

IMPROVING The Air We Share

A Practitioner's Guide to Encouraging
Action for Air and Health

THE **AIR**
WE **SHARE**

IMPROVING The Air We Share

Perhaps you're developing an exhibit on local air quality, supporting community members as they measure air pollution in different neighborhoods, or building curricula for field trips or summer camps on climate change and health. As you research the topics you want to convey, you'll likely find ample information about the problems: statistics, graphs, images, and stories that describe how human activities are polluting the air and the consequences of these activities for human and planetary health. But you might be left wondering:

What can we do about these issues? And how might we communicate about action in ways that lead to sustained, meaningful participation?

These common questions have complex answers, as the actions that are possible and strategic are context-dependent and embedded in a web of systems that make direct impacts challenging to trace. *Improving the Air We Share* is **designed to help public engagement practitioners identify and communicate about actions** that people can take to improve air quality and health. To that end, it includes the sections below.

THIS GUIDE INCLUDES:

- 1 Why emphasize action?** An overview of the importance of communicating about actions that improve air and health.
- 2 How might we frame messages about action?** Evidence-informed strategies for talking about solutions and inviting action that can be applied to a range of program and content types. Alongside framing recommendations, this section provides concrete examples that practitioners can learn from and adapt.
- 3 Which actions might we highlight?** A framework that organizes air quality actions by the goals they address and the actors who can undertake them, offering a menu of actions that practitioners can consult as they make decisions about which actions to elevate in their work.
- 4 How might we support members of the public to communicate about air and health?** Ideas for equipping and encouraging people to share their concern and actions with others.

1

Why should we emphasize action?

Why is it important to emphasize action when communicating about air quality and health?

What considerations might shape how a science center or museum practitioner frames action?

When air quality is poor, it threatens our health and wellbeing. Fortunately, over the past 50 years, policies and innovations have made the air in the United States significantly cleaner.¹ But about 44% of Americans—about 152 million people—still live in places with consistently unhealthy air, and 99% of the world’s population live in places where the air pollution levels exceed World Health Organization (WHO) guideline limits.² Air pollution contributes to millions of premature deaths each year, alongside millions of cases of asthma, heart disease, and other health issues.

Air pollution results from decisions made by people. While people in positions of power like policymakers and business leaders have an especially strong influence on air quality, the decisions made by everyday people make a collective impact, too. For instance, individuals and entities from schools to governments all make decisions about where our energy comes from, how we get around, and whether and how much to invest in things like green infrastructure and wildfire prevention practices. All these decisions play meaningful roles in influencing air quality, for better and worse. **Just as human decisions and activities can create air quality problems, they also play a critical role in advancing air quality solutions.**

At the Museum of Discovery and Science, high school students collect air quality data in various locations in South Florida



Opportunities for Science Centers and Museums

As organizations engaging with local communities on science issues that affect our lives and wellbeing, science centers and museums have valuable opportunities to support actions that protect air and health. Science centers and museums are highly regarded in their communities and serve large and diverse audiences who are often open to engaging in planetary health action.³

Science centers and museums can provide:

- Clear, accurate, and locally relevant information about the air we breathe
- Information about why it matters
- Actionable steps that people can take to improve air quality and protect their health

Foregrounding Action

Social science research reveals that people are most likely to feel they can make a difference and act on an issue when they are presented with specific and effective ways to do so. Moreover, sharing alarming information without a message about how to take action makes people more likely to disengage or feel that there’s nothing they can do about the issue. On the flip side, when messages make clear that there are ways to address the problems, audiences are more likely to contribute to solutions.⁴ Fortunately, there are many thing we can do to protect ourselves and improve the air, making air quality an ideal topic for action-oriented public engagement.

See **The Air and Health Action Framework** in this document (p. 12) to see a range of actions that make a difference.

ACTIONS SUPPORT THE FOLLOWING GOALS

MITIGATION		COMBINATION	ADAPTATION		
Reduce Pollution Cut pollutants at the source (e.g., buildings, transportation, industry, energy generation)	Prevent & Manage Wildfires Stop smoke events before they start and minimize spread	Enhance Green Infrastructure Invest in natural systems that filter and cool	Reduce Exposure Protect from heat & poor air quality when hazards are present	Improve Monitoring & Alerts Track conditions & warn communities	Improve Respiratory Healthcare Access Prevent illness and provide treatment for those affected

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How might we frame messages about action?

What messages are helpful for building understanding and motivating action to improve air and health?

What context is valuable?

What communication strategies might we adopt?

FOUR KEY MESSAGES

The following four messages, drawn from Seeding Action's guide **Framing Planetary Health**, form a foundation for effective communication about air and health. They can be woven into exhibits, programs, social media, and informal conversations, and adapted for different audiences and settings.



Air quality issues are here and now



Air quality affects our health



Healthier air is possible



We all have roles to play in improving the air

KEY MESSAGE 1



Air quality issues are here and now

Encouraging action begins with establishing that **air quality is a relevant issue for all of us, no matter where we are.**

Air quality is an issue *here*

“Here” can be a place of any size, from a country to a neighborhood, as long as an audience identifies with that place and the other people who live there. Although specific air quality threats vary from place to place, it is a near universal concern. There are many factors that contribute to poor air quality, including ubiquitous human activities like transportation and industry and far-reaching drivers like wildfire and heat.

Air quality is an issue *now*

“Now” may include the present, recent past, or near future, since messages about any of these timeframes can make the importance of immediate action clear. For example, trends in air quality and respiratory health can provide an entry point to talking about action, regardless of the direction of the trend—if air quality and/or health outcomes are improving, the trend demonstrates that actions have a tangible impact (and, therefore, that additional actions can amplify the rate of progress); if they’re getting worse, it shows why intervention is needed.

HOW TO INCORPORATE THIS KEY MESSAGE

→ Share current hyper-local air quality information

Displaying real-time air quality information helps make the topic salient by prompting people to think about the air they’re breathing in that moment.

→ Invite audiences to explore air quality data across time and place

This might include examining differences in the air quality index (AQI) across a city, county, or region; looking at how local AQI changes over time, including seasonal variations; and identifying data gaps where there’s a lack of air quality information.

→ Create opportunities to measure air quality

Groups can measure air quality in different locations to gain a firsthand understanding of local air quality and the factors that affect the air.

KEY MESSAGE 2



Air quality affects our health

Building on the message that air quality issues are “here and now,” the next foundational message conveys that **air quality matters, especially for our health**. Since physical health is widely valued, emphasizing its relationship to air quality can help reinforce the need for action.

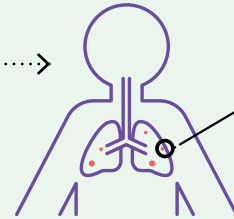
While it’s important to communicate that air quality affects our health, it’s not necessary to dwell on this point, since many people are already aware. A recent nationally representative survey of parents in the United States revealed that 87% worry about how air quality impacts their health or their family’s health, with a significant majority indicating that they believe their children have already experienced negative health effects.⁵

To build on existing public understanding of the relationship between air quality and health, messages about health impacts can open the door to conversations about solutions that address those impacts. Examples are described below.

HOW TO INCORPORATE THIS KEY MESSAGE

→ Show how air pollution affects our lungs

When people understand how the respiratory system works and how the air we breathe affects our bodies, it can create a deeper sense of personal relevance and help clarify why actions that reduce exposure to air pollution make a difference for our health.



→ Discuss disproportionate vulnerabilities and impacts

Although polluted air harms everyone, some groups are more exposed to unhealthy air and some are more likely to experience health problems when they’re exposed to pollution. Considering the unfairness of air quality and its health impacts can help people focus on solutions that are most likely to address inequities.



→ Explore local respiratory health impacts

Understanding local prevalence of conditions and illnesses like asthma, COPD, and lung cancer—and whether those rates vary from community to community or differ from those of other regions—can help people think about the importance of action and the types of solutions that might make the greatest impact locally.



KEY MESSAGE 3



Healthier air is possible

Air quality is an issue for which there are many available and effective solutions. To help people see that there are things they can do to make a meaningful difference, practitioners can show that change is possible and in some cases, improvements are already underway.

HOW TO INCORPORATE THIS MESSAGE

→ Share successes

Around the world (and perhaps in your local area) there are examples of deliberate actions that have reduced pollution or limited exposure to poor air and benefited local public health. Telling these stories can demonstrate that positive change is possible.

→ Emphasize what we stand to gain from taking action

Making the benefits of addressing environmental challenges as concrete as possible can increase motivation to contribute to solutions.⁶ In addition, many solutions that improve air quality and health have other benefits, too: they address other planetary health issues like climate change and biodiversity loss; save money, enhance productivity, and improve agricultural yields; and create more appealing and comfortable indoor and outdoor spaces.

→ Discuss solutions we can all take to protect our health

Even as we work toward mitigating the sources of air pollution, there are things we can do to reduce our exposure to harmful pollutants. Understanding strategies for protecting ourselves and our communities can be empowering, demonstrating that even if we cannot immediately solve air quality issues, we can meaningfully lessen the harms of unhealthy air.

KEY MESSAGE 4



We all have roles to play in improving the air

Many people don't know how they can improve the air: 84% of parents say they would like to do more to address poor air quality, and nearly one third (31%) say they have not taken certain actions because they don't feel they know enough about them.⁷ Others may believe that their own actions won't make a difference.

Practitioners can help overcome these barriers by sharing the many roles we can all play. Because people tend to act in alignment with social norms—what they perceive others doing, or what is considered “typical” behavior—it can be helpful to emphasize that not only can we all take action, but many people are *already* doing so.⁸

HOW TO INCORPORATE THIS KEY MESSAGE

→ Showcase diverse actions

This approach conveys that there's something (or more than one thing) that everyone can do, regardless of age, income, or prior knowledge, by themselves or in collaboration with others.

→ Emphasize the actions that are already being taken by a wide range of entities

By highlighting those who are already contributing to solutions—schools, faith communities, government agencies, nonprofits, and others—it becomes apparent that we have a collective responsibility to contribute to healthy air, and that different entities are best suited to taking different actions. This also highlights the impact that emerges from collective actions, things that no one person can do alone, but that gain power when many people do them in coordination.

→ Provide hands-on experience to contribute to a solution

When people have the opportunity to participate in action, especially alongside others, they develop relevant skills, experience the satisfaction of doing something tangible with others, develop or strengthen relationships that encourage sustained action, and can start to see themselves as active contributors to solutions.

Practitioners can help members of the public consider the roles they can play by sharing:

Why actions make a difference

- What happens as a result of various actions?
- Under what conditions are they most successful?
- How do they ultimately affect air and/or health?

How people can play a role

- What skills, resources, or networks do they need for success?
- As concretely as possible, where do they go, or what do they do to take the action?



3 Which actions might we highlight?

What actions make a meaningful difference for air and health? Who has the knowledge, resources, and influence to take these actions?

What do different actions accomplish, and how?

There are many potential actions an individual, community, organization, or government can take. As a result, determining which ones to model, highlight, or encourage requires deliberate decisions about the actions that are best suited for particular audiences, contexts, and goals. **The Air and Health Action Framework was designed as a starting point to support these decisions.**

The framework includes example actions that can be adapted for the unique contexts of science centers and museums. The framework is organized by goals and actors, to provide concrete responses to the high-level question: **Who can do what and to what end?**

The Air and Health Action Framework includes:

GOALS

Each column represents a unique broad goal.

Each column represents a distinct goal, and these goals are organized by whether they mitigate the sources of unhealthy air or support adaptation by protecting people from unhealthy air.

MITIGATION

COMBINATION

ADAPTATION

ACTORS

Each row represents a different actor.

Each row represents a different actor. The table includes four groups of actors, identified for their relevance to science center and museum audiences.

- The **individuals and households** category focuses on things that people can do on their own or with people they live with.
- The **schools and youth programs** category includes sports, scouts, and after-school organizations.
- The **community organizations and networks** category captures a range of entities, including faith communities, neighborhoods, nonprofits, businesses, healthcare organizations, and labor unions.
- The **government** category captures actions that apply to all levels of government, from local to national, that need to be advanced through policy.

ACTIONS

Listed in each cell.

The actions listed in each cell are intended to serve as illustrative examples, not a comprehensive menu. We prioritized actions that make a significant impact, are generally accessible, and are broadly applicable to diverse audiences.

The Air and Health Action Framework | Part 1

Addressing the sources of hazards that harm air and respiratory health.

MITIGATION

COMBINATION

GOALS

ACTORS

Individuals & Households

ACTIONS

Reduce Pollution

Cut pollutants at the source (e.g., buildings, transportation, industry, energy generation)

- Reduce car trips (carpool, combine trips, avoid driving when possible)
- When buying/leasing a vehicle, choose electric
- Don't idle vehicle when parked
- Choose renewable electricity
- When time to replace a gas stove, choose electric/induction
- When time to replace a furnace, purchase an electric heat pump
- Switch to electric lawn equipment
- Avoid burning trash and yard waste

Prevent & Manage Wildfires

Stop smoke events before they start and minimize spread

In areas where wildfires are possible:

- Follow fire restrictions and burn bans
- Clear defensible space around property
- Install fire-resistant landscaping
- Retrofit ("harden") your home with less flammable materials (e.g., ember-resistant vents, screens)
- Report fire hazards to authorities
- Store firewood away from structures

Enhance Green Infrastructure

Invest in natural systems that filter and cool

- Plant trees and native vegetation on your property
- Replace lawn with native ground cover
- Participate in community tree-planting events

Schools & Youth Programs

Including sports, scouts, after-school, etc.

- Electrify school bus fleets and other vehicles
- Expand access to bus routes to minimize car drop offs
- Implement anti-idling policies at drop-off
- Provide bike racks & encourage active transport
- Encourage carpooling
- Upgrade buildings to electric systems
- Install solar panels on buildings

- Clear vegetation around buildings
- Teach fire safety & prevention skills

- Plant trees and native vegetation
- Replace asphalt with green space where possible
- Engage students in caring for and monitoring school green spaces

Community Organizations & Networks

Faith communities, neighborhoods, nonprofits, businesses, healthcare providers, etc.

- When buying vehicles, choose electric
- Upgrade buildings to electric systems
- Install solar panels on buildings

- Coordinate neighborhood actions, like defensible space clearing and hardening
- Offer trainings and communicate broadly about wildfire prevention approaches

- Organize neighborhood tree-planting
- Establish community gardens and green corridors
- Support urban forestry programs

Governments

At all levels (E.g., local, state, federal)

- Prioritize pollution reduction in building codes (e.g., air filtering, outdoor venting, electric appliances)
- Incentivize consumers to purchase electric vehicles and appliances
- Incentivize clean energy production and transmission
- Disincentivize or limit polluting energy sources
- Fund public transit and bike/pedestrian infrastructure
- Enforce the Clean Air Act, ensuring that pollution remains below allowable limits

- Expand prescribed burning and other forest management practices
- Incentivize wildfire-safe building standards
- Invest in wildfire response (e.g., fire crews, equipment, early detection technology)

- Fund urban tree canopy expansion and maintenance
- Implement green buffers near highways and industrial facilities
- Incentivize green roofs, living walls, and permeable surfaces

The Air and Health Action Framework | Part 2

Addressing the sources of hazards that harm air and respiratory health.

ADAPTATION

GOALS	ADAPTATION		
	Reduce Exposure Protect from heat & poor air quality when hazards are present	Improve Monitoring & Alerts Track conditions & warn communities	Improve Respiratory Healthcare Access Prevent illness and provide treatment for those affected
ACTORS			
Individuals & Households	- Check AQI before outdoor activity - Wear an N95 mask on high pollution days - Stay indoors during heat waves & poor AQ - Stay hydrated - Install HEPA air purifiers in main rooms - Upgrade HVAC filters to MERV-13+ - Seal windows & doors when AQ is poor outdoors - Use range hood vented outdoors (if no range hood, open windows when cooking) - Check on vulnerable neighbors - Create wildfire evacuation plan with multiple routes	- Use AQI apps daily (AirNow, IQAir) - Subscribe to local air quality alerts - Purchase home air quality sensor - Monitor indoor air quality continuously - Share alerts with neighbors & community - Track wildfire smoke forecasts	- Know asthma triggers & symptoms - Carry inhaler when needed - Seek care for persistent respiratory symptoms - Know when to seek emergency care
Schools & Youth Programs Including sports, scouts, after-school, etc.	- Install HEPA filtration in all classrooms - Upgrade HVAC systems - Cancel outdoor activities during poor AQ and heat waves - Provide cool spaces during heat events - Stock N95 masks for students & staff - Develop fire evacuation plans & practice drills	- Install air quality monitors - Communicate real-time AQI in visible places - Teach students to read air quality data and check AQI regularly - Engage students in community science monitoring	- Train staff on asthma response protocols - Stock rescue inhalers & nebulizers - Teach respiratory health literacy - Ensure coaches know youth respiratory conditions - Connect families to healthcare resources
Community Organizations & Networks Faith communities, neighborhoods, nonprofits, businesses, healthcare providers, labor unions, etc.	- Distribute HEPA purifiers & masks - Create cooling center networks & transportation - Run community air quality alert systems - Coordinate mutual aid during extreme events - Install HEPA air purifiers in gathering spaces - Provide flexible schedules during poor AQ - Install indoor AQ monitors - Serve as community evacuation sites	- Deploy low-cost sensor networks - Train and engage the community in AQ monitoring - Monitor and share hyper-local AQI	- Provide respiratory health education - Support uninsured residents accessing care - Host health screenings & respiratory clinics - Provide transportation to medical appointments - Connect members to healthcare resources
Governments At all levels (E.g., local, state, federal)	- Fund clean air and cooling shelters - Incentivize consumers to purchase filters and upgrade HVAC - Distribute high-quality masks - Establish workplace safety standards related to heat and AQ	- Address monitoring data gaps - Share real-time data in visible and accessible places - Implement alert systems - Incentivize or require workplace monitoring	- Fund community health centers - Fund free/low-cost respiratory medication programs - Fund respiratory health research

Strengths and limitations of the “menu of actions” approach

Seeding Action focuses on *actors* over *actions*. We have observed the most durable impact when public engagement approaches create the conditions that encourage people to see themselves as planetary health actors—people who take sustained, meaningful action.

This resource lists example actions because in order to become an actor, a person or group needs to know what they can do. Examples can be instructive and help motivate and inspire involvement.

However, limitations arise when examples and menus are interpreted as end points, rather than starting points. A list might inadvertently send the message that the activities included are the only possible or necessary actions, rather than encouraging creativity around the things that can be done. This list format can also lead audiences to assume that solutions are accomplished through one-off actions, whereas most require persistence and consistency. For these reasons, when offering concrete action examples, we recommend **counterbalancing menus and checklists with an emphasis on the ongoing, creative, and varied ways people can contribute to healthier air**.

The recommendations throughout this resource provide a starting point for offering the context that can support the cultivation of an identity as a planetary health actor.

A NOTE ON HEALTH DISPARITIES

Although polluted air harms everyone, some groups are more exposed to unhealthy air—people who live near busy roads, power plants, or industrial facilities are often exposed to more pollution and have higher rates of asthma and other health conditions caused by poor air quality.

In addition, some people are more likely to experience health problems when they're exposed to pollution, including children, elderly, pregnant people, and people with pre-existing medical conditions.

As you make decisions about which actions to highlight, you may want to consider those that most directly reduce health disparities.

4

How might we support members of the public to communicate about air and health?

How does communication relate to other actions for air and health?

How can we equip people to become more effective communicators and advocates?

What can communication accomplish?

→ Communication is a form of action.

No matter the medium, it is a deliberate practice that can be done to advance a desired outcome.

→ Communication creates the conditions for broader participation in solutions.

It builds shared understandings of problems and solutions, increases the salience of challenges and solutions, and changes what is perceived as normal and socially desirable, all of which, in turn, motivate more people to contribute to solutions.

→ Communication is a core component of other actions that improve air quality and planetary health.

Many solutions require multiple people or entities to collaborate, coordinate, or negotiate, such as developing policy proposals, making decisions about air quality data collection, or ensuring that protective measures are available and accessible when air quality is poor. Strong communication skills—the abilities to articulate messages clearly, listen and account for different perspectives, and find common ground—enable progress.

→ Communication shapes our identities and, in turn, subsequent behavior.

The more we talk about a topic, the more it becomes salient for us and connected to our self-identity, reinforcing our commitment to taking sustained action. Additionally, conversations about environmental topics can create self-reinforcing cycles: conversations lead to more conversations and spread messages further.⁹

For these reasons, science centers and museums can support healthier air and community health by helping their audiences communicate effectively. The following list provides some approaches that science centers and museums can take to help people develop strategies, skills, and confidence for communicating about air and health.

TIPS FOR HELPING MEMBERS OF THE PUBLIC COMMUNICATE

→ **Discuss a range of modes of communication.**

It may be helpful to remind people that meaningful communications come in all forms: from one-on-one conversations with friends, family, and other community members; to social media posts; to calls, emails, and conversations with policymakers.

→ **Share framing guidance.**

The key messages and recommendations in the previous section apply not only to practitioners, but to anyone who would like to effectively advance actions that improve air and health. You might also show the ways that the museum is incorporating deliberate framing practices into its content, offering concrete examples of framing in practice.

→ **Provide resources to aid communication.**

Ready-to-share or adaptable templates for things like social media posts, flyers, or videos can lower the barrier to entry. You might also offer conversation starters that community members can use to begin conversations with different audiences to advance a range of goals.

→ **Provide opportunities to practice.**

People can build skills, familiarity, and confidence by simulating a conversation (e.g., via a role-play activity) or directly engaging in a form of communication (e.g., writing a letter to a local decision-maker about their interest in air and health solutions).

Supporting children to communicate

When children are concerned about an issue, they can often make an impact by talking to adults in their lives. Each of the recommendations in the list that follows can be tailored for audiences of different ages. For children, it's especially important to emphasize that healthier air is possible, and we all have roles to play. You might also consider giving kids materials that they can bring home to the adults in their household.

ASTC'S CIVIC ENGAGEMENT & POLICYMAKING TOOLKIT

This toolkit is a guide for science engagement organizations to thoughtfully identify and implement ways to nurture new civic experiences or deepen ongoing civic initiatives that support meaningful change within their communities. It provides concrete tools for the initial stages of planning, defines roles that science engagement organizations can play in community-centered civic collaborations, and provides examples of civic engagement projects supported by science engagement organizations.

[Access the toolkit here.](#)



Supporting Advocacy

Advocacy is the act of actively supporting, promoting, or arguing for a cause, group, practice, policy, or other change. As such, it is a form of communication. While the general communication guidance included in this section can be helpful for supporting visitors to advocate for the issues and solutions that are important to them, a few additional considerations are listed below.

TIPS FOR HELPING MEMBERS OF THE PUBLIC ADVOCATE

→ Help people articulate how air quality and health issues are personally relevant.

When people communicate about their personal experiences, concerns, or aspirations for their community, their message is more likely to be perceived as concrete and authentic, making it more compelling.¹⁰ This might be especially true for decision-makers, as personal stories can help them connect an abstract issue to the people or communities they serve.¹¹ Practitioners can equip people to share their personal stories by helping them articulate the connections between air quality issues and their own experiences.

→ Help people understand who makes decisions about air quality and how to engage them.

Advocates need a mental map of the local civic landscape: who makes decisions that influence air quality, what policies are already in place, and what actions are possible at each level of government. This understanding is important because many people think about air quality as solely the federal government's responsibility, overlooking the influence that state and local governments have. With greater understanding of specific local and state actors, what they're responsible for, and examples of actions they've taken or could take on air quality, more people can be better equipped to contribute to meaningful change.

→ Help people connect with groups advocating for air and health actions.

Plugging into an existing group can be an especially effective way to advocate, as it adds power to efforts that already have momentum. Practitioners can organize events with groups working on air and health or provide information about local groups to help people get involved with existing efforts.

As you're developing exhibits, curricula, community science programs, or other efforts to engage your community in conversations about actions for healthier air, we hope this resource provides a wider view of the landscape of action and facilitates choices about which solutions to highlight, how to frame them, and how to equip your visitors to carry their messages forward. Every exhibit panel that inspires new ways of thinking about solutions, every program that helps students see themselves as people who can improve the air, and every conversation that a community member takes home and continues at the dinner table serves as building blocks for healthier air and healthier communities.

About This Guide

This guide was created as part of **The Air We Share**, a partnership between Sanofi and ASTC's Seeding Action initiative, which supports science centers and museums in the United States to engage with their local communities on the ways that environmental challenges like air pollution, wildfires, and extreme heat affect human health.

It was written by ASTC staff, with input from science center and museum professionals whose institutions are diverse in size, location, and mission, as well as staff from Sanofi.

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