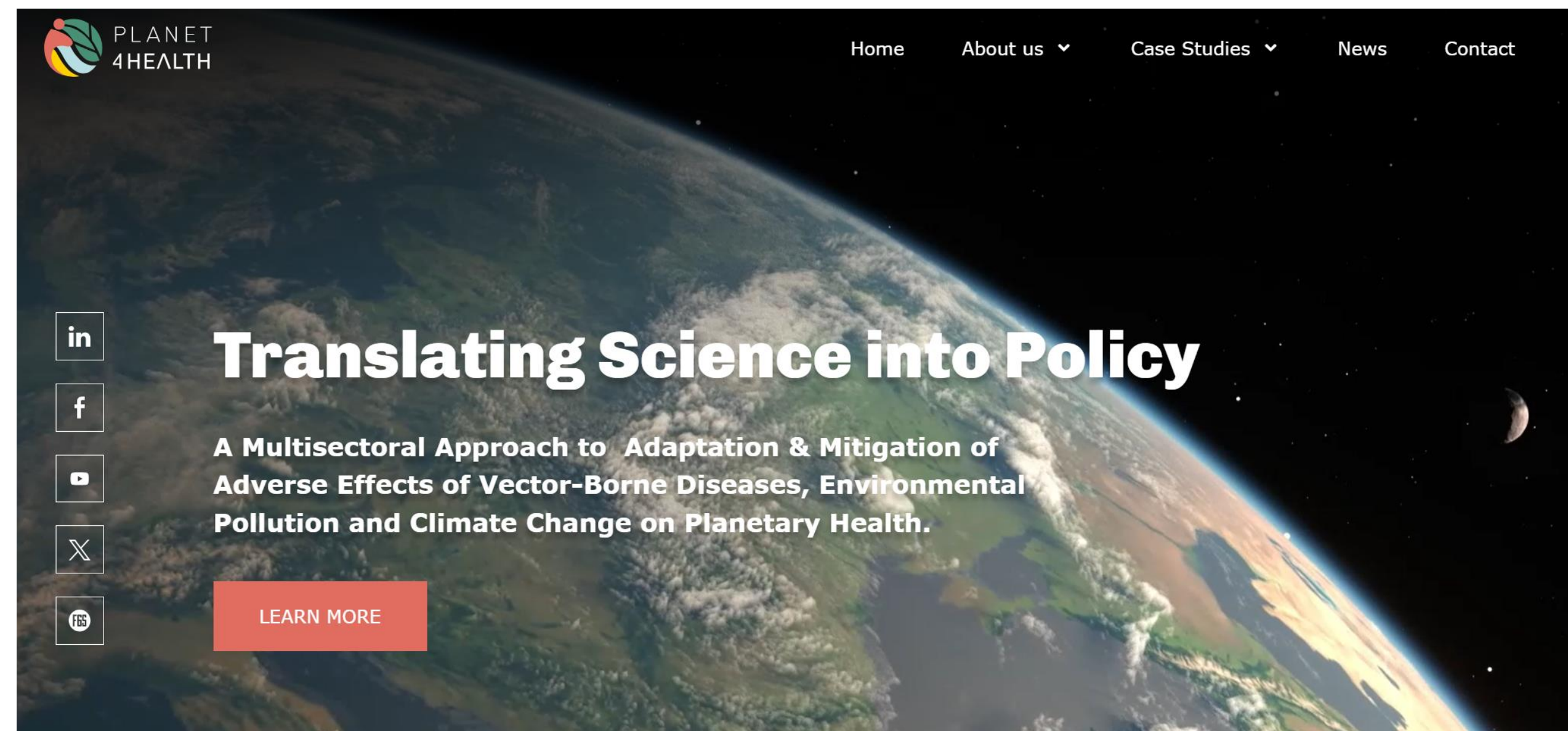




## LA SFIDA



<https://planet4health.eu/>



PLANET 4HEALTH

Home About us Case Studies News Contact

**Translating Science into Policy**

A Multisectoral Approach to Adaptation & Mitigation of Adverse Effects of Vector-Borne Diseases, Environmental Pollution and Climate Change on Planetary Health.

LEARN MORE

in f y X fbs



**Thank You!**

