American Chemistry Council

Industry Perspective on Pollution Prevention

October 24, 2023

ACC's Focus

Champion science-based policy solutions across all levels of government

Drive continuous performance improvement to protect employees & communities

Foster development of sustainability practices throughout ACC member companies

Communicate authentically with communities about challenges & solutions for a safer, healthier & more sustainable way of life

Pollution Prevention and Product Stewardship

Emissions Reduction, Safety and Security

Sustainability Focus

Scientific Research

Transparency

American Chemistry Council

RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY
CELEBRATING 35 years

Responsible Care

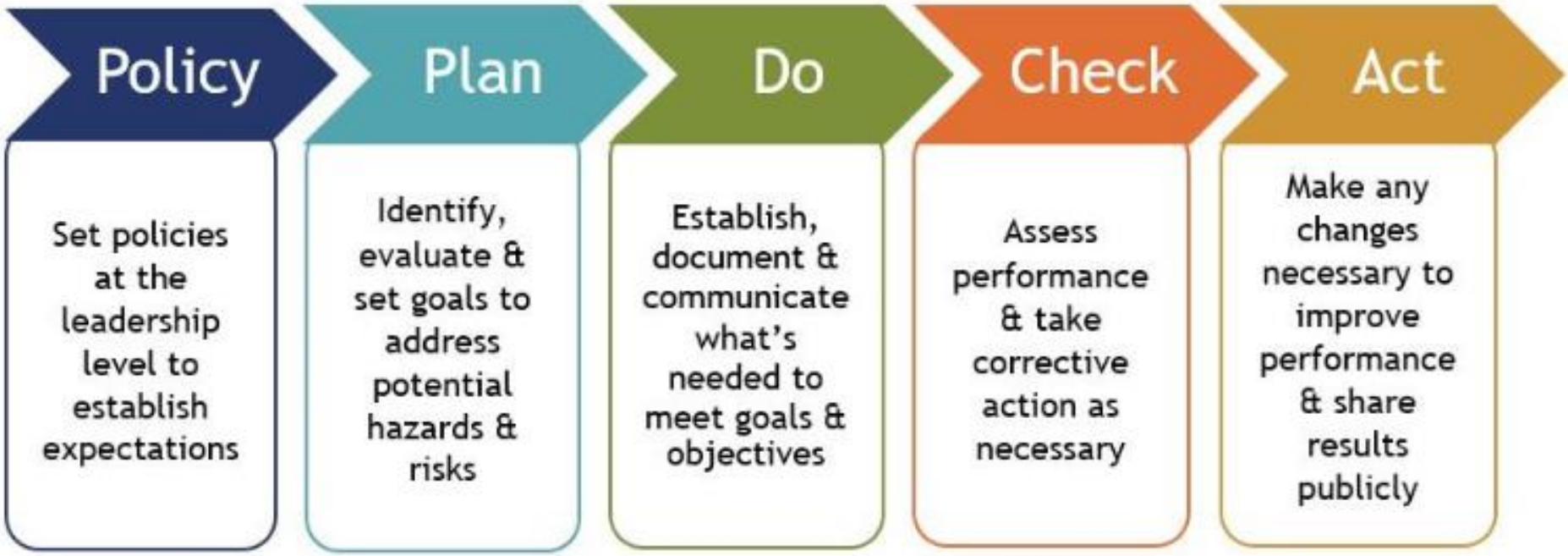
Responsible Care®

The chemical industry's commitment to:

- Improve environmental, health, safety, and security performance
- Drive sound chemicals management throughout the product lifecycle
- Enhance resource efficiency
- Safeguard, engage and support facility communities
- Track, improve and transparently report performance
- Improve operating processes, lower operating costs
- Share ethical and operational philosophies and exemplary practices
- Build connectivity between suppliers and customers

Responsible Care Management System® (RCMS)

- RCMS® is an integrated health, safety, security and environmental management system
- Companies are required to demonstrate conformance to the requirements
- Conformance is determined through an independent third-party audit



Responsible Care®

RESPONSIBLE CARE®
OUR COMMITMENT TO SUSTAINABILITY

20% Reduction in Recordable Injury and Illness Rate **since 2010**

5X Safer than U.S. Manufacturing Sector **in 2021**

3X Safer than the Overall Business of Chemistry **in 2021**

12% Decrease in GHG Intensity **since 2017**

18% Reduction in SOx Emissions **since 2017**

39% Reduction in NOx Emissions **since 2017**

24% Decrease in Distribution Incidents **from 2017-2021**

250+ Companies Undergo Third-Party Audits

$27 Billion+ Invested to Enhance Security at Facilities since **September 11, 2001**

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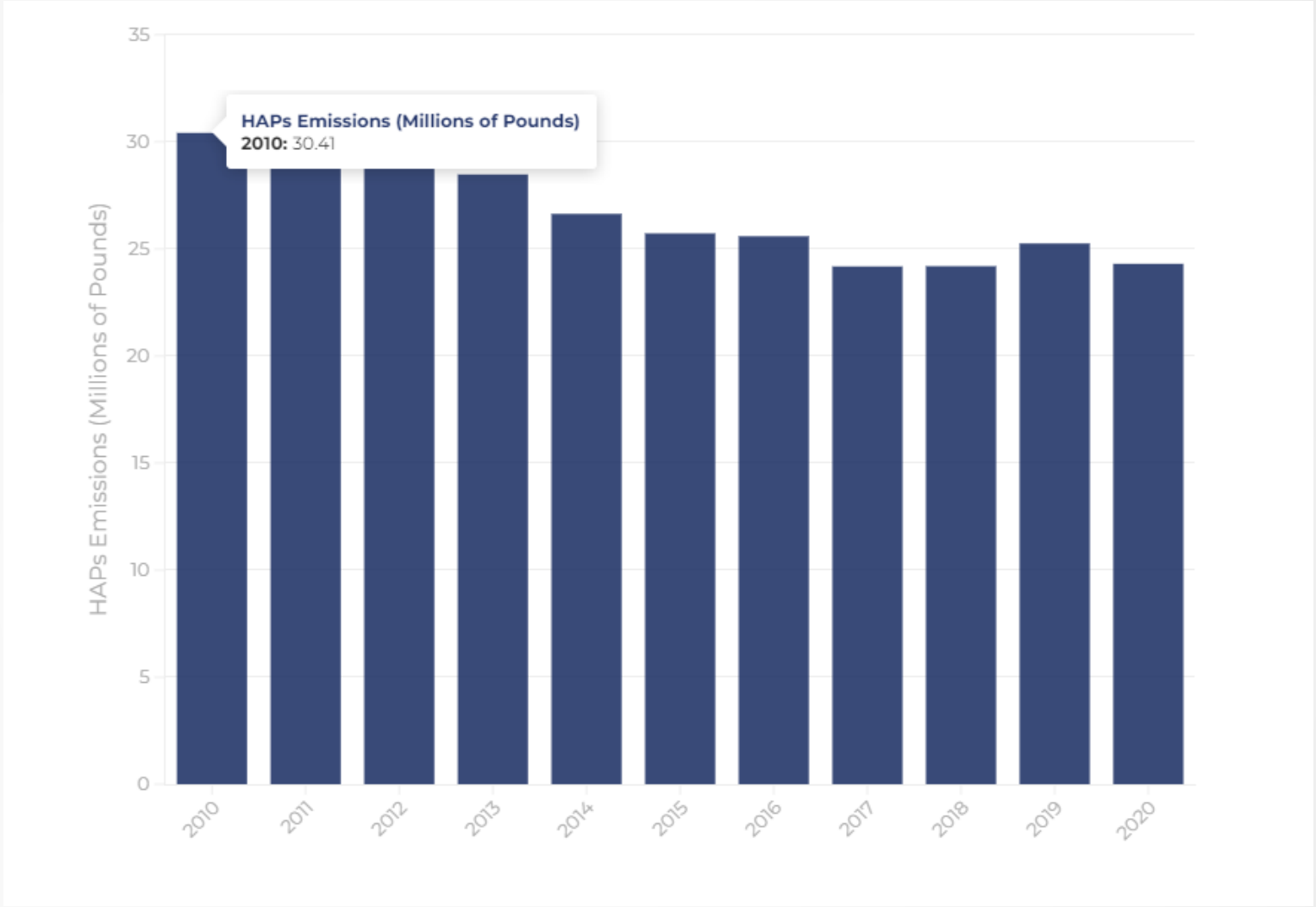
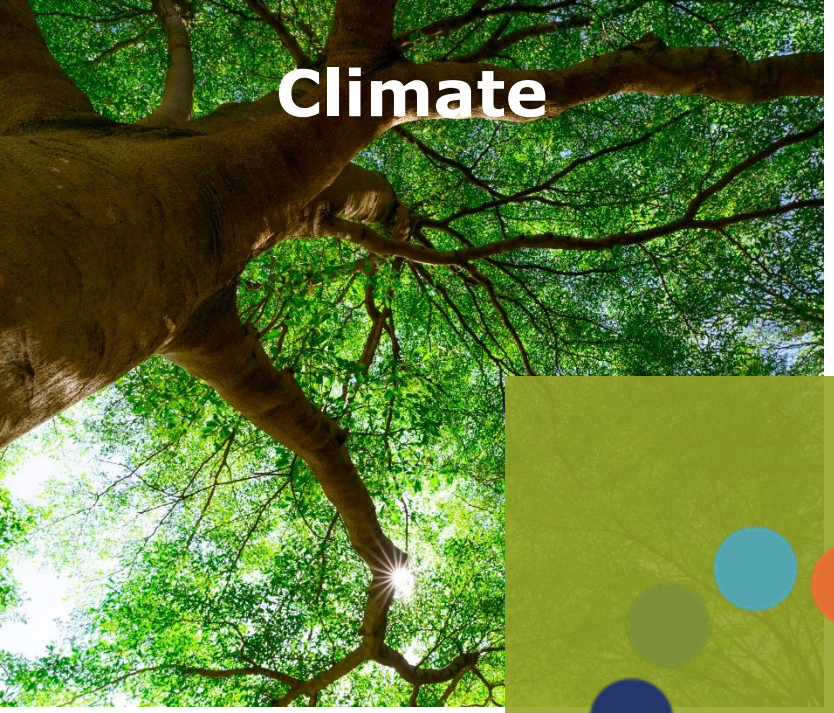


Responsible Care Companies Have HAPs ⬇ Emissions by ~24 %

CHEMISTRY:
The Science Behind
Sustainability

Chemistry **is** the science behind sustainability.



CHEMISTRY:
The Science Behind Sustainability

Sustainable Chemistry

A Holistic Approach

Seeking to understand trade-offs to maximize overall contributions to sustainable development

Environment:
Climate,
Water,
Air,
Waste

Resource Efficiency:
Renewables,
Process Efficiency
Circularity

Human Health & Ecosystems:
Human and Ecotoxicity,
Product Stewardship,
Biodiversity

Contributions to Society:
Transportation,
electronics,
public health,
personal care,
building & construction

Economic Return:
Competitiveness,
Sustainable production

Water Stewardship

ACC supports its members in advancing the three pillars of Water Stewardship in and around their watershed:

Quality, Quantity, Access

ACC's Water Stewardship Objectives:

- Provide guidance on metrics to drive action and demonstrate progress around water stewardship
- Establish Water Body Risk Assessment framework to support progress toward industry's overall water stewardship efforts
- Promote benefits that ACC member companies deliver to the health and sustainability of the watersheds
- Help shape water collaboratives by facilitating a collaborative approach to address prioritized watersheds at risk

Research, Data and Method Development

LRI

Long-Range
Research Initiative

Catalyze innovations in chemical safety sciences to improve risk-based decision making

Ongoing LRI Research

Advance Understanding of Consumer Exposures: Predictive Models for Generating Exposure Estimates

Project Title: Expanding and Improving the EAS-E Suite Platform for Exposure Modeling
Principal Investigator: Jon Arnot, Ph.D.
Research Institution: ARC Arnot Research & Consulting Inc.

Project Title: Creating and Sustaining Successful Public-Private Partnerships (PPPs) for Environmental Monitoring Programs: Principles and Elements
Principal Investigator: Judy LaKind, Ph.D.
Research Institution: LaKind Associates, LLC

Project Title: Exposure Research Using Robotics to Measure Concentrations / Verify Exposure Model Predictions
Principal Investigator: Albania Grosso
Research Institution: Lower Olefins and Aromatics REACH Consortium (A.G.) and Stantec (H.L.)

Integrate Hazard and Exposure to Assess Risks from Chemicals: New Tools for Linking the Data

Project Title: Exploring Artificial Intelligence Technologies to Develop a "Causal Research Assistant"
Principal Investigator: Tony Cox, Ph.D.
Research Institution: Cox Associates

Project Title: Population Life-course Exposure to Health Effects Model (PLETHEM) - Continued Platform Development and Education and Outreach
Principal Investigator: Marjory Moreau, Ph.D.
Research Institution: ScitoVation

Project Title: Development of a Tiered Approach for the Application of In Vitro to In Vivo Extrapolation (IVIVE) for Developmental Toxicity in Support of New Approach Method (NAM)- Based Chemical Safety Assessments
al Investigator: Harvey Cle
h Institution: Ramboll

Improve Chemical Safety Testing Technologies: Design Fit-for-Purpose Assays and Advance Data Interpretation

Project Title: Omics for Assessing Signatures for Integrated Safety (OASIS) Consortium
Consortium Manager: Chrissy Crute, Ph.D.
Research Institution: Health and Environmental Sciences Institute (HESI)

Project Title: Characterizing Acute Inhalation Toxicity using an In Vitro Human Airway Model
Principal Investigator: Angela Hofstra, Ph.D. and Marie McGee Hargrove Ph.D.
Research Institution: Syngenta

Project Title: Exploring Tissue Chips for Toxicity Testing: Testing Consortium at Texas A&M University (TEX-VAL)
Principal Investigators: Ivan Rusyn, Ph.D.,; Courtney Sakolish, Ph.D.,; Clifford Stephan Ph.D.
Research Institution: Texas A&M University

Project Title: Development of a Fit-For-Purpose In Vitro Model of Lung Toxicity
Principal Investigator: Les Recio, Ph.D.
Research Institution: ScitoVation

Project Title: Application of Toxicogenomics in Next-Generation Risk Assessment
Principal Investigator: Rasim Barutcu, Ph.D.
Research Institution: ScitoVation

Address Topical Challenges Faced by the Chemical Industry: Novel Techniques and Tools

Project Title: Evaluating Morphological, Behavioral & Transcriptomic Responses in the Zebrafish Developmental Toxicity Assay to Chemical Mixtures Commonly Associated with Environmental and Human Biomonitoring Studies
Principle Investigator: Robyn Tanguay, Ph.D.
Research Institution: Oregon State University

Project Title: 2023 Developmental Toxicity NAMs Scoping Review Update
Principal Investigators: ACC LRI Strategic Science Team
Research Institution: ACC LRI

Project Title: Developing In Vitro Metabolic Clearance Data to Support Development of the Internal Threshold of Toxicological Concern (iTTC)
Principal Investigator: Sherry Black
Research Institution: RTI

Project Title: Evaluation of USEPA's Generalized Read-Across (GenRA) Version 3 Using Example Case Studies
Principal Investigator: Susan Borghoff, Ph.D.
Research Institution: ToxStrategies

Project Title: A Comprehensive Review and Appraisal of Frameworks, Methods, Metrics, and Data Used in Assessments of Communities with Environmental Justice Concerns
Principal Investigator: William Rish, Ph.D; Ann Verwiel
Research Institution: ToxStrategies

American Chemistry Council

Information Sharing

Commitment to Transparency

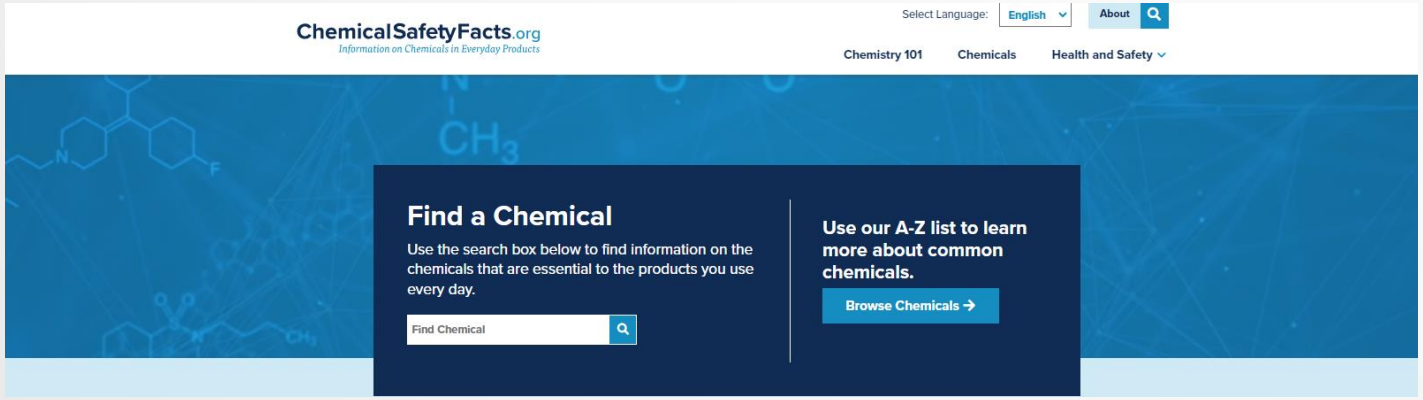
Report performance metrics through website

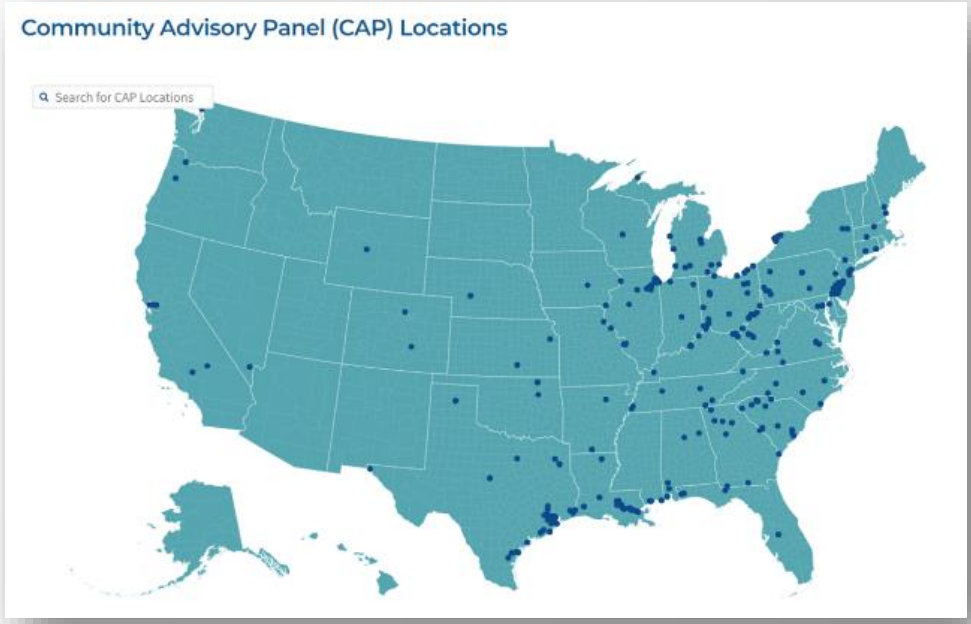
Illustrate commitments to continuous improvement and transparent data-sharing

Inform stakeholders about environmental, health, safety and security performance

Sharing Information With Communities

- Interacting With Communities Through CAPs
- Assisting Communities and Helping to Prepare Responders for Hazmat Incidents





Thank You