Environmental Health Matters

An Initiative At

The National Academies of
SCIENCES · ENGINEERING · MEDICINE

"I've long believed the environmental issue is an economic issue and a political issue. The three are entwined. You can't build prosperity [*sustainability*] on any basis other than a long-term basis, and you can't do that if you don't have a healthy environment."

- *Henry Paulson*

Environmental Health Matters Initiative

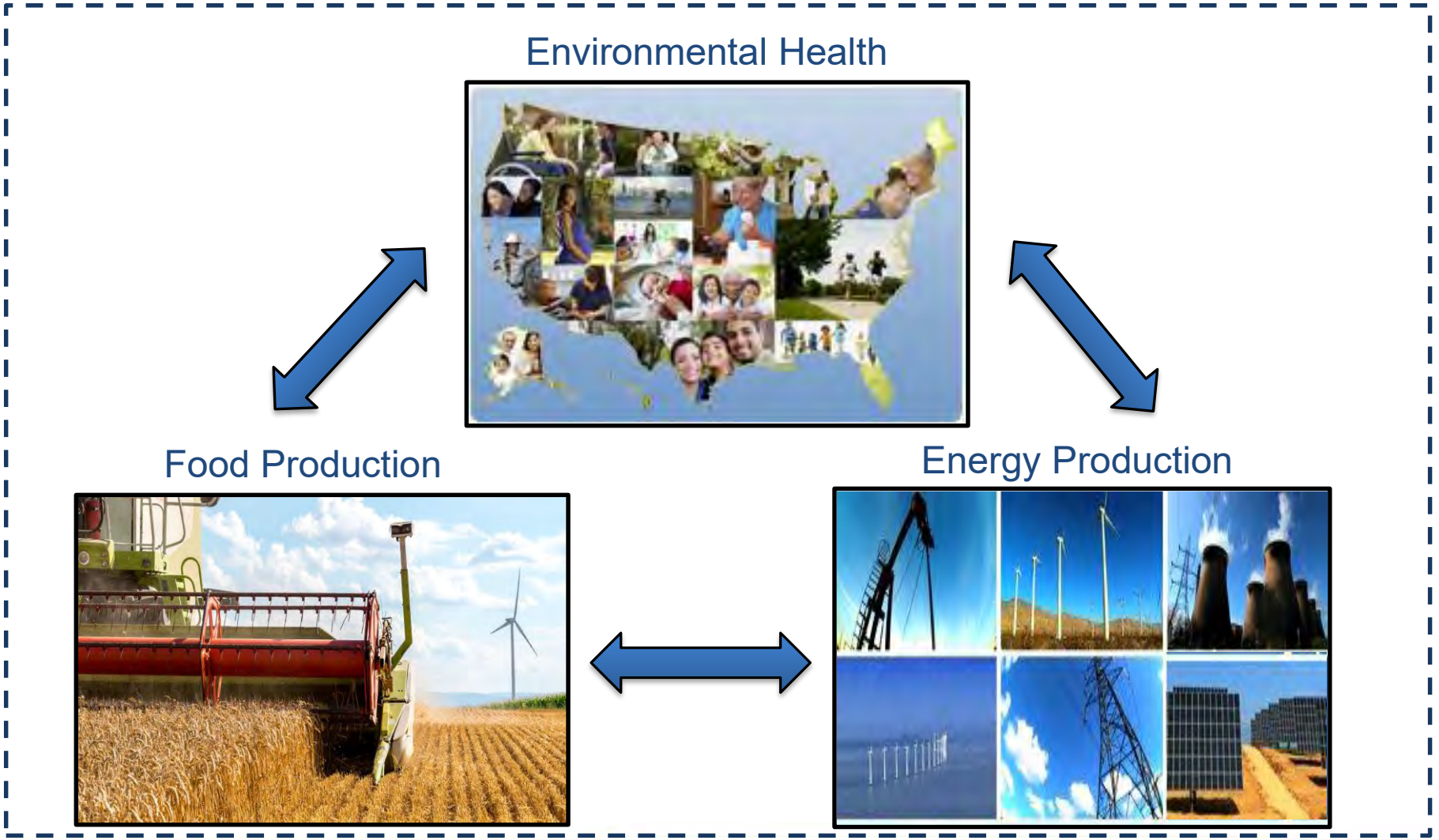
Complex problems require new levels of multi-disciplinary expertise and cross-sector collaboration

The challenges of environmental protection:

- Complex interactions
- Various spatial/temporal scales
- Local to global implications
- Social justice issues
- Lack of public awareness
- Difficult regulatory issues

Environmental Health Matters Initiative

Pathways to Sustainability



EHMI will take a systems level approach

Environmental Health Matters Initiative

Ideas Into Progress

Identify important problems

- Engage a diverse group of scientific and sector leaders
- Solicit nominations for complex environmental health issues
- Select issues based on potential for impact

Explore their complexity

- Provide neutral, trusted convening space
- Include a range of perspectives
- Capture expert insights in an opportunity landscape

Advance solutions

- Disseminate opportunity landscape
- Build an appetite for progress
- Catalyze action

Desired outcomes

- *Science-based insights* to inform actions
- *Relationships* that galvanize and direct momentum
- *Greater visibility* of the link between the environment and health
- *Holistic strategies* that account for a complex interplay of factors

Environmental Health Matters Initiative

Organizational Structure

- **Steering Committee**
  - Multiple disciplines (*epidemiology, toxicology, behavior science, engineering, data science, sensing, etc*.)
  - Multiple sectors (*industry, academia, foundations and NGOs*)

- **Liaisons**
  - Multiple sectors (*business sector, federal agencies, state and local agencies, medical practice communities, foundations, etc.*)

- **Friends of EHMI**
  - Network of volunteers and members of NAS, NAE, NAM

Environmental Health Matters Initiative

Steering Committee

Thomas A. Burke (Chair), Johns Hopkins University

Darrell Boverhof, The Dow Chemical Company

George P. Daston, Procter & Gamble Company

Linda J. Fisher, E.I. du Pont de Nemours & Company (retired)

Estelle Geraghty, Esri

Lynn R. Goldman, The George Washington University

Gavin Huntley-Fenner, Huntley-Fenner Advisors

Daniel Greenbaum, Health Effects Institute

Philip R.S. Johnson, Heinz Foundation

Beth Karlin, See Change Institute

Jennifer McPartland, Environmental Defense Fund

Amy Pruden, Virginia Tech

Ana V. Diez Roux, Drexel University

Martha E. Rudolph, Colorado Department of Public Health and Environment (retired)

Jonathan M. Samet, Colorado School of Public Health

Devon C. Payne-Sturges, University of Maryland

Deborah Swackhamer, University of Minnesota

Environmental Health Matters Initiative

Liaisons

- **Center for Disease Control -** Patrick Breysse
- **Covestro-**Robert Skoglund
- **Department of Defense -** John Seibert
- **Green Chemistry & Commerce Council (GC3) -** Joel Tickner
- **Health and Environmental Funders Network -** Kathy Sessions
- **The JPB -** Ogonnaya Dotson-Newman
- **Kresge** - Jalonne White-Newsome, David Fukuzawa
- **National Environmental Health Association-** Natasha DeJarnett
- **NIH/National Institute for Environmental Health Sciences-**Linda Birnbaum, John Balbus
- **Pure Earth-**Richard Fuller
- **Target-**Francie Abramson
- **UPROSE-**Elizabeth Yeampierre
- **Environmental Protection Agency**
- Jennifer Orme-Zavaleta and Al McGartland
- **U.S. Geological Survey -** Geoffrey S. Plumlee
- **Walmart-**Zach Freeze

Environmental Health Matters Initiative

Topic Focused Workshops

Initial Topics Considered

1. Transportation choices and impact on health
2. Persistent compounds (e.g. PFAS)
3. Large-scale agriculture and health
4. Water infrastructure
5. Climate change and health
6. Lead (prevention, mitigation, and/or effects)
7. 5G implications – electromagnetic radiation
8. Plastics/Microplastics

Environmental Health Matters Initiative

The Ability to Survey the Opportunity Landscape

Deep Interrogation of the Issues

- **Why** are there concerns?
- **What** are the scientific questions?
- **Where** are the opportunities and barriers for innovation?
- **Who** can develop better understanding and technology?
- **When** can we expect outcomes and solutions?
- **How** can they be applied on local, regional, and global scales?

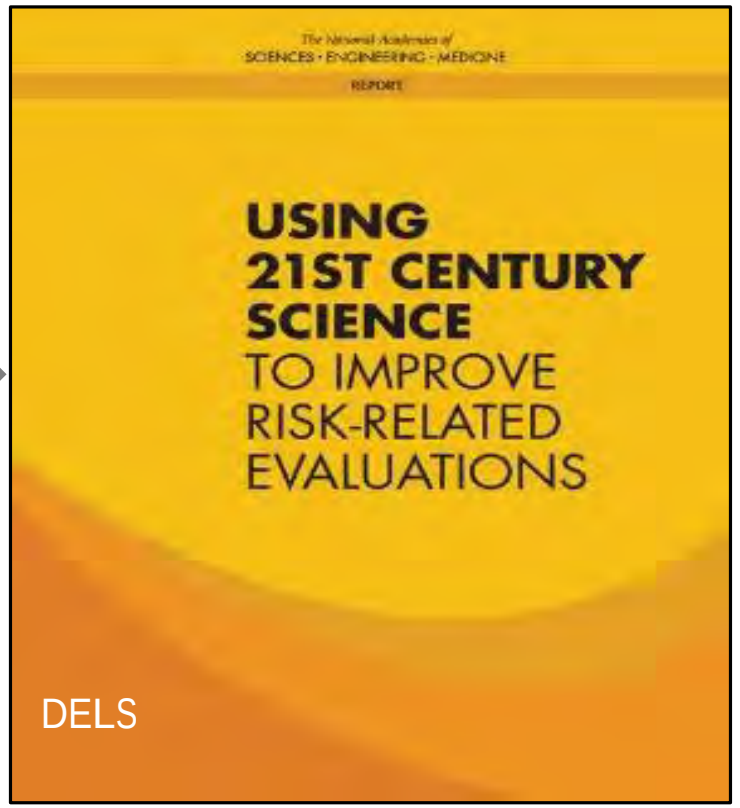
Environmental Health Matters Initiative

The Opportunity Landscape

- **People –** population(s) of concern.
- **Environmental Health Assessment** - drivers of the environmental health continuum from source to exposure to health outcome
- **Mediators of Health** –e.g. genetics; pre-existing disease state; microbiome; social determinants
- **Action Steps -** specific actions (established actions and gaps); opportunities for innovation
- **External Drivers** that can facilitate action and key barriers
- **Actors** - key actors and their role in relation to action steps or external drivers
- **NASEM involvement,** when NASEM identified as an important actor

Groundwork

Board(s) Led Consensus Studies



Environmental Health Matters Initiative

Opportunity Landscape Products

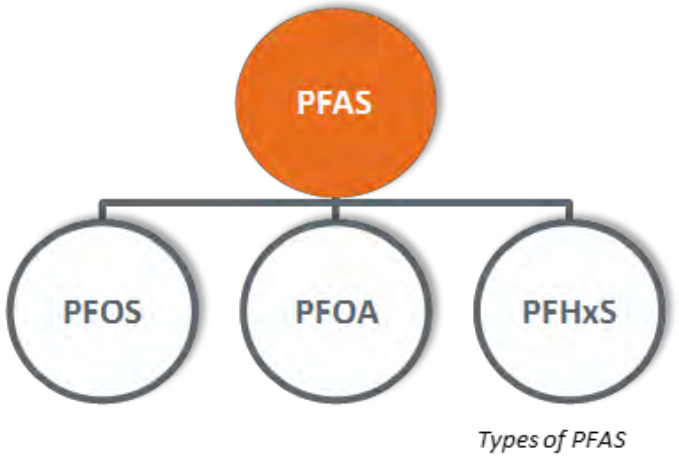
The EHMI will not conduct consensus studies or make unattributed recommendations

- Disseminate workshop discussion summaries and specific points of view on an interactive web-based portal that focuses on paths forward for EHMI topics
- Unlike NASEM Proceedings, the EHMI products will be structured to serve both those interested in high-level summaries as well as contain detailed information
- Visually compelling and accessible on all mobile devices and platforms

Environmental Health Matters Initiative

Workshop #1 – Explore Human Exposure to PFAS in the Environment

September 26-27, 2019; Washington, DC



Types of PFAS

Workshop Goals

1. Identify possible knowledge gaps in our understanding of the current extent of human exposure to PFAS

1. Explore options for controlling PFAS exposures and identify potential implications of various methods when the entire system is considered

2. Consider innovative upstream options to prevent PFAS exposures

3. Articulate actions that can be taken by various sectors to advance our understanding of human exposure to PFAS, to implement or develop treatment or prevention approaches to reduce PFAS exposure, and to reduce barriers to taking such actions.

Environmental Health Matters Initiative

Workshop #2 - Towards Safe Water

November 21-22, 2019; Washington, DC

Workshop Goals:

1. Illuminate the factors that impact equitable access to safe drinking water in the U.S. and the roles that environmental changes and competing priorities may play in the system.

2. Explore innovative technological, policy, economic, and communication strategies and barriers to adoption.

3. Discuss short- and long-term actions and behaviors that sector leaders can influence to advance equitable access to safe water.

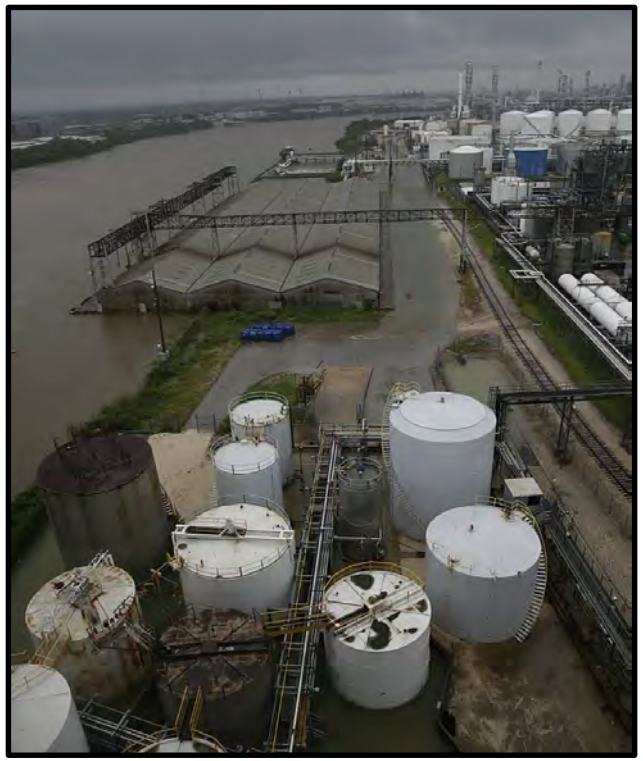
Environmental Health Matters Initiative

The Path Forward – Supporting Consensus Studies

Board on Chemical Science and Technology (BCST)

The Chemistry of Urban Wildfires and Risks to Human Health

New Environmental Hazards of Chemical Storage



Environmental Health Matters Initiative

Sponsoring Organizations

National Academy of Sciences Arthur L. Day Fund

NIEHS National Institute of Environmental Health Sciences

Walmart FOUNDATION

TARGET

CDC Centers for Disease Control and Prevention

GORDON AND BETTY MOORE FOUNDATION

United States Environmental Protection Agency