



Fonds Bleu pour le
Bassin du Congo



INSTITUT DE LA FRANCOPHONIE
POUR LE DÉVELOPPEMENT DURABLE
IFDD



Placer le Cycle de l'Eau au coeur de l'Adaptation dans le Bassin du Fleuve Congo

Climat - Santé - Environnement : One Water One Health



Armelle HEBERT
One Environmental Health - 21-22 Juin 2022 - Brazzaville

En appui au ROSCEVAC
Nicaise Moulombi
VP CESE of Gabon

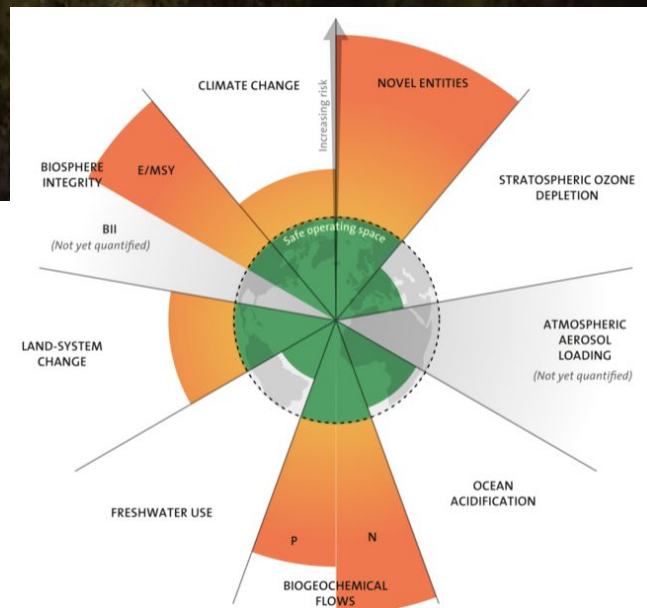


FONDS BLEU POUR LE BASSIN DU CONGO

Un enjeu africain et planétaire

- + Développement durable
- + Economie bleue
- + Economie verte
- + Conservation des Mangroves
- + Préservation des tourbières du Bassin du Congo
- + Préservation des écosystèmes forestiers
- + Biodiversité
- + Transition écologique
- + Transition énergétique
- + Economie solidaire et circulaire

Limites planétaires



One Health : Vision 360° de la Santé

RSE pour les générations présentes et futures



92 % des décès dans les pays à revenu faible et intermédiaire

L'exposition aux produits chimiques in utero et pendant la petite enfance peut entraîner des maladies à vie, des incapacités, des décès prématurés, ainsi qu'une réduction du potentiel d'apprentissage et de revenu.

L'exposition
à l'air, à l'eau
et aux sols contaminés
tue plus de personnes



3 x



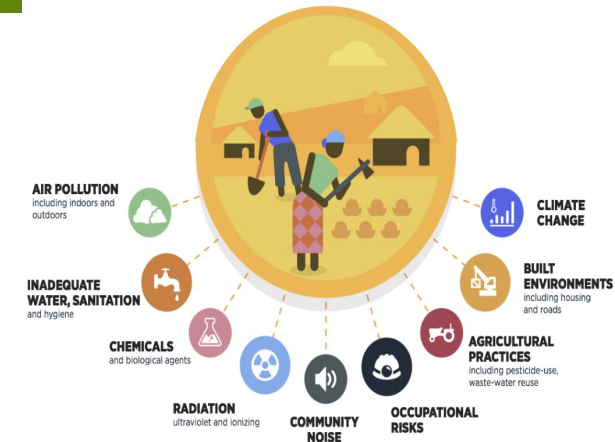
que l'obésité et l'alcool, les accidents de la route ou la malnutrition infantile et maternelle

15 x



40%

décès prématurés et pathologies chroniques



Accords de Libreville 2008

Alliance Stratégique Environnement Santé

Coûts-Bénéfices de l'Inaction

-  Diseases & Health Expenses
-  Productivity Loss
-  Natural Capital Loss

Air pollution



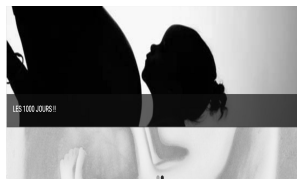
Sanitation



Waste



Dismantling
Recycling D3E



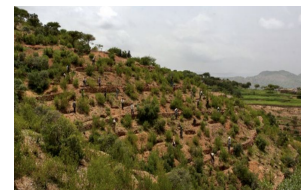
EDCs



Pesticides &
Practices



Climate



Ressources

Urgence de l'approche intersectorielle de la santé

Opportunités d'une Vision 360 de la Santé



Selon l'OMS > La Santé Environnementale : Prévention Primaire des Expositions à la Pollution

DÉTERMINANTS ENVIRONNEMENTAUX DE LA SANTÉ



ALLIANCE STRATÉGIE ENVIRONNEMENT SANTÉ

8 AXES D'INTERVENTION

RAPPORT COÛT-EFFICACITÉ OPTIMAL

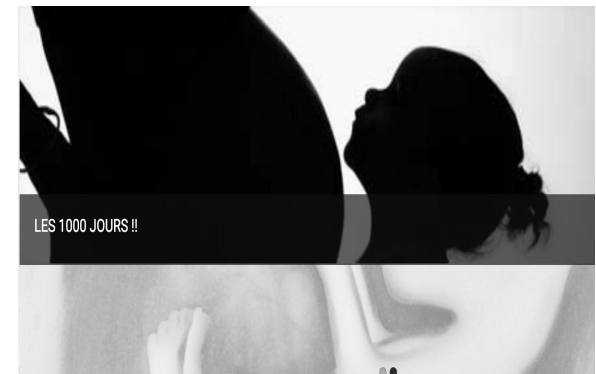
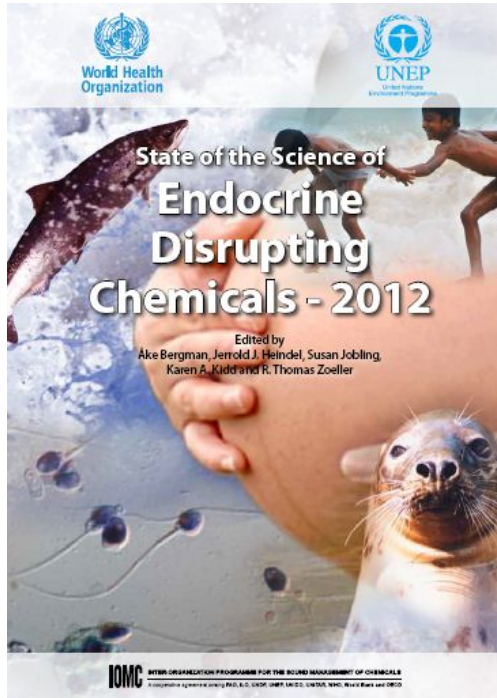
PROGRAMMES D'ACTIONS CONJOINTES INTERSECTORIELS

APPROCHES TERRITORIALES DE LA SANTÉ

1. Potabilisation et assainissement
2. Pollution de l'air et énergie propre
3. Pollution marine et côtière
4. Gestion des produits chimiques, déchets plastiques, biomédicaux, D3E
5. Changements climatiques et Santé
6. Milieux sains, Urbanisation et santé
7. Conservation Biodiversité & Capital Naturel
8. Financements innovants & durables

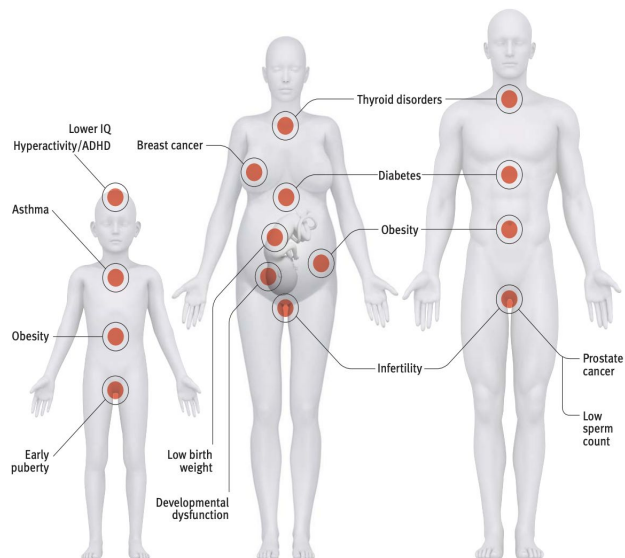
Exposition du génome du vivant à la pollution chimique

Selon l'OMS > Prévention Primaire des Expositions à la Pollution / faibles doses / grands impacts



Low Doses Matter

Everyday exposures to EDCs contribute to modern health epidemics.



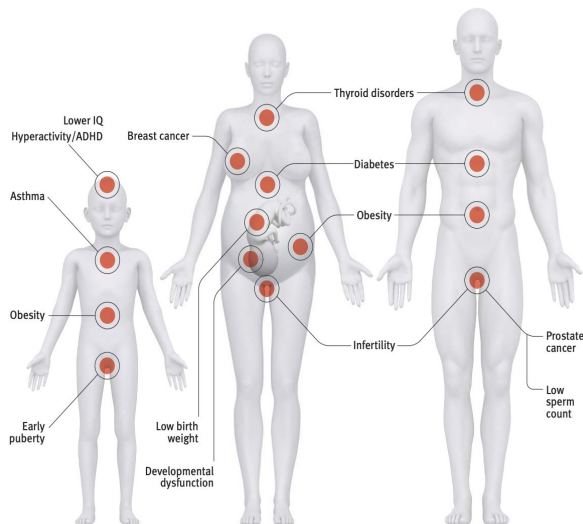
+ Immune system disorders

Paradigm Shift
it's no longer the dose that makes the poison but

1. The period of exposure that makes the poison
2. The cocktail effect
3. Effects may be stronger at low doses than at high doses
4. The latency between exposure and effect
5. Transgenerational effects

Low Doses Matter

Everyday exposures to EDCs contribute to modern health epidemics.



+ Immune system disorders

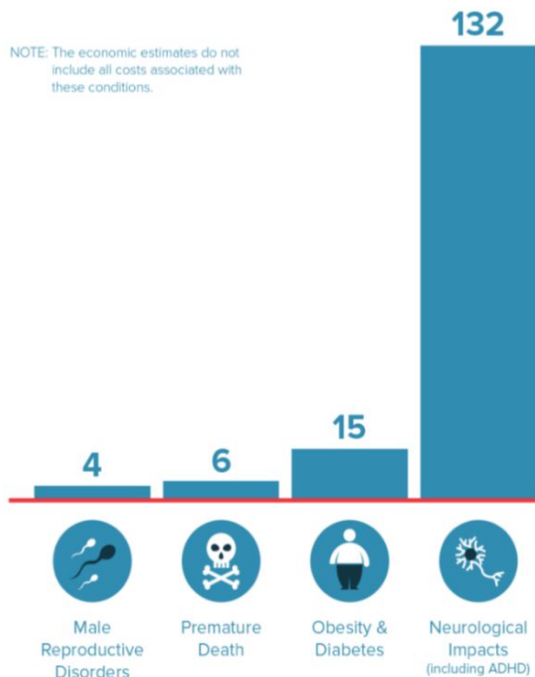
How are people exposed?

Children's toys (phthalates)	Fragrances (phthalates)
Plastic drinking bottles (BPA, BPS, BPF)	Food (pesticides like chlorpyrifos)
Cleaning products (phthalates, triclosan)	Food packaging (BPA, PFAS, phthalates)
House dust (flame retardants, pesticides)	Thermal cash register receipts (BPA, BPS)
Home furniture/electronics (flame retardants, PFAS)	Drinking water (arsenic, lead, perchlorate)
Building materials (flame retardants, phthalates, PFAS)	Personal care products (parabens, phthalates, triclosan)

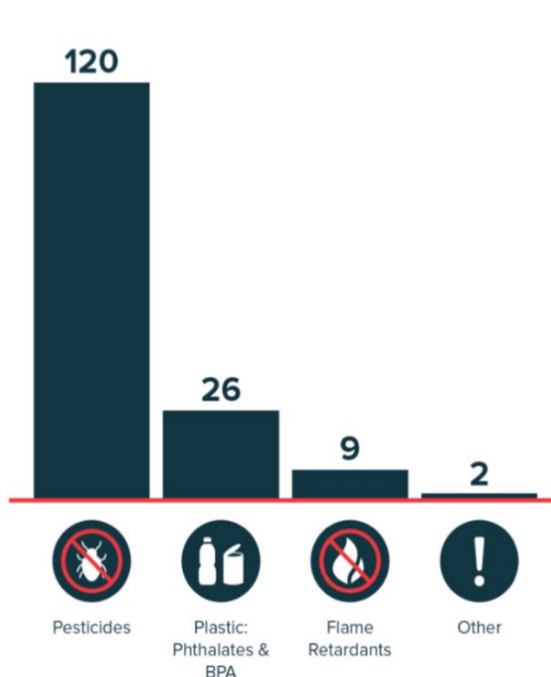
HEALTH EFFECTS FROM ENDOCRINE DISRUPTING CHEMICALS COST THE EU 157 BILLION EUROS EACH YEAR.

This is the tip of the iceberg: Costs may be as high as €270B.

€157B Cost by Health Effect



€157B Cost by EDC Type



€ 157
billion /Y

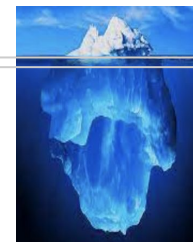


\$340
billion/Y



€ ??
billion/Y

< 5% of EDC



Not included
In this cost estimation

> 95% of EDC

- > Liver - Breast - Prostate Cancer
- > Immune - Thyroid Disorders
- > Osteoporosis - Endometriosis
- > Female Reproductive Disorders
- > Parkinson's Disease

2015 & 2019

South Africa - Future Africa Campus





Protéger les 1500^{iers} jours

Santé Environnementale : 2e Révolution préventive

Les facteurs environnementaux auxquels la maman est exposée durant sa grossesse influent sur le génome du fœtus
Protéger cette période cruciale du développement précoce (pré et postnatale), c'est protéger le capital santé de la Vie.

One Health : Vision 360 de la Santé

À L'interface entre les Hommes, les Animaux & les Écosystèmes

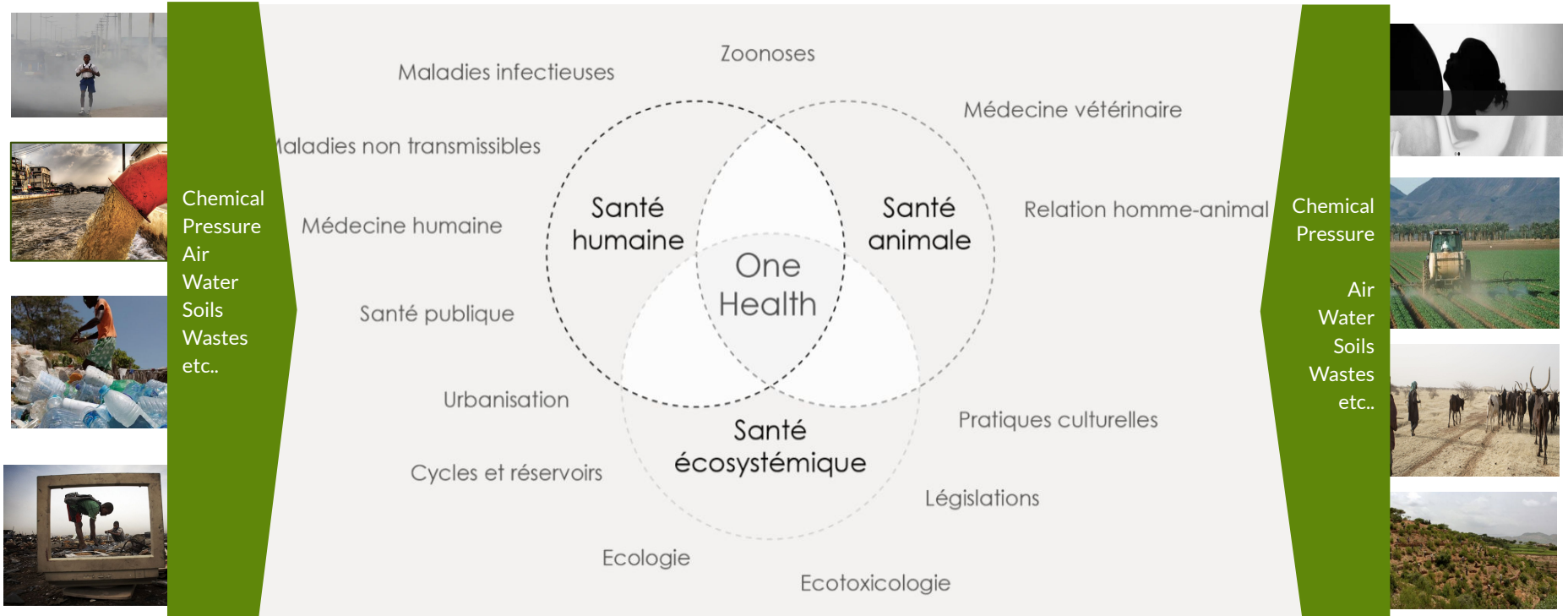


Figure 1 : Diagramme des interfaces « One Health » Référence : Inspiré de Destoumieux Garzon D. et al., *Frontiers in Veterinary Science*, 2018



Food and Agriculture
Organization of the
United Nations



World Health
Organization



Mars 2022

Joint Tripartite (FAO, OIE, WHO) and UNEP Statement Tripartite and UNEP support OHHLEP's definition of "One Health"

The One Health definition developed by the OHHLEP states:

One Health *is an integrated, unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems.*

It recognizes the health of humans, domestic and wild animals, plants, and the wider environment (including ecosystems) are closely linked and inter-dependent.

The approach mobilizes multiple sectors, disciplines and communities at varying levels of society to work together to foster well-being and tackle threats to health and ecosystems, while addressing the collective need for clean water, energy and air, safe and nutritious food, taking action on climate change, and contributing to sustainable development.

One Health en Action

dans tous les Agendas



2021-22

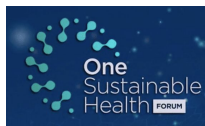
2030

2063

One Sustainable Health (OSH) Initiative
Berlin / OSH Declaration / World Health Summit

For States, Institutions, NGOs, Territories

World Health 2030 / WHO Academy



Monitoring Innovant + Protecteur + Prédicatif des effets cocktails des polluants chimiques



Effect-Based
Monitoring
in Water Safety Planning



Innovation / Evaluation des effets cocktails des polluants chimiques + Prédictives, + protectrices du vivant

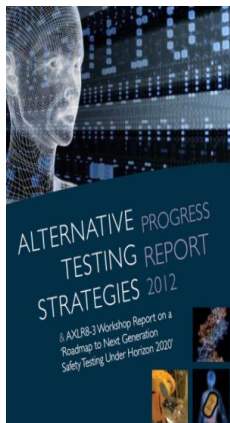


US EPA Chemical testing in 21st Century: Tox21

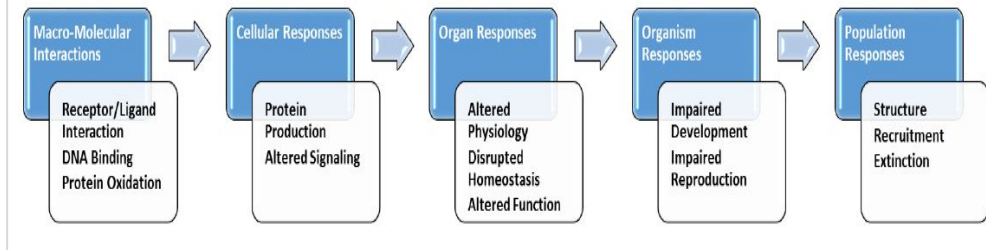
- Identify important biological pathways disrupted by chemicals
- Getting it safe early saves costs later
- Shifting the burden upstream

Worldwide improvement in Chemical Safety Assessment Alternative testing strategies

- Rapid, efficiently
- Cost effective
- More relevant biosystems to humans
- Larger number of substances & mixtures
- Using fewer or no animals



Voies de toxicité



Supported by Institutional bodies at international level



De l'innovation à l'implémentation sur le cycle de l'eau

Biosensing

Water Chemical Mixtures

Adverse Outcome Pathways



2008 to 2018

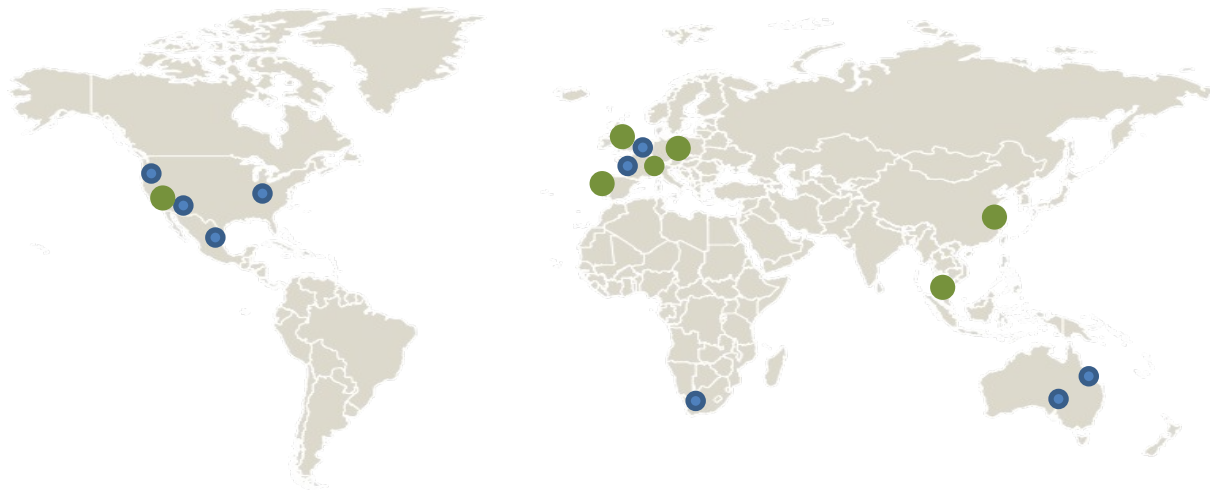
Endocrine Toolbox

ER, AR, TR, GR, PR, MR, RXR

Adaptative stress Toolbox

induced / Residual Chlorine

- Drinking Water
- Surface Water
- Treated Waste Waters
- Aquifer Recharge
- ReUse Water (Aqua 4 Fit)
- (In)Direct Potable REUSE



International Démonstration



FP7 - H2020 EU projects



Demonstrating promising technologies to address emerging pollutants in water and waste water



Case Study Rhine
Focus: Abatement options in waste- and drinking water management

Case Study Ebro and Liebrecht
Focus: Risk assessment under water scarcity

Case Study Danube
Focus: Identification of River Basin Specific Pollutants



Evaluation des effets cocktails des polluants chimiques /eau

Sur les Eaux potables, Eaux de Surface Water, Eaux usées traitées



2013 - 2018



POC
2018 - 2022

EU new approaches for the Monitoring &
Safety assessment of chemicals in surface waters



**Assessing and managing mixture
risk – future work under the
Common Implementation Strategy
for the Water Framework Directive**

IWA Tokyo – GWRC Workshop - Sept 19 of 2018

Armelle Hebert

Eureau representative

member of the EBM TaskForce delegated by EU Commission



One Water One Health

intégrant les Risques pour l'Homme & Ecosystèmes



Plus protecteurs pour la santé de l'homme et des écosystèmes

Improved Safety Frameworks with regard to critical toxicological profiles
(endocrine disruption, adaptative & oxidative stress response, muta/genotoxicity, etc.).



PARIS2015
UN CLIMATE CHANGE CONFERENCE
COP21-CMP11

Aqua 4 Fit / cible de Protection / Homme ou Écosystèmes

Ensure better acceptability of conventional / alternative water treatment schemes (REUSE)
(Drinking Water, Aquifer recharge, Irrigation, Urban water, Industrial Water, etc)



Pressions sur les ressources en Eau / post Covid

Pandemic Covid invites all players to rethink/relocalize their activities /services / Water uses
Strong pressure & demand on local water resources / Climate Change

Stratégie pour un environnement aquatique non toxique





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IFDD



ORGANISATION
INTERNATIONALE DE
la francophonie



Bassin du Congo

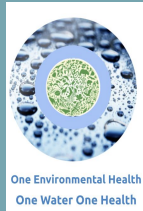
Défis Climatiques et Environnementaux / Pollutions
One Water One Health : Remédiation et Adaptation



One
Sustainable
Health **FORUM**

One Water One Health

Remédiation & Adaptation de la pollution sur les grands fleuves



Strategy UE pour un Environnement Aquatique non-toxique : Solutions intégrées

- **Scenarios :** Based on pollutants emissions, their current and future use
- **Retrospectif :** Effect-based monitoring to identify priority complex mixtures
- **Prospectif :** EU-wide modelling of water concentrations, exposure and risks for thousands of chemicals
- **Solutions :** Tools, model knowledge base and decision support system /abatement options

Strategy UA pour un Environnement Aquatique non-toxique : Solutions harmonisées

AF Bassins fluviaux > Scénarios > Rétrospectif > Prospectif > Normes internationales harmonisées + Solutions

Renforcement de capacités

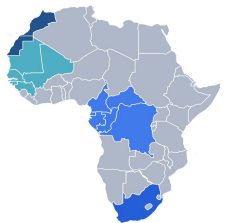
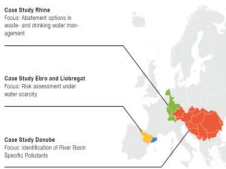
Transfert de compétences lab d'eau
Surveillance chimique et biologique
Modélisation à l'échelle de l'AF
Système d'aide à la décision /abattement

Implémentation & Diagnostic

Surveillance de la santé environnementale
Diagnostic des territoires / Env industriel
Évaluation de l'impact santé environnement

Innovations institutionnelles

Codex Environnementaux / Industriel
RSE / Initiatives à Impact
Santé dans toutes les politiques publiques



LE BASSIN DU CONGO

8,6 millions de Km²

10% de la biodiversité mondiale

1er réservoir mondial de CO₂

250 millions d'habitants

La Santé Environnementale / One Health
s'impose comme enjeu majeur de RSE
Climat / UN-UA Agenda 2063

Building resilience and value through water stewardship

The world runs on water. It keeps industry, agriculture and the economy afloat and is vital for human and environmental health. Even the smallest of problems linked to water resources can directly — and significantly — impact business and generate costs.

Climate change is spurring a rise in water risks around the world and businesses are increasingly coming under pressure to demonstrate their commitment to addressing the global water crisis. To turn the tide and future proof their businesses, companies need to identify and quantify water risks, develop robust water strategies and action plans, and better understand the costs and opportunities of effective water management.



**A robust water strategy
allows companies
to manage risks, build resilience**

THE ISSUE / HEALTH AND CLIMATE IMPACTS

HEALTH AND CLIMATE IMPACTS

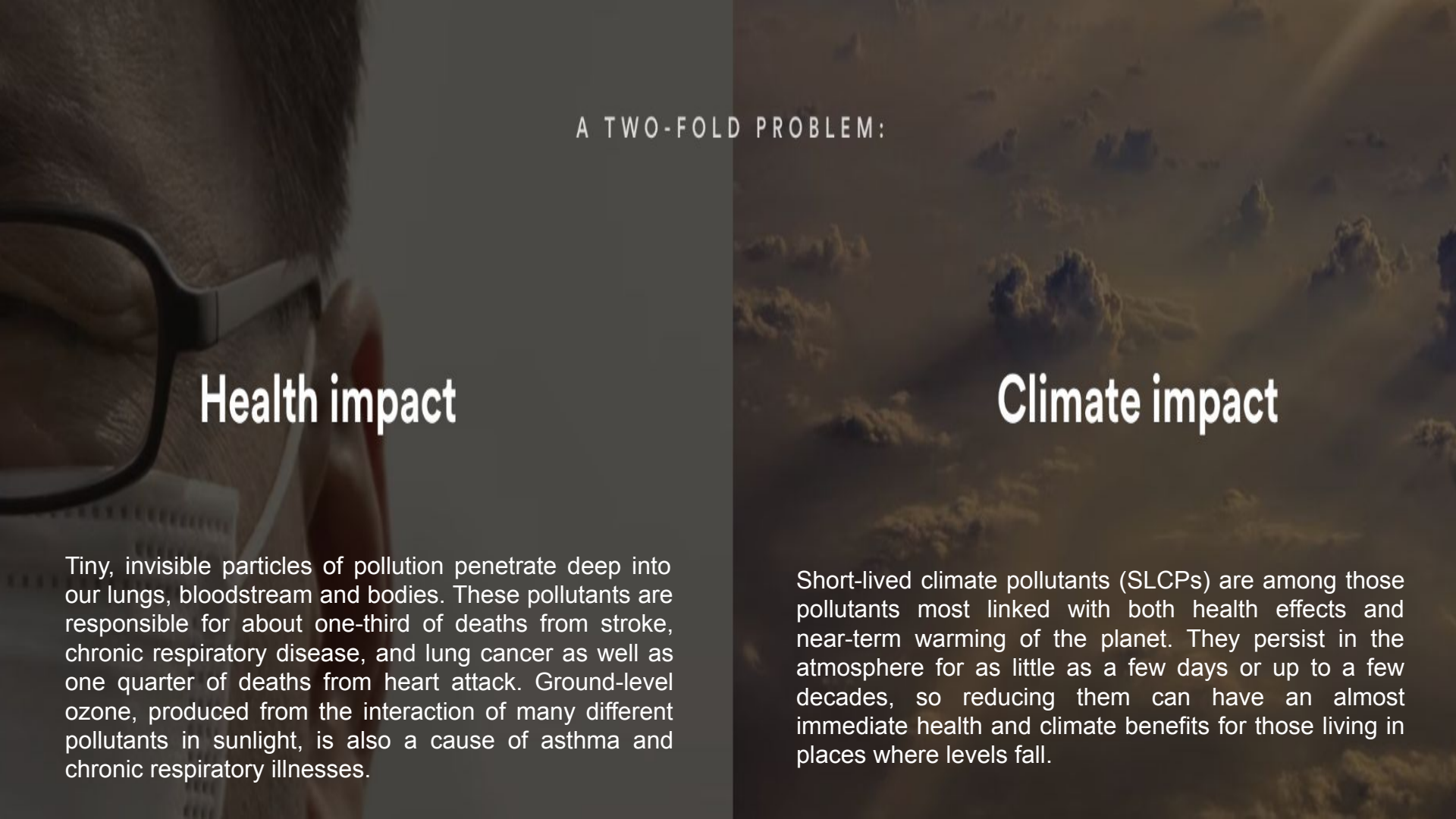
Air pollution threatens our health and our climate but is often invisible



The ISSUE

Air pollution outdoors and inside our homes claims about 7 million lives each year. It impacts our health through long-term exposure and causes near-term climate change, threatening the lives of future generations.





A TWO-FOLD PROBLEM:

Health impact

Tiny, invisible particles of pollution penetrate deep into our lungs, bloodstream and bodies. These pollutants are responsible for about one-third of deaths from stroke, chronic respiratory disease, and lung cancer as well as one quarter of deaths from heart attack. Ground-level ozone, produced from the interaction of many different pollutants in sunlight, is also a cause of asthma and chronic respiratory illnesses.

Climate impact

Short-lived climate pollutants (SLCPs) are among those pollutants most linked with both health effects and near-term warming of the planet. They persist in the atmosphere for as little as a few days or up to a few decades, so reducing them can have an almost immediate health and climate benefits for those living in places where levels fall.

From Drivers & Pressures To Combined solution areas for city, country or region AP reduction

SOLUTIONS

Solutions

Actions for Individuals

Health sector
leadership



HEAVY-DUTY
VEHICLES



OIL AND GAS



WASTE



BRICKS



HFC



HOUSEHOLD
ENERGY



AGRICULTURE



EFFICIENT
COOLING



SNAP



FINANCE



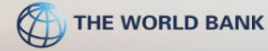
ASSESSMENTS



HEALTH

BREATHELIFE

BreatheLife mobilizes cities and individuals to protect our health and our planet from the effects of air pollution.



THE ISSUE

Health and climate impacts

Who it affects

Air quality in your city

SOLUTIONS

Solutions

Actions for Individuals

Health sector leadership

RESOURCES

Videos & Infographics

For cities and organizations

For individuals

For health professionals

BREATHELIFE NETWORK

Our BreatheLife Network

Join the BreatheLife Network

ABOUT

About the campaign

Stories

WHY ACT ON SHORT-LIVED CLIMATE POLLUTANTS (SLCPs)

SOLUTIONS

Solutions

Actions for Individuals

Health sector leadership



CLIMATE &
CLEAN AIR
COALITION
TO REDUCE SHORT-LIVED
CLIMATE POLLUTANTS

FAST ACTION • QUICK RESULTS • MULTIPLE BENEFITS

SUBSTANCE	ANTHROPOGENIC SOURCES	LIFETIME IN ATMOSPHERE
BLACK CARBON (BC)	    	DAYS
METHANE (CH ₄)	    	12 YEARS
TROPOSPHERIC OZONE (O ₃)	     	WEEKS
HYDROFLUOROCARBONS (HFCs)	     	15 YEARS (WEIGHTED BY USAGE)
LONG-LIVED CLIMATE POLLUTANTS Longer term response to mitigation		
CARBON DIOXIDE (CO ₂)	Rapid, deep, and persistent cuts in CO ₂ and other long-lived greenhouse gases are necessary to stabilise global temperature rise in the long term.	UP TO 60% <100 YEARS UP TO 25% >1,000 YEARS

NEAR-TERM IMPACTS

Short-lived climate pollutants are the largest contributors to global warming after carbon dioxide. They are responsible for up to 45% of current global warming, contribute to the 7 million annual premature deaths from air pollution, and cause 110 million tonnes of crop losses each year.



HARM PUBLIC HEALTH



REDUCE FOOD SECURITY



WARM THE ATMOSPHERE



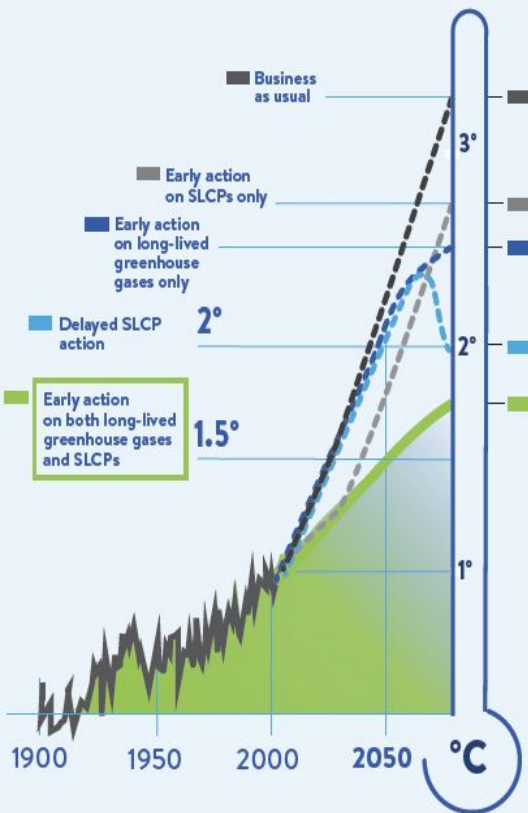
ACCELERATE MELTING OF ICE AND SNOW



DISRUPT WEATHER PATTERNS

CLIMATE MITIGATION PATHWAYS

Avoided global warming by 2050



BY ACTING ON SLCPs

CCAC package of solutions that can reduce **black carbon, methane and HFC emissions**.

Based on cost-effective technologies and practices that already exist,

CCAC package of solutions can reduce global emissions by 2050 by:

↓ 25%

METHANE

↓ 80%

BLACK CARBON

↓ 61%

HFCs

(upon execution of policies under the Kigali Amendment)

DEVELOPMENT BENEFITS

There are also multiple development benefits to action to reduce short-lived climate pollutants. These benefits can be perceived almost immediately where action has been taken.



HEALTH

2.4 million avoided premature deaths annually from outdoor air pollution



FOOD SECURITY

52 million tonnes of avoided crop losses from 4 major staples per year



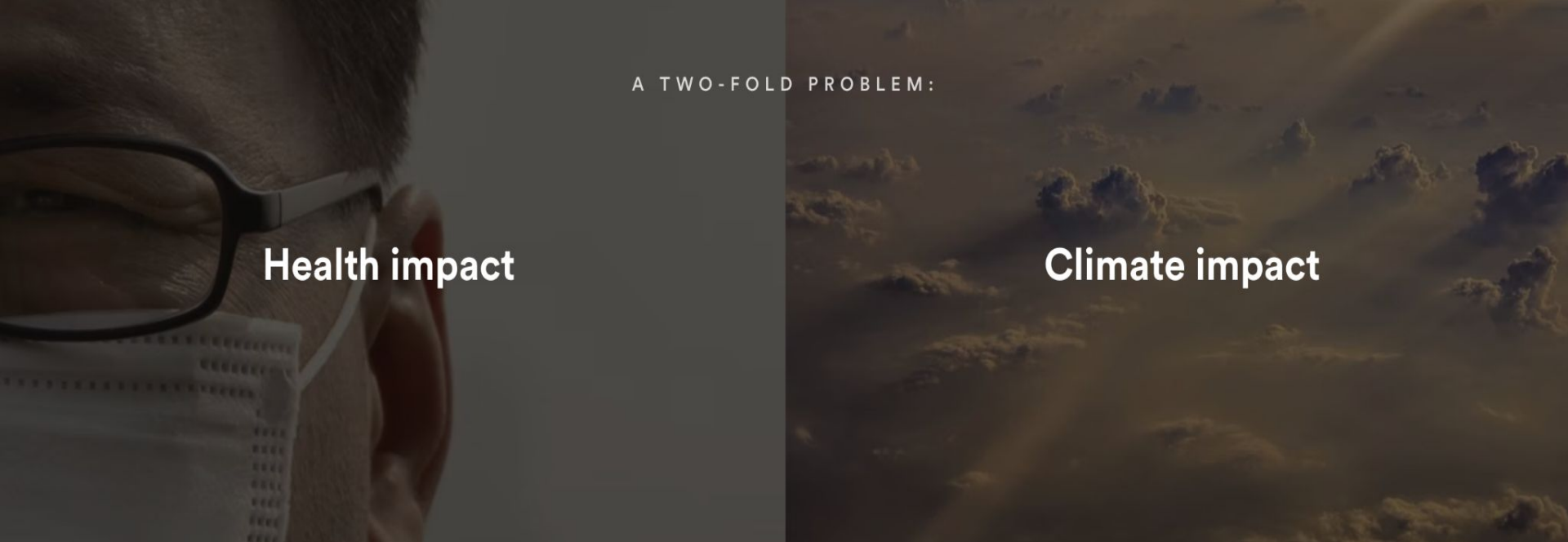
SUSTAINABLE DEVELOPMENT GOALS

Contribution to meeting the SDGs related to air quality, health, and food security

CLIMATE BENEFITS



0.6°C avoided warming by 2050



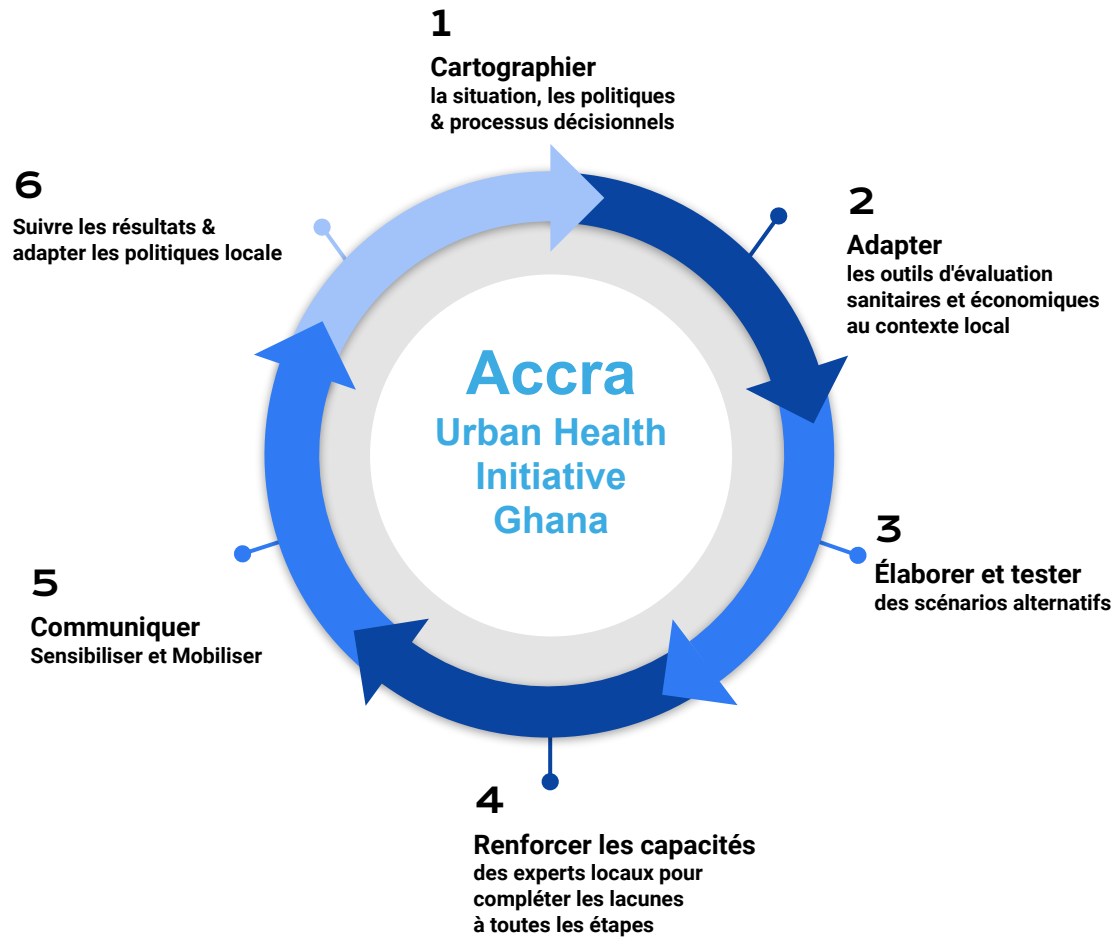
A TWO-FOLD PROBLEM:

Health impact

Climate impact

3000 Engaged Cities are seeing progress

By supporting solutions that reduce air pollutants, including SLCPs, cities around the world have achieved dramatic progress in just a few years. New WHO data combines satellite with ground station monitoring to offer a global snapshot of air pollution exposures, closeups of data for 3000 cities and the latest estimates of deaths and disease from air pollution by country.



HEAVY-DUTY VEH



WASTE



HFC



AGRICULTURE



SNAP



ASSESSMENTS



OIL AND GAS



BRICKS



HOUSEHOLD ENERGY



EFFICIENT COOLING



FINANCE



HEALTH

Climate and Clean Air Coalition Trust Fund

Trust Fund supports the Coalition's activities, hosted by UNEP.

Trust Fund resources are allocated by the CCAC Board & Partners in line with the [CCAC Framework](#).

SOLUTIONS

Solutions

Actions for Individuals

Health sector
leadership



[HOW TO CONTRIBUTE](#)

[DONORS](#)

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Un enjeu africain et planétaire

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- + Transition énergétique
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