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Global Framework for Action

**ADVANCING HEALTHY INDOOR AIR THROUGH SOCIETAL
ENGAGEMENT AND MARKET TRANSFORMATION**

A publication of the Global Commission on Healthy Indoor Air

Stewarded and supported by



Global Framework for Action

ADVANCING HEALTHY INDOOR AIR THROUGH SOCIETAL ENGAGEMENT AND MARKET TRANSFORMATION

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i. Acknowledgements

I have always believed, and seen reaffirmed time and again, that partnership represents leadership at its highest. The Global Commission on Healthy Indoor Air embodies that belief, transcending the goals or mission of any one organization and demonstrating the new heights we can reach and the new possibilities we can unlock when we focus on what we can accomplish together.

The Commission has brought that spirit to life by uniting more than 200 extraordinary leaders and experts from around the world. Each brought not only their tremendous expertise and experience, but also their generosity, intellectual rigor, spirit of collaboration and determination, both to this publication and our shared goal of accelerating the healthy indoor air movement. Their engagement over the past year to support the development of this Framework was nothing short of remarkable. Collectively, the Commissioners provided hundreds upon hundreds of thoughtful comments, recommendations and refinements, sharpening ideas and strengthening this Framework at every stage. This publication is immeasurably better because of their knowledge, dedication and commitment, and I am profoundly grateful to each and every one of them.

I also offer my deep appreciation to the Commission's Co-Chairs whose leadership, guidance and strategic input continually elevated both the Framework and the ambition it represents. I am equally grateful to Rachel Hodgdon, President and CEO of IWBI, for her steadfast leadership and unwavering commitment to this effort, and to the many senior leaders and colleagues across IWBI (including our exceptional communications team) whose input, coordination and editorial and design support were instrumental in bringing the Framework to fruition.

As with any collaborative effort, the strengths of this Framework belong to the Commissioners and contributors whose insights, experience and input shaped it. By the same token, any errors, omissions or shortcomings are mine as its principal preparer. It has been a distinct honor to support the development of this document and to help steward this work through my role as secretariat of the Global Commission.



Jason Hartke

Secretariat of the Global Commission and EVP at IWBI

ii. Foreword



Rick Fedrizzi

*Executive Chairman of the International WELL Building Institute and
Commissioner on the Global Commission on Healthy Indoor Air*

There's an old saying about bankruptcy. It happens slowly, then suddenly. The same can be said of market transformation. And I know, because I've witnessed it over the arc of my career.

When I was with Carrier Corporation in the '80s and '90s, I saw how energy efficiency worked its way slowly into buildings and then, all of a sudden, everyone realized that the best, cheapest energy resource we had was the one we didn't use. Later, I shifted my attention to the green building movement, where I took many of those same lessons and applied them to our work at the U.S. Green Building Council, creating even more market tools to drive progress. And now there's a similar movement growing around healthy buildings and the work of this Global Commission to forever change how we address indoor air quality.

What we've put together through this collective effort is a true roadmap for market transformation. It's made up of a series of strategic focus areas and recommendations, but it's organized around the major pillars of market transformation. In effect, it gives us, and the entire global community that cares about this issue, a much-needed game plan.

That's a big deal. When I was helping grow energy efficiency and green building years ago, we didn't have a playbook like this. We were writing it as we went along. This time, we have taken the time to develop and coalesce around the right playbook. And in market transformation, preparation saves time, saves resources and can serve as a powerful accelerant. In other words, the better the plan, the faster the market can move.

Which brings me to another line I really appreciate. *Don't tell me what we're going to do someday. Tell me what we're going to do tomorrow morning at nine o'clock.* That's what this roadmap provides. It doesn't just tell us where we want to go. It tells us what to do next. Whether it's building awareness, advancing policy, translating research into practice or driving market adoption, this is the game plan that empowers all of us. And as any coach would tell you, having the right game plan can make all the difference.

It goes without saying how honored I am to be part of this effort. I know that what we've done together is significant in creating this Global Framework for Action. I believe we'll look back on this as a turning point, a special moment when we came together, took the best plays from across all our experiences and disciplines, and made sure we were coordinated and operating like a team.

And at the end of the day, that's what this Commission is. It's the A-team working together to create a global movement.

Onward!

iii. Letter from the Commission Co-Chairs

Between us, we have spent decades working to advance healthy indoor air. Our experiences span many of the field's defining milestones, from pioneering international convenings and scientific leadership, to national public health leadership and the growth of the healthy building movement. Over that time, the evidence has grown stronger, practical solutions have become more accessible, standards have become more robust and public awareness has continued to grow. But in just the past few years, the pace of progress has accelerated dramatically. Science, policy, innovation, market leadership and public awareness are no longer moving on separate tracks. They are converging and reinforcing one another. **It is clear to us that healthy indoor air is rapidly approaching a global tipping point.**

It was against this backdrop that the Global Commission on Healthy Indoor Air took shape, grounded in the recognition that healthy indoor air is a fundamental human right. More than 200 leaders from more than 40 countries, representing science, medicine, public health, patient advocacy, business, finance and civil society, came together with a shared conviction that we must act to make indoor air healthier, for everyone. The Commission has worked to elevate healthy indoor air on the global agenda, bring together multidisciplinary expertise and experience and inspire a new level of ambition and action. **At the heart of this effort is the Global Framework for Action.** This is not a report. It is a shared strategic roadmap, shaped by the collective insight of the Commission, to help translate today's unprecedented momentum into full-scale system change. It identifies the essential levers for change, showing how they can work together to shift the policies, markets, institutions and everyday decisions to bring us closer to our shared vision that everyone, everywhere has the opportunity to breathe healthy indoor air.

We envision this Global Framework for Action as a foundation for what comes next. It is designed to inform national and regional blueprints for action, inspire new partnerships, unlock investment and help leaders identify the opportunities that will have the greatest impact within their own contexts. While the path forward will rightly differ across countries and communities, this Framework offers a shared strategic foundation that can help align and reinforce the actions to accelerate progress.

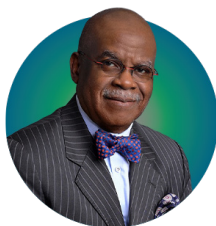
This Framework is not the culmination of the Commission's work.

It is the beginning of a new chapter.

We hope this Framework helps countries, organizations, industries, communities and leaders around the world join this growing movement, strengthen collaboration, turn ideas into action and propel this movement forward.

From this point on, the work belongs to all of us. What comes next is ours to shape.

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The Global Commission on Healthy Indoor Air is a transdisciplinary alliance of more than 200 leaders and experts from more than 40 countries across every region of the world. Launched at the United Nations during Climate Week on September 23, 2025, the Commission brings together leaders spanning public health, medicine, academia, civil society, building science, real estate and industry to address one of the most consequential and under-recognized public health challenges of our time: the air people breathe indoors. Its shared mission is to make healthy indoor air the norm—not the exception—in all buildings, everywhere.

Drawing on the Commissioners' collective expertise, influence and commitment, the Commission has developed the Global Framework for Action to articulate a shared global vision, define core principles and identify the interconnected levers of market transformation and recommendations needed to turn evidence into lasting change. The Framework anchors the Commission's broader multi-year effort to inform decision-makers, shape policy, accelerate innovation, unlock investment, strengthen professional practice and build public awareness, mobilizing coordinated action to make healthy indoor air a reality for everyone.



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I. Introduction

“Everyone has a right to healthy indoor air.”¹

1. A Global Public Health Imperative

The quality of the air people breathe has the power to sustain, protect and enhance human health, or to undermine it. According to the State of Global Air, air pollution contributed to 7.9 million deaths globally in 2023, accounting for about one in eight deaths worldwide and ranking as the second-leading risk factor for death.² Air pollution is responsible for 29% of lung cancer deaths, 43% of chronic obstructive pulmonary disease (COPD) deaths, 25% of ischemic heart disease deaths and 24% of stroke deaths.³ Yet even these estimates do not encompass the additional burden associated with airborne pathogen transmission.

Although unhealthy air is often viewed as an outdoor problem, indoor and outdoor air form a continuum: pollutants generated outdoors routinely enter buildings and combine with indoor sources, making indoor spaces central to both the risks people face and the protections that can reduce them. Indoor air, therefore, belongs squarely on the front lines of public health and deserves recognition commensurate with its profound impact on health and well-being. From homes to schools, workplaces and public spaces, poor indoor air causes and exacerbates a wide range of chronic and acute health conditions, including respiratory and cardiovascular diseases, cognitive decline and impaired learning outcomes. It severely affects quality of life and contributes to an immeasurable loss of productivity and rising healthcare costs for billions of people around the world. Within this broader burden, household air pollution accounts for more than three million premature deaths each year, with solid fuel combustion remaining a major driver.⁴ Taken together, the scale, reach and severity of these impacts make clear that poor indoor air quality is itself one of the world’s most pervasive public health crises—one that demands urgent, coordinated global action.

Yet despite the central role it plays in health and well-being, indoor air quality has remained an underrecognized and underprioritized issue. Today, people spend the majority of their time indoors, where the air can often be more polluted than outdoor air. Still, progress on improving indoor air has lagged far behind advances in other safety and environmental issues, including outdoor air protections.

The Global Commission on Healthy Indoor Air was created to fundamentally change this trajectory by building global awareness, highlighting the human and economic costs of unhealthy indoor air and driving greater alignment and coordinated action toward a healthier future.

Healthy indoor air depends on a comprehensive approach that combines pollutant source control, moisture and mold prevention, the selection of building materials and products that minimize health risks and contribute to better indoor conditions, effective ventilation and filtration and ongoing building operation and maintenance. Research spanning more than three decades demonstrates that

improved indoor air quality (IAQ) can help reduce the spread of airborne pathogens, allergens, asthma triggers, fine particulate matter and other harmful pollutants, lowering the risk of respiratory infection and helping prevent the acute and chronic health effects associated with polluted air, whether those pollutants originate indoors or outdoors.^{5,6,7} The benefits extend well beyond disease prevention. In schools, healthier indoor air is associated with fewer absences and stronger concentration, learning and academic performance,^{8,9} and in workplaces, it supports better decision-making, higher productivity and reduced absenteeism.^{10,11} These human gains can also create tangible economic and organizational value by lowering health-related costs, strengthening employee satisfaction, helping organizations attract and retain talent and increasing demand and value for healthier buildings.^{12,13} In short, healthy indoor air does more than prevent harm. It is foundational to people's ability to learn, work and thrive.

Indoor Air Quality by the Numbers

Indoor air has an outsized impact on human health, shaping well-being, performance and quality of life.

- **We live indoors:** Globally, people spend approximately **60–90%** of their lives indoors, making indoor environments central to daily exposure.^{14,15}
- **Indoor air can be considerably more polluted than outdoor air:** An Environmental Protection Agency (EPA) study found concentrations of about a dozen common volatile organic compounds to be two to five times higher indoors than outdoors.¹⁶
- **A major global health risk:** Poor indoor air contributes to premature death, respiratory and cardiovascular disease, cancer and other acute and chronic health harms, while also increasing the risk of infections transmitted through the air. Household air pollution, driven largely by polluting fuels, is responsible for nearly three million premature deaths annually around the world.¹⁷ That estimate captures only one part of the broader indoor air burden and does not account for the health impacts associated with airborne disease transmission or many other indoor exposures, including dampness and mold, other chemical pollutants, and outdoor pollution that infiltrates buildings, including regular ambient pollution and wildfire smoke.
- **Risk is not evenly distributed:** Children, pregnant women, chronically ill individuals and older adults are often more vulnerable to the adverse effects of indoor air pollution,^{18,19} and may also be exposed to higher concentrations of pollutants and airborne hazards.²⁰ These risks also vary significantly across and within countries, reflecting differences in living conditions, proximity to pollution sources and access to clean household energy.²¹
- **A hidden economic burden:** In the U.S. alone, the EPA estimates over \$100 billion in annual avoidable costs tied to indoor air pollution, including avoidable deaths, healthcare expenses, lost work productivity and reduced quality of life.²²
- **A high-return opportunity:** Improving indoor air quality delivers significant gains in public health,²³ cognitive performance,²⁴ creativity,²⁵ productivity,²⁶ accessibility²⁷ and economic outcomes.²⁸

2. The Global Framework for Action

The Global Commission has led the development of the Global Framework for Action—a landmark roadmap to make healthy indoor air the norm, not the exception, in buildings everywhere. The Framework sets out clear prescriptions across the major pillars of market transformation, designed to accelerate coordinated action and drive measurable impact. Similar to the way society now approaches drinking water quality, food safety and energy performance (enabled by trusted systems of measurement, disclosure, verification and accountability), a transformed market is one in which healthy indoor air is routinely measured, disclosed, valued, financed, governed and expected.

It has been informed by the latest scientific research and evidence and reflects the input of more than 200 Commissioners—global leaders from public health, medicine, academia, civil society, building science, real estate and industry representing over 40 countries—working together to address one of the most overlooked public health challenges of our time: the air we breathe indoors.²⁹

With indoor air quality directly linked to significant health impacts, including chronic disease and premature death, as well as cognitive function and overall well-being, the Commission's Global Framework for Action will serve as a powerful framework to drive lasting improvements, supporting cleaner, healthier indoor environments in homes, schools, hospitals, workplaces and public spaces worldwide.

This Framework aims to provide a transdisciplinary strategy to empower decision-makers, catalyze innovation, unlock investment, shape policy and elevate public awareness. Drawing on proven approaches to market transformation, it identifies the strategic opportunities needed to accelerate the widespread adoption of healthier indoor air.

3. A Shared Vision

The Global Commission has aligned its collective expertise, knowledge and influence around a shared purpose: to accelerate the transformation of indoor environments so they protect and promote human health. Central to this effort is the Commission's belief that access to healthy indoor air is a fundamental human right, one that should be realized for everyone, regardless of geography, identity or circumstance. Through the Global Framework for Action, the Commission seeks to catalyze coordinated action across sectors and regions, recognizing that lasting progress requires shared ambition, evidence-based solutions and sustained collaboration.

The Commission's long-term vision is **a future in which healthy indoor air is expected, measured, valued, financed, governed and continuously improved across the places where people live, learn, work and heal.** In short, healthy indoor air should be the norm, not the exception. Achieving that vision requires not only coordinated action, but also a shared set of principles that inform decisions, guide implementation and align efforts across diverse stakeholders, sectors and regions.

4. Core Principles

The Global Framework is grounded in a set of core principles that underpin its vision, strategies, recommendations and implementation. These principles serve as the foundation for the Framework, providing a common set of values that inform every aspect of its approach while recognizing that countries, sectors and organizations will pursue different pathways based on their unique contexts.

Equity

Equity can be a powerful force for health, and healthy indoor environments can be a powerful force for health equity. Access to healthy indoor air is a fundamental human right,³⁰ and its benefits should be realized by everyone. Because the burden of poor indoor air quality is not experienced equally, advancing equity requires pursuing healthy indoor air in all settings while recognizing and responding to differing needs, risks and local contexts across populations and communities. Inclusive, evidence-based strategies can reduce health disparities and help ensure everyone has equitable access to healthier indoor air, without exception.

Locality

This principle recognizes the importance of place-based and culturally informed decision-making. It acknowledges that locally designed and locally led approaches are often best positioned to advance healthy indoor air across different building types and geographies, while also advancing equity, feasibility and long-term impact.

Trust

Trust transforms awareness into action and is a cornerstone of market transformation. It is built through transparency, accountability, credible information and trusted systems, helping strengthen public confidence, inform decision-making and accelerate action.

Health-Climate Nexus

Planetary and human health are inextricably linked. The Framework recognizes that healthy indoor environments and climate action should be advanced together through integrated approaches that improve health while supporting decarbonization, climate resilience and sustainability.

Health-Resilience Nexus

Healthier buildings are more resilient buildings. Supporting healthy indoor air helps protect people every day while strengthening our ability to prepare for, withstand and recover from disasters or other disruptions.

Integrated Health

Healthy indoor air is one component of healthy buildings. Indoor air quality should be considered alongside the many interconnected indoor environmental quality (IEQ) factors that influence health, well-being, comfort, safety and human performance.^{31,32}

Evidence-Based Approaches

Scientific evidence provides the foundation for effective action. The Framework is grounded in an extensive and thorough body of health and building science research demonstrating that healthier indoor air can reduce the burden of disease and that evidence-based strategies in buildings can improve health outcomes.

Value Creation

Healthy indoor air is both a public health imperative and an economic opportunity, creating value for people, organizations and communities.³³ Investments in healthier indoor air can reduce risk, improve organizational performance, enhance productivity, reduce absenteeism and generate long-term value.^{34, 35, 36}

Scalability

Transforming indoor air quality at the population level requires solutions that can ultimately be scaled across building types, including both new construction and the existing building stock, as well as across geographies and economies. The Framework encourages approaches that can evolve from promising innovations to broader implementation by becoming more affordable, reducing costs, lowering barriers to adoption and adapting to the needs of different countries and markets.

Accountability

Sustaining change depends on understanding what works, what doesn't and where improvements are needed. It requires measurable outcomes and a commitment to continuous learning. Tracking results, evaluating impact and learning from implementation help refine strategies, strengthen accountability and improve results.

II. Opportunities For Action: The Levers of Market Transformation

The opportunities for action presented in this section are organized around nine interconnected levers of market transformation. Together, these levers provide a coherent and adaptable framework for advancing healthy indoor air, institutional change and widespread societal adoption.

Interdependent Levers of Market Transformation

While the nine levers are presented separately in the sections that follow, they should not be viewed as independent or sequential areas for action, nor are they presented in any order of importance. Each plays a distinct and complementary role in accelerating the transition to healthier indoor spaces. At the same time, they are interconnected and interdependent, with advancement in one area often reinforcing and creating opportunity in others.

A Shared Vision for Market Transformation

Achieving the Commission's long-term vision requires more than action in any one of these levers, whether scientific discovery, technological innovation, public awareness or policy action. Market transformation occurs when evidence informs standards and practice, innovation shifts market conditions, policy stimulates demand, financing enables deployment, education builds capacity, partnership expands reach and public awareness reinforces new investment. This illustrates the interplay among the nine levers. The Framework's greatest strength is not in any single lever, but in the momentum they create together—greater than the sum of their individual contributions.

Coordinating the Levers for Action

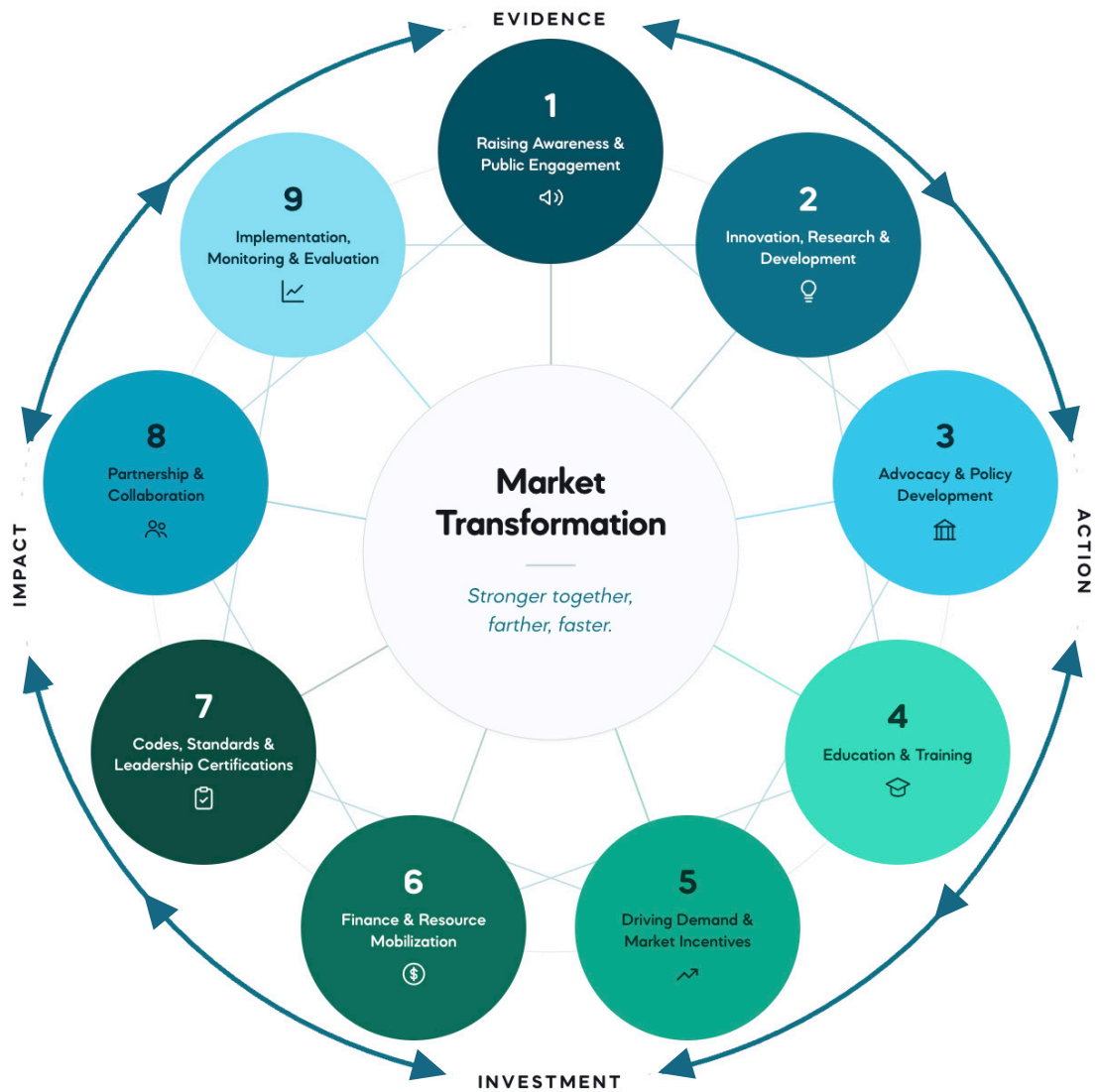
Readers will notice connections, and at times overlap, across the opportunities for action. These are deliberate and intentional. Some recommendations advance more than one lever of market transformation because of the inherent relationships between and among levers. Moving forward, progress depends on coordinated action across these mutually reinforcing levers. As the heart of the Global Framework for Action, these nine opportunities for action provide a shared roadmap for accelerating market transformation and prioritizing healthy indoor air in the policies, institutions, markets and everyday expectations that shape society.

Looking Ahead: Country Blueprints for Action

The Global Framework establishes a shared strategic foundation. Building on this foundation, future work can support the development of nationally tailored Blueprints for Action that translate these priorities into more detailed, tactical and country-specific implementation strategies. Aligned with the Framework's overarching goals, these blueprints will reflect each country's unique governance structures, institutional capacity, building stock, environmental conditions, public health priorities, economic context and market maturity. Notably, blueprints developed in India and Brazil³⁷ provide early examples of this more granular, country-level approach.

The Framework in Motion

Interconnected levers create momentum that multiplies impact.



Mutually Reinforcing

Each lever reinforces and is reinforced by the others. Progress in one creates momentum in many, accelerating market transformation and delivering greater impact than any lever can achieve alone.



Fully Interconnected

The nine levers are fully interconnected. When one moves, it influences the others — creating a virtuous cycle of evidence, action, investment and impact that drives lasting change.



Compounding Over Time

Like a virtuous cycle, progress in each lever feeds forward, strengthening the others and creating exponential impact that compounds over time.



Global Framework, Local Implementation

The Global Framework for Action is intended to provide an overarching common strategic direction. While the levers of market transformation presented in this report reflect major opportunities to advance healthy indoor air, their application will necessarily differ across countries, regions and communities. Governance structures, economic capacity, climate, housing conditions, infrastructure, disease burden, cultural practices and the primary sources of indoor air pollution vary considerably around the world. As a result, priorities, implementation strategies, financing mechanisms and policy pathways should be adapted to local circumstances.

In many high-income settings, efforts may focus on improving the performance of existing buildings, strengthening standards, accelerating technology deployment and creating greater market demand for healthier indoor environments. In many low- and middle-income countries, priorities may instead emphasize reducing exposure to pollution from household energy use, improving ventilation in homes and schools, addressing infiltration from heavily polluted outdoor air, strengthening access to basic building services and expanding capacity for implementation. Each approach reflects the opportunities likely to deliver the greatest impact given a country's unique context.

Recognizing this diversity, the Commission envisions this Global Framework for Action as the foundation for a complementary series of country-level Blueprints for Action. These nationally tailored roadmaps can build upon the Framework's strategic priorities while identifying more granular, context-specific recommendations, implementation pathways, financing strategies and stakeholder responsibilities that reflect local conditions, capabilities and public health priorities.



Healthy Indoor Air through a Public Health Lens

Indoor air quality is often discussed in terms of buildings, HVAC systems or indoor environmental performance. Ultimately, however, its greatest significance lies in its impact on human health. Poor indoor air contributes to a broad range of adverse outcomes, including respiratory infections, asthma, chronic obstructive pulmonary disease, cardiovascular disease, allergic disease, adverse pregnancy outcomes and premature mortality. The **health burden** extends beyond individual diseases, affecting learning, cognitive performance, productivity, equity and quality of life.

Importantly, health risks are not distributed equally across populations. Children, older adults, pregnant women, immunocompromised individuals, people living with multiple chronic conditions and populations facing structural barriers, including socioeconomic disadvantage, inadequate housing or limited access to resources, often experience disproportionately greater impacts from indoor air pollution. People without clinical risk factors may also be at increased risk when they experience prolonged or repeated exposure to poor indoor air quality. Increasing evidence suggests that multimorbidity (the presence of two or more chronic health conditions) may substantially increase vulnerability to indoor environmental exposures, underscoring the need for public health strategies that move beyond disease-specific approaches.

A more complete understanding of the burden of disease associated with indoor air quality, including both short- and long-term health consequences and the relative contribution of different pollutants and exposure pathways, provides the evidence base for effective action. This understanding should inform each of the levers of market transformation described in this Framework, helping to shape policy priorities, strengthen public awareness, guide investment decisions and support more targeted interventions. As national and global evidence continues to evolve, burden-of-disease assessments should play an increasingly important role in informing local and future country-level Blueprints for Action.

Building Awareness and Public Engagement

The Case for This Lever: A Cornerstone for Action

Indoor Air Quality (IAQ) presents a paradox in public health and the built environment: despite its profound impact on human health and economic outcomes, and despite the fact that people spend the majority of their time indoors, it continues to receive insufficient attention from both the public and policymakers.³⁸ As a result, indoor air quality remains largely opaque: unobserved, unmeasured and unregulated. In contrast, other public health focus areas such as outdoor air, food safety and drinking water quality have benefited from decades of sustained public awareness, regulatory action and oversight, not to mention strong consumer expectations. Meanwhile, IAQ has yet to achieve a comparable level of visibility or action.

This lack of public awareness has significant consequences. Increasing public awareness functions as a foundational condition for improving human health and longevity through the built environment, policy development and market transformation. In its absence, demand signals remain weak, policy prioritization is limited and innovation struggles to scale. Advancing IAQ from a technical consideration to a broadly recognized determinant of health is therefore central to systemic change.



The Core Challenge: Driving Demand

A central challenge in advancing indoor air quality is the difficulty of building broad public awareness, often driven by the invisible nature of indoor air and compounded by shortcomings in how knowledge has been communicated and translated into action. Unlike other public health risks, indoor air is not directly perceptible. In addition, while some indoor air hazards have immediate effects, many associated health impacts are chronic rather than acute, making it harder to gain immediate attention, convey urgency or mobilize behavioral and policy change. Further, across traditional communications efforts, IAQ has been predominantly framed through technical terms and metrics that lack intuitive meaning for most non-technical audiences.

Generally, public health communication strategies have faced a variety of difficulties in building trust, accounting for cultural context or achieving widespread influence.³⁹ These challenges can be even more pronounced for IAQ, where the absence of visible cues makes effective communication more critical, yet messaging has not consistently reached or resonated with public audiences. In addition, building occupants, regardless of building type, have traditionally been treated as passive recipients of indoor environmental conditions, rather than as informed stakeholders with the ability to influence demand and accountability.⁴⁰ Again, the invisibility of indoor air reinforces this dynamic, limiting both awareness and agency, and slowing the development of market expectations for healthier indoor environments. This pattern is consistent with the complex technical nature of buildings,⁴¹ as well as established economic research on market failures, externalities and information asymmetry, an example of which is the literature in energy efficiency in housing markets.⁴²

Further, awareness efforts should prioritize providing high-risk and low-income communities, children, older adults and other populations facing the greatest exposure or vulnerability, depending on the hazard, with tailored information, localized data and trusted, actionable guidance.⁴³

Building Global Awareness to Drive Action

The Clean Cooking Alliance,⁴⁴ launched in 2010, is a strong example of a sustained, multifaceted global initiative that has made public awareness a central pillar of its strategy for driving the transition to clean cooking, helping to improve the health of the more than two billion people who rely on solid cooking fuels and disproportionately bear the burden of associated illnesses and premature death.⁴⁵ The initiative aligns with research showing that community-level awareness efforts help people make healthier choices⁴⁶ and support sustained adoption.⁴⁷ Its experience demonstrates that building awareness serves as a foundational step in creating lasting behavior change, supporting better policies and driving market adoption.

Strategic Priorities and Targeted Recommendations for Market Transformation

Reframing IAQ through Human-Centered Communication

Efforts must move beyond abstract technical indicators and instead connect IAQ to lived experience and outcomes that are meaningful at the individual, household and sector level.

Recommended actions:

- Develop standardized communication frameworks that translate IAQ metrics into health, learning and productivity impacts using plain language.
- Invest in globally adaptable, locally customizable communication assets (e.g., infographics, short-form video, digital dashboards) that link IAQ to everyday decision-making.
- Integrate IAQ messaging into broader public health campaigns (e.g., respiratory health, climate resilience) to leverage existing awareness infrastructure.
- Establish common narrative anchors (e.g., “healthy air for learning,” “healthy air at home”) to improve consistency across geographies and sectors.
- Increase access to performance information and available resources and empower people with accessible, layered solutions to improve their indoor environments.

Leveraging Trusted, Community-Based Communication Networks

Effective engagement requires working through trusted local organizations and actors capable of contextualizing information within community settings.

Recommended actions:

- Partner with healthcare providers, health advocacy groups, schools and community organizations to serve as collaborators and conduits for IAQ communication and education.
- Develop training and capacity-building programs that equip these actors with the tools to communicate IAQ risks and interventions effectively.
- Embed IAQ guidance into routine and relevant interactions, such as pediatric visits, school communications, cultural experiences or housing services.
- Support the creation of community-specific engagement strategies that reflect local language, culture and lived experience.

Enhancing Stakeholder Agency and Participatory Demand

Transforming awareness into action requires enabling individuals to access, interpret and act upon IAQ information.

Recommended actions:

- Expand access to real-time IAQ monitoring and visualization tools in schools, workplaces and residential settings.⁴⁸
- Establish mechanisms for public transparency, including open-access dashboards and reporting systems that make IAQ conditions visible to occupants.
- Promote school-based programs that position children, teachers and parents as informed advocates, linking IAQ to educational outcomes and family engagement.
- Create feedback and accountability channels through which occupants can raise concerns and influence building management decisions.

Prioritizing Targeted and Equity-Driven Outreach

Awareness strategies must be intentionally designed to reach populations at greatest risk and address disparities in exposure, access and resources.

Recommended actions:

- Design and implement geographically targeted campaigns in regions experiencing heightened climate-related risks, such as fuel disruptions, extreme heat and wildfire smoke.
- Prioritize public infrastructure (such as schools and universities, healthcare facilities, long-term care facilities, cultural venues, public transit and public housing) as focal points for outreach and engagement.
- Develop tailored communication and intervention strategies for populations at greater risk and vulnerability, including low-income households, older adults and children.
- Allocate dedicated funding streams to support community-based organizations working at the intersection of IAQ, health equity and environmental justice.



Proof Points and Emerging Models

A growing body of practice demonstrates that increased visibility of IAQ conditions can rapidly influence both behavior and investment decisions. For example, within educational settings, the deployment of real-time IAQ monitoring systems has contributed to increased awareness among educators and families, in some cases prompting advocacy efforts that have led to improvements in ventilation and filtration.⁴⁹ These examples suggest that transparency, when paired with accessible interpretation, can generate localized demand for healthier indoor environments.

In 2024, the European Union's recast Energy Performance of Buildings Directive (EPBD) integrated indoor environmental quality considerations into the broader building performance framework.⁵⁰ While member states continue to develop country-level implementing rules, the directive represents a significant shift in building policy, with IAQ and energy efficiency treated together as elements of high-performing buildings. Beyond its policy impact, the EPBD demonstrates how policy can elevate public understanding of healthy indoor air by increasing the visibility of occupant health in building performance, informing market decision-making and shaping future policymaking. It also illustrates the interconnected nature of the Framework's nine levers: advances in one can affect another. (See also Lever 3, Advocacy and Policy Development.)

These examples help show that awareness is most effective when it is integrated within systems, supported by trusted intermediaries and linked to actionable pathways.

Illustrative Stakeholder Roadmap

- **Governments** should prioritize the development and funding of public awareness campaigns to best support their country-specific priorities, while also pursuing solutions responsive to local conditions that demonstrate IAQ leadership in publicly owned and operated buildings.
- **Healthcare and education systems** play a central role in normalization. Near-term actions include integrating IAQ guidance into clinical practice and educational curricula, with longer-term opportunities to embed IAQ as a core determinant of health outcomes and educational performance.
- **Communication platforms**, including social media and other digital spaces where people connect and share information (such as Instagram, Facebook, YouTube and LinkedIn), can translate technical information into accessible, engaging formats.
- **Information platforms** can support better decision-making by integrating IAQ indicators into building information systems and real estate databases (e.g., in the United States, platforms such as the Multiple Listing Service for residential listings or CoStar for the commercial sector).
- **Industry and the real estate sector** can contribute through voluntary transparency, performance monitoring, IAQ educational efforts and the adoption of healthy building frameworks. Over time, these practices may converge into standardized expectations for IAQ performance across markets.
- **Philanthropy, faith-based and civil society organizations** are well-positioned to support community-based engagement, particularly among underserved populations, and to scale effective models through targeted funding and capacity-building initiatives.

Mapping Progress and Call to Action

Fundamentally, this lever seeks to reposition and reframe IAQ within public discourse from an invisible environmental condition to a recognized and expected component of health, safety and building performance. Awareness and public engagement are not peripheral activities; they are enabling conditions for all other dimensions of market transformation.

Core indicators of progress should include:

- **Public Sentiment:**
Increase in the share of individuals who identify indoor air quality as a top-tier public health concern, reflecting a shift in societal awareness and prioritization
- **Key Stakeholder Engagement:**
Increase in educational efforts, including awareness campaigns, among significant stakeholder groups and across priority sectors.
- **Market Demand:**
Growth in real estate activity (including searches, listings and transactions) that explicitly reference or filter for healthy building attributes and IAQ performance.
- **Behavioral Adoption:**
Measurable increases in the voluntary uptake and sustained use of high-efficiency filtration, ventilation and IAQ management practices across residential and public buildings.

The Global Pledge for Healthy Indoor Air

The Global Pledge for Healthy Indoor Air is the first international commitment declaring that clean indoor air is fundamental to protecting health and safeguarding well-being. Government signatories include France, Montenegro, the City of Boston and the City of Melbourne, alongside 275 signatories from civil society, academia and industry.⁵¹ Through the Global Pledge, Air Club is driving action at the highest levels by creating a common platform for governments to signal their commitment to healthy indoor air, exchange best practices and build international momentum.



Innovation, Research and Development

The Case for This Lever:

From Innovation to Implementation at Scale

Over the past decade, advances in IAQ science and technology have accelerated significantly, from improvements in sensing and control technologies to innovations in building management systems and filtration strategies. Yet their benefits have not reached the scale needed to drive consistent adoption, reduce costs, produce reliable data or improve population health outcomes.

Innovation in this space remains unevenly distributed across geographies, sectors and building types. Innovation, which includes research and development, engineering translation, implementation science, deployment and demonstration,⁵² should be repositioned not only as a driver of technological advancement, but also as a means of scaling solutions affordably across different local contexts. The central objective is to ensure that IAQ solutions are not only technically viable, but deployable at speed, at scale and across diverse socioeconomic settings and conditions.⁵³

The Core Challenge:

Strengthening R&D to Fuel Long-Term Innovation

Several structural barriers have limited the ability to unlock IAQ innovation. The innovation ecosystem remains fragmented, with research, technology development and building operations often disconnected from real-world needs. The most pressing barrier is dedicated and consistent funding, which requires elevating indoor air as a priority. Where funding is available, regional and country-level R&D systems may not be structured to consistently generate, validate and scale solutions for long-term innovation. At the same time, in addition to laboratory validation, in situ demonstration projects help provide greater confidence and adoption among market leaders.

In addition, cost remains a barrier to scale, particularly for priority sectors such as schools, public housing and healthcare. Other barriers include the lack of widely accepted standards for performance, accuracy and interoperability (a notable challenge for IAQ sensors). Inconsistent data quality also undermines both decision-making and market confidence. Innovation efforts have tended to prioritize high-technology solutions over lower-cost, passive and nature-based approaches that may be more affordable and immediately scalable.⁵⁴

Strengthening the Sensor Ecosystem

To maximize the reliability and scalability of indoor air monitoring, future efforts should prioritize three important deployment factors. First, evaluation should include validation under real-world conditions, in addition to laboratory-based performance under controlled conditions. Second, sensor standards and reference calibration networks at the national or regional level will help improve data quality, assurance and comparability (which would benefit from expanded funding to make reference-grade co-location and calibration more affordable and accessible). Third, open-access publication of validation datasets and correction methods can empower the research community to contribute to improved sensor performance over time. Existing initiatives, including California's Air Quality Sensor Performance Evaluation Center and the European Environment Agency's sensor evaluation work, serve as models that can inform similar efforts.

Together, these dynamics underscore the need for a more coordinated and continuous R&D ecosystem, one that is consistently funded and closely linked to real-world implementation and capable of driving sustained innovation at scale.



Strategic Priorities and Targeted Recommendations for Market Transformation

Accelerating Translation from Research to Real-World Application

Bridging the gap between innovation and implementation requires a deliberate focus on deployment pathways and real-world performance.

Recommended actions:

- Invest in implementation science to identify and address operational, behavioral and contextual barriers to successful IAQ interventions.⁵⁵
- Establish large-scale demonstration programs and “living labs” in occupied buildings across diverse geographies and building types.
- Require post-deployment performance verification as a condition of public funding for IAQ technologies.
- Develop open-access repositories of case studies documenting both successful and unsuccessful implementations across technologies, projects, products and design practices, including region-specific data, challenges and solutions.

Modeling Proposed Indoor Air Quality Standards in an Existing Public Building

Queensland University of Technology (QUT) in Australia has launched a pioneering demonstration project to retrofit its P Block building in alignment with proposed indoor air quality (IAQ) standards developed by leading scientists.⁵⁶ The project integrates advanced sensing, artificial intelligence and the building management system to continuously optimize ventilation, protect occupant health and reduce energy use in unoccupied spaces. By translating leading IAQ research into a real-world public building, the initiative is intended to serve as a blueprint for retrofitting existing buildings and accelerating broader adoption of IAQ technologies, strategies and solutions.

Strengthening the Evidence Base for Health and Economic Impact

Bridging the gap between innovation and implementation requires a deliberate focus on deployment pathways and real-world performance.

Recommended actions:

- Increase investment in longitudinal and population-level studies linking IAQ improvements to health outcomes, including respiratory disease, cognitive performance and overall well-being, and expand sector-specific research in schools, healthcare facilities or other priority settings.
- Advance economic research quantifying the full cost-benefit of IAQ interventions, including productivity gains, reduced healthcare costs and avoided societal burdens.
- Support macro-level analyses that aggregate the economic and public health benefits of IAQ improvements across sectors and geographies.
- Develop standardized methodologies for measuring and communicating IAQ-related health and economic impacts to ensure consistency and comparability.
- Translate research findings into clear, decision-ready insights tailored to policymakers, investors and the public to strengthen the case for action.

Advancing Next-Generation Integrated System Solutions and Affordable Sensing and Diagnostics

Advances in active, integrated system solutions and sensing capabilities are essential to making IAQ visible, actionable and trustworthy.

Recommended actions:

- Support R&D for integrated system solutions that incorporate filtration, economizers, dedicated outdoor air systems (DOAS) and electrification.
- Support R&D for next-generation sensors capable of pollutant and airborne hazard speciation and source attribution.
- Prioritize cost-reduction strategies that make high-quality sensing technologies more affordable and accessible.
- Develop standardized protocols and standards for sensor calibration, validation, data comparability and user interpretation.
- Promote interoperability standards that enable integration across building systems and digital platforms.
- Support retrofit-ready technologies that are compatible with existing building systems and minimize disruption to occupants.



Expanding Low-Cost, Passive and Nature-Based Solutions

Technological advancement must be complemented by scalable, low-cost interventions that can be rapidly deployed.

Recommended actions:

- Prioritize solutions that address source pollutants, supporting fuel shifts and clean, efficient cooking and heating technologies.
- Increase investment in research on low-cost ventilation strategies, moisture management, healthier material selection and passive design and biophilic approaches that improve IAQ.
- Develop regionally appropriate design guidelines that reflect climatic, cultural and infrastructural conditions.
- Integrate IAQ considerations into retrofit programs and existing building modernization initiatives, particularly in low-resource settings.
- Support R&D in healthy building materials that reduce emissions at the source, complementing other IAQ improvement strategies.
- Support dissemination of practical toolkits that enable immediate, low-cost interventions at the household and community level.

Strengthening Cross-Sector Collaboration Ecosystems

Effective innovation requires coordination across the full value chain, including research, manufacturing, design and operations.

Recommended actions:

- Establish formal collaboration platforms linking academia, industry and government agencies.
- Incentivize public-private partnerships to support product development and deployment.
- Align research funding with identified market needs and deployment challenges.
- Facilitate knowledge exchange across regions to advance the global diffusion of best practices.

Embedding Equity in Innovation Pathways

Innovation strategies must explicitly address disparities in access, exposure and outcomes.

Recommended actions:

- Prioritize R&D funding for solutions tailored to and informed by the needs of high-risk and vulnerable populations, building on models such as ARPA-H's BREATHE program, which focused on priority sectors including schools, childcare facilities and military hospitals.
- Ensure that government-funded pilot and demonstration programs include deployment in underserved communities and public-serving building infrastructure, supporting equitable adoption.
- Explore dedicated financing mechanisms that reduce upfront cost barriers in priority sectors, including grants, performance-based incentives and public-private capital to accelerate deployment where health needs are greatest.

Proof Points and Emerging Models

A range of emerging efforts demonstrates the potential for innovation to drive measurable improvements when aligned with real-world application. National R&D programs, such as ARPA-H's BREATHE initiative in the U.S., point to the potential for breakthrough technologies, while “living lab” models and school-based pilots can test solutions in real-world settings (see the accompanying project spotlight on QUT's P Block initiative). At the same time, growing research on health, productivity and cost benefits is helping quantify the value of better indoor air in ways that can support business cases, financial models and investment vehicles.

These developments underscore the importance of creating an innovation ecosystem that supports adoption, usability, affordability and demonstrable outcomes.

Innovation in Action: ARPA-H's BREATHE Program Accelerates the Next Generation of Healthy Buildings

One of the most powerful ways governments can fuel market transformation is by investing in breakthrough research and development that reduces technical barriers, creates new markets and attracts private-sector investment. As discussed in this section, strategic public investment can help fuel innovation, driving breakthroughs and accelerating the development, demonstration and commercialization of technologies that would otherwise take years to gain wider market adoption. A leading example of such an effort is the Building Resilient Environments for Air and Total Health (BREATHE) launched in the U.S. in 2024 by the Advanced Research Projects Agency for Health (ARPA-H).⁵⁷ With up to \$156 million committed over five years, BREATHE is supporting four research teams focused on advancing next-generation biosensors, intelligent building controls, exposure-risk assessment, autonomous response systems and real-time indoor air monitoring technologies designed to prevent disease, improve health outcomes and transform how buildings protect occupants. Importantly, the program emphasizes technologies that can demonstrate measurable health benefits while remaining economically viable for large-scale deployment. The program's influence extends beyond the technologies it is funding. By establishing healthy indoor air as a national innovation priority, ARPA-H has helped strengthen the broader innovation ecosystem and reinforced the business case for investment in healthier buildings. That momentum is already extending into the private sector. In 2026, a consortium of technology companies, philanthropic organizations and private-sector partners launched the Intercept initiative, a \$500 million investment fund supporting next-generation therapeutics, indoor air technologies and strategies to reduce respiratory infections.⁵⁸ The initiative reflects growing confidence that investments in healthier indoor environments and disease prevention represent an important frontier for innovation, public health and economic competitiveness.

Illustrative Stakeholder Roadmap

- **Governments** should prioritize funding for applied and practice-based research, establish performance standards and support large-scale demonstration programs. Over time, regulatory frameworks should incorporate validated IAQ technologies and practices.
- **Academia and research institutions** are essential to advancing the evidence base, developing validation methodologies and supporting implementation science efforts.
- **Industry, including manufacturers, developers and building operators**, play a central role in scaling production, integrating technologies into building systems and reducing costs through innovation and standardization.
- **Organizations representing high-risk populations and caregivers** have a significant role in ensuring that solutions meet the needs of those most at risk.
- **Philanthropy and multilateral organizations** can de-risk early-stage innovation, fund pilots in underserved regions and support capacity-building initiatives.
- **Technology providers and platform developers** should focus on data integration, interoperability and user-centered design to ensure that IAQ information is actionable and accessible.

Mapping Progress and Call to Action

Evaluation in this area is linked not only to the pace of innovation, but also the extent to which new technologies and solutions are deployed, adopted and shown to be effective in improving outcomes, including the evaluation of real-world implementation. Realizing this shift will require sustained coordination across sectors, targeted investment in deployment and implementation and a clear commitment to ensuring that the benefits of innovation are broadly shared.

Core indicators of progress should include:

- **Cost and Accessibility:** Reduction in the cost of high-performance IAQ technologies and increased accessibility across market segments.
- **Technology Efficacy:** Increased alignment between laboratory performance and in-field outcomes.
- **Demonstrations:** Increase in pilot and demonstration projects that translate research into real-world implementation and generate evidence of health, building performance and economic benefits.
- **IAQ Technology Adoption:** Growth in deployment of validated IAQ solutions across building types and geographies.
- **Health Outcomes:** Demonstrable improvements in health, productivity and occupant well-being associated with IAQ interventions.

Advocacy and Policy Development

The Case for This Lever: Accelerating and Institutionalizing Change

Indoor air quality is approaching a policy inflection point. Over the past several decades, the evidence linking indoor environments to human health, cognitive performance and economic outcomes has become well established. As awareness and attention continue to grow, leading policymakers are beginning to move from understanding the problem toward exploring how to drive more consistent, large-scale action through government programs and policy. In this section, “policy” refers broadly to government actions, including legislation, regulation, funding, programs and public investment.

Advocacy and policy development are key mechanisms to advance IAQ at scale. As mentioned previously, policy has played a decisive role in driving systemic change in areas like outdoor air, drinking water and food safety. Yet despite more recent attention, IAQ has not yet benefited from a comparable level of policy development, continuing to be underprioritized relative to its impact.⁵⁹ Advancing this lever requires a coordinated effort to translate evidence into policy, align across key policy opportunity areas and mobilize stakeholders to accelerate adoption. The long-term objective is to establish IAQ as a core component of public health and building policy.⁶⁰

The Core Challenge: An Integrated and Coordinated Government Agenda

A central challenge in advancing IAQ through government action is the absence of clear issue ownership and effective coordination across government entities. IAQ is inherently cross-cutting, intersecting with policy areas including public health, buildings, housing, energy, education, labor and environmental protection. Each has its own priorities, regulatory structures and stakeholders. As a result, IAQ can be advanced either as an overarching goal integrated across these policy domains or through dedicated IAQ policies that coordinate action across them.

While some governments have taken important steps to address IAQ through education, funding, procurement and other programs, comprehensive IAQ policy remains nascent. Consistent with the Framework’s principles, the pathways for developing and implementing IAQ policy will necessarily differ across countries, reflecting differences in legal systems, governance structures and institutional responsibilities. In many cases, no single agency has a clear mandate for IAQ. Accordingly, an important first step may be identifying institutional roles, establishing effective cross-government coordination and integrating IAQ into existing policy frameworks.

As governments pursue IAQ policy, equity should be a guiding principle, ensuring that actions consistently benefit children, older adults, low-income populations, populations at heightened risk and historically underserved communities. Governments can also use a combination of policy tools to speed adoption. Codes and standards help establish consistent market baselines, while voluntary leadership initiatives, public procurement, incentives and demonstration projects stimulate innovation and market adoption.

Governments also have a unique opportunity to lead by example. Public buildings, including schools, public/social housing, healthcare facilities, offices and other government-funded infrastructure, can demonstrate best practices and serve as visible demonstrations of leadership, building market confidence, increasing public awareness and encouraging broader market adoption.

Strategic Priorities and Targeted Recommendations for Market Transformation

Integrating IAQ into Existing Policy Frameworks

Embedding IAQ into relevant existing policy may be one of the fastest and most effective ways to accelerate change.

Recommended actions:

- Integrate IAQ objectives into existing national, regional and local policies related to climate, energy efficiency, decarbonization, housing, resilience, public health, schools, infrastructure, disability inclusion and workplace health and safety.
- Identify policy “windows of opportunity” by incorporating IAQ requirements into updates of building codes, energy regulations, retrofit programs, procurement policies, tax incentives and financing mechanisms.
- Promote coordinated policymaking across government agencies to align health, environment, energy, education, housing, labor and economic development objectives around healthier indoor air.
- Encourage jurisdictions to evaluate existing policy frameworks for opportunities to embed IAQ, using successful examples as models for elevating health across broader policy agendas (See the sidebar Energy and Health: The European Union’s EPBD Shows How Existing Policy Can Accelerate Indoor Air Quality.)

Energy and Health: The European Union’s EPBD Shows How Existing Policy Can Accelerate Indoor Air Quality

As discussed in this section, market transformation can be advanced by integrating IAQ into existing policy frameworks. The European Union’s revised Energy Performance of Buildings Directive (EPBD) of 2024 represents one of the clearest examples of this approach. Long regarded as a cornerstone of European climate and energy policy, the EPBD now explicitly requires improvements to indoor environmental quality, including indoor air quality, alongside energy performance. This reflects a significant shift in building policy. It illustrates that high-performing building policy can simultaneously address energy efficiency and healthier indoor environments. In other words, it models an approach in which governments can leverage existing climate, energy, housing and building-performance frameworks to bring healthier buildings to scale. Similar opportunities exist in virtually every region of the world, whether through energy codes, building regulations, decarbonization strategies, public procurement policies, housing initiatives or resilience programs. The EPBD provides a compelling example of how one policy framework can simultaneously advance climate goals, building performance and human health.

Expanding Adoption and Implementation Through Codes and Standards

Codes and standards remain among the most effective mechanisms for raising baseline expectations and scaling protections across the built environment. (See also Lever 7, Codes, Standards and Leadership Certifications.)

Recommended actions:

- Expand the integration of IAQ provisions into building codes, procurement standards and retrofit policies.
- Encourage broader and more consistent adoption of proven IAQ codes and standards across jurisdictions and building sectors.
- Strengthen implementation pathways, enforcement mechanisms and accountability systems to improve real-world performance.
- Ensure that IAQ codes and standards reflect differences in building use and occupant vulnerability across all settings, including schools, healthcare facilities and residential environments, as well as differences across regions and countries.

Leading by Example Through Public Buildings and Public Investment

Governments at all levels can help support market transformation by demonstrating leadership within publicly owned, operated and funded buildings.

Recommended actions:

- Prioritize IAQ improvements across public buildings, including schools, healthcare facilities, public/social housing, public transport, offices and community infrastructure.
- Integrate IAQ requirements into public procurement, capital planning, property condition assessments and government-funded building projects so planned maintenance and modernization cycles can also improve indoor air.
- Use public buildings as demonstration projects to showcase best practices, innovation and measurable outcomes.
- Promote transparency through public reporting, monitoring and communication of IAQ performance in publicly funded facilities.
- Encourage alignment between public investments and broader public health, resilience and sustainability goals.

Advancing Incentives and Market Signals

Financial and non-financial incentives can help boost adoption, reduce barriers and encourage investment in healthier indoor environments.

Recommended actions:

- Expand incentives supporting ventilation, filtration, monitoring and other IAQ improvements across new and existing buildings.
- Incorporate IAQ into grant programs, tax incentives, financing mechanisms and retrofit initiatives.
- Support insurance, leasing, valuation and procurement approaches that recognize the benefits of healthier buildings.
- Promote disclosure, benchmarking and transparency mechanisms that strengthen market demand and accountability.
- Encourage public-private partnerships that accelerate innovation and implementation.

Focusing on Equity and Priority Populations

Ensuring equitable access to healthier indoor environments should remain a core principle of IAQ policy development and implementation.

Recommended actions:

- Prioritize investments in high-risk and underserved communities.
- Focus interventions on priority sectors, including schools, childcare facilities, social housing, residential care facilities, healthcare and public buildings.
- Ensure funding mechanisms and technical assistance are accessible to vulnerable, low-income communities.
- Incorporate community engagement into policy design and implementation processes.
- Track implementation outcomes to ensure policies help reduce disparities rather than reinforce them.

Reframing IAQ as a Priority for Health, Accessibility, and Public Accommodation

Viewing indoor air quality through the lens of accessibility redefines clean air as both a fundamental public health requirement and a baseline condition for equal participation in public life. For individuals with chronic health conditions, disabilities and immunological vulnerabilities, poor IAQ acts as a physical barrier to accessing everyday spaces, necessitating policy solutions that treat clean air as a core component of universal design and public accommodation.

Recommended actions:

- Explore integrating IAQ into accessibility guidelines, building codes and public-accommodation frameworks to recognize poor air quality as a barrier to equitable building access.
- Use existing standards, recognized best practices and leadership programs to provide commercial and public spaces with locally appropriate entry points for prioritizing IAQ practices that support people with health conditions and other sensitive populations.
- Encourage the adoption of consumer-facing IAQ disclosure and transparency mechanisms to allow individuals with specific health needs to make informed decisions.

Advancing a New IAQ Lens for Existing Policy Pathways

A growing body of work argues that healthier indoor air should be recognized not only as a public health goal, but also as an accessibility, education and workplace rights issue. As outlined in the 2024 Safer Shared Air report,⁶² governments can strengthen IAQ by applying existing policy and legal frameworks that already require safe, inclusive and healthy environments. The report, led by the Safer Air Project based in Australia, identified the following pathways:

- **Disability and accessibility laws:** Public spaces are required to be universally accessible, but healthy indoor air has not been treated as the essential accessibility requirement it should be.
- **Education laws and children's rights:** Education legislation and the UN Convention on the Rights of the Child recognize every child's right to a safe learning environment, providing a strong foundation for integrating IAQ into school policy.
- **Occupational health and safety laws:** Employers have a responsibility to provide workplaces that do not harm workers' health, creating a clear basis for stronger IAQ protections.

Mobilizing Advocacy, Coalitions and Public Engagement

Sustained policy progress will require coordinated advocacy efforts capable of translating evidence into public understanding, political support and long-term institutional action. (While complementary to the recommendations on raising awareness, the focus here is more on advocacy efforts and strategies that inform and influence government decision-making.)

Recommended actions:

- Support multi-sector coalitions that elevate IAQ as a shared public health, economic and building performance priority.
- Educate and equip policymakers and stakeholders with accessible, evidence-based resources and policy guidance.
- Invest in public education and communications efforts that strengthen awareness of IAQ risks and solutions.
- Support leadership networks and policy champions capable of accelerating adoption across jurisdictions.
- Promote greater collaboration across public health, buildings, energy and environmental sectors, while reinforcing the business and economic case for healthy indoor air.



Proof Points and Emerging Models

Policymakers around the world are increasingly advancing indoor air quality through a variety of policy approaches, including building regulations, public investment, procurement, school infrastructure and public health initiatives. One example highlighted above in a policy profile is the European Union's EPBD, which integrates indoor air quality into one of the EU's principal building-policy instruments. Collectively, these and other policy developments demonstrate a range of complementary approaches that can strengthen public health, improve building performance and reinforce one another over time.

These developments underscore that lasting progress depends on coordinated action across multiple policy tools and levels of government. As more jurisdictions implement and evaluate these approaches, they are creating practical models that guide future policymaking, demonstrate what works in different contexts and spur broader adoption.



Learning from the Global IAQ Policy Landscape

The current policy landscape for indoor air quality continues to evolve. Research such as WHO Health *Guidelines for Indoor Air Quality and National Recommendations/Standards*⁶³ and *Indoor Air Quality Legislation: A Focus on Current Standards*⁶⁴ highlights the role of health-based guidelines, national standards and legislation shaping this landscape. In addition, other research has analyzed and compared regulatory frameworks for IAQ across jurisdictions.⁶⁵ Building on this foundation, another recent report, *Advancing Healthy Indoor Air: Five Leading Policy Models from Around the World*,⁶⁶ examines nearly 160 indoor air quality policies across 40 countries and identifies five proven policy models that governments are using to improve indoor air: 1) targeted deployment in high-priority sectors, 2) transparency through monitoring and disclosure, 3) integration of health into building performance frameworks, 4) national coordination and 5) dedicated indoor air quality legislation with enforcement. Rather than prescribing a single solution, the report demonstrates how different policy approaches can work together to strengthen the overall policy ecosystem and provides practical lessons that other jurisdictions can adapt to their own governance structures and priorities.

Illustrative Stakeholder Roadmap

Advancing IAQ through policy requires coordinated engagement across sectors, with roles evolving from advocacy to implementation and accountability.

- **Governments** should lead the integration of IAQ into policy frameworks, aligning regulations across health, buildings and environmental systems, while ensuring enforcement over time.
- **Public health institutions** can play a powerful role in translating scientific evidence into policy-relevant guidance and maintaining alignment with health outcomes.
- Industry stakeholders can support policy development through technical expertise, implementation capacity and alignment with market practices.
- **Civil society and advocacy organizations** are essential for building public support, engaging communities and maintaining momentum for policy change.
- **International organizations** can facilitate coordination, knowledge exchange and alignment across regions.
- **Codes, standards and certification bodies** integrate IAQ-focused provisions into their offerings and provide the necessary resources and training to support their effective implementation.

Mapping Progress and Call to Action

Policy plays a critical role in scaling what works, aligning incentives, creating accountability and institutionalizing healthier indoor environments as a long-term public priority. In the near term, progress can be reflected in the extent to which IAQ becomes more fully integrated into government policy, funding and programs across relevant government domains, including public health, buildings, housing, energy, education, labor and environmental protection.

Core indicators of progress should include:

- **Government Agenda Integration:** Greater coordination of IAQ across public health, building, energy and environmental agendas, including programs, funding and policy.
- **Policy Adoption:** Increased integration of IAQ into national, regional and local policy frameworks, including funding, regulatory approaches, leadership-by-example policies and education and outreach programs.
- **Public Sector Leadership:** Expanded adoption of IAQ measures across publicly owned and funded buildings.
- **Equity Outcomes:** Proportion of policies adopted that include or focus on priority sectors and supporting vulnerable communities.
- **Market Adoption:** Greater incorporation of IAQ into mainstream building practice, procurement and investment decisions, as stimulated by government policy.

Education and Training

The Case for This Lever: Strengthening Knowledge and Building Capacity

Indoor air quality can begin to change at scale when more people and professionals across disciplines understand it well enough to act on it. That is why education and training are essential for transformation. This lever helps advance knowledge and expertise across key technical specialties, while also building capacity and practical capabilities. Expanding opportunities in education and training helps architects, designers and engineers make better decisions, building operators and real estate professionals manage systems more effectively, public health leaders communicate risks more clearly, employers and educators ask better questions, regulators support effective implementation and occupants understand the indoor environments that shape their health.

More education and training can build the knowledge, expertise and workforce capability needed to meet growing demand for IAQ services, create new career pathways and embed healthier indoor air practices into the professions that already shape buildings, from design and engineering to operations, maintenance, public health and real estate.

The Core Challenge: Getting the Right Knowledge to the Right People

The core challenge is bringing IAQ knowledge and know-how to the people who need it most in a form they can use. Engineers, architects, building scientists, facility managers and public health professionals need deeper, more consistent training on how indoor air affects health and how building designs and systems can improve it. But IAQ cannot remain confined to technical fields. Building owners, school leaders, employers, policymakers, healthcare professionals, educators and occupants also need clear, practical guidance that helps them recognize risks, ask informed questions and take meaningful action.

Today, education and training remain uneven, with some programs and professions developing deep expertise while others provide little or no preparation. As the science and available solutions continue to advance, education and training systems must keep pace to avoid a capacity gap. Introductory education is also largely absent, leaving most people without the awareness or practical guidance to understand risks and change expectations and behavior.



Strategic Priorities and Targeted Recommendations for Market Transformation

Integrating IAQ into Formal Education Systems

Embedding IAQ within education systems is critical to building long-term awareness, shaping behavior and translating learning into action.

Recommended actions:

- Incorporate IAQ into higher education programs across key fields of study, including architecture, engineering, public health and environmental disciplines.
- Integrate IAQ literacy into primary and secondary curricula as part of health, science and environmental education.
- Develop engaging, age-appropriate materials, such as visual tools, case studies and hands-on activities.
- Partner with education networks and extension services to scale delivery of IAQ education in schools, universities and communities.
- Establish practical, context-appropriate “living laboratories” where students can monitor IAQ and other health-related building performance indicators and gain hands-on experience applying what they learn.

Expanding Public Education and Practical Guidance

Public education is essential to enabling individuals and institutions to act on IAQ knowledge.

Recommended actions:

- Develop clear, accessible guidance on IAQ best practices, including source control, moisture and mold prevention, healthier material selection, ventilation, filtration, maintenance and pollution prevention.
- Communicate the short- and long-term health impacts of poor IAQ using plain language and relatable examples.
- Partner with patient organizations to co-design educational resources.
- Implement IAQ education programs in schools, universities, childcare and eldercare facilities, healthcare settings and workplaces.
- Provide resources that enable community-level engagement and action, particularly in high-risk areas.

Strengthening Professional Training and Workforce Capacity

A skilled workforce is essential to designing, implementing and sustaining IAQ improvements.

Recommended actions:

- Expand training and certification programs focused on source control, IAQ monitoring, HVAC systems and building operations and maintenance.
- Integrate IAQ competencies and an end-to-end systems perspective into professional standards, curriculum frameworks and continuing education requirements.
- Provide targeted training for facility managers, contractors and technicians responsible for day-to-day building performance, as well as appropriate education modules for investors, insurers, procurement professionals and asset managers.
- Engage professional associations, standard-development organizations, academic institutions, industry bodies and other qualified entities to develop and deliver IAQ training.
- Align training programs with industry standards and best practices, including those from ASHRAE and similar professional societies.

Building Understanding and Capacity in Priority Settings

It is especially important to build IAQ understanding and capacity in communities and populations where IAQ risks are greatest and where targeted efforts can have the largest impact.

Recommended actions:

- Prioritize education and training programs in vulnerable communities and populations.
- Enable access to tools and knowledge that support locally driven IAQ improvements.
- Support scalable, low-cost education models and practical solutions that can reach households and communities.
- Provide technical assistance and resources to local institutions and practitioners.
- Ensure that education and training programs are co-designed and culturally tailored to meet the unique needs of the communities they serve.



Proof Points and Emerging Models

Emerging efforts demonstrate the potential for education and training to accelerate IAQ improvements. In educational settings, the integration of IAQ monitoring and curriculum-based learning has increased awareness among students and educators, in some cases leading to advocacy for improved ventilation and filtration. Similarly, professional training programs—particularly those aligned with industry standards—are expanding the capacity of engineers and building operators to manage indoor environments more effectively.

Greater attention to IAQ in public education has also increased understanding and delivered practical, accessible guidance at scale. These examples suggest that embedding knowledge across education and training can drive both behavior change and demand for healthier indoor environments.

Illustrative Stakeholder Roadmap

Advancing IAQ education and training requires coordinated engagement across sectors, with roles evolving from awareness-building to sustained capacity development. Education systems should integrate IAQ into curricula at all levels and into staff professional development, building foundational literacy and long-term awareness.

- **Governments** should support workforce development programs and invest in training infrastructure, particularly in high-need regions.
- **Industry and professional bodies**, including health insurers, should expand certification programs and embed IAQ competencies into standards and practice.
- **Public health institutions** should translate scientific knowledge into accessible guidance and educational materials.
- **NGOs and community organizations** can play a critical role in delivering localized education and capacity-building initiatives.
- **International organizations** should facilitate knowledge exchange and support capacity-building across regions.

Low-Cost Filtration Meets Hands-On Learning

The Corsi–Rosenthal box demonstrates how simple, affordable solutions can improve indoor air quality while creating opportunities for education and community engagement. Co-developed by Richard Corsi and Jim Rosenthal, these do-it-yourself air cleaners are constructed from a box fan, readily available air filters and duct tape.⁶⁷ They provide an economical approach to reducing airborne particles, including infectious aerosols. In addition, universities across the United States have incorporated the boxes into engineering courses, hands-on STEM education and community service projects. The University of Connecticut expanded this approach through a statewide initiative supported by \$11.5 million in state funding to make low-cost air filtration available in public school classrooms.⁶⁸ The effort connects university research, student learning and public investment to improve indoor air quality in schools.

Mapping Progress and Call to Action

Progress in education and training will be reflected in the extent to which IAQ knowledge is embedded across education systems, professional education and accreditation programs and public awareness efforts. As IAQ literacy, technical know-how and educational efforts expand, so too will the capacity of individuals and institutions to understand risks, implement solutions and sustain improvements over time.

Core indicators of progress should include:

- **Education Integration:** Increased inclusion of IAQ concepts in primary, secondary and higher education curricula.
- **Workforce Capacity:** Growth in the number of professionals trained and certified in IAQ-related competencies.
- **Public Literacy:** Improved public understanding of IAQ risks and mitigation strategies.
- **Practice Adoption:** Increased implementation of IAQ best practices in building operations and maintenance.
- **Global Capacity:** Strengthened training infrastructure and knowledge transfer in high-risk and resource-constrained regions.



Driving Demand and Market Incentives

The Case for This Lever:

Strengthening Market Dynamics to Reward Healthy Indoor Air

Driving demand and aligning market signals and incentives are essential to accelerating the adoption of indoor air quality solutions, shifting IAQ from a more reactive concern to a sustained market priority that consistently informs decisions across design, operations, investment and policy.

Adoption of IAQ solutions will increase as demand increases from consumers, businesses, building owners, tenants and institutions. Right now, IAQ attention and interest often rise alongside visible and acute risks and threats, such as a wildfire. At the same time, the known costs of poor indoor air are treated as externalities, rarely measured, priced or fully integrated into market decisions. As a result, IAQ is not consistently reflected in the market signals that could drive behavior—from property values to investment decisions. Better signals and stronger financial and reputational incentives can help change that, lifting IAQ from a reactive issue to one that regularly and proactively influences market decisions.

The Core Challenge:

Creating Better Market Signals to Sustain Demand

The core challenge is strengthening demand for healthy indoor air. IAQ demand is often driven by acute, visible events rather than being a constant priority across building design, operation and investment decisions.

This dynamic is reinforced by the invisibility of IAQ performance, creating a cycle of weak economic signals that compromise demand, while also allowing shortsighted decisions like prioritizing upfront savings over long-term health and workforce performance benefits. As a result, IAQ is all too frequently undervalued compared to other building priorities, despite its direct impact on human health, performance and organizational outcomes.

Without stronger market signals, aligned public and private incentives and clearer value propositions, demand will remain sporadic, slowing adoption and limiting the scale of impact.

Strategic Priorities and Targeted Recommendations for Market Transformation

Strengthening Market Signals Through Transparency

Clear, credible signals are essential to shaping demand and enabling informed decision-making.

Recommended actions:

- Expand the use of applicable tools and technologies to communicate IAQ performance.
- Promote transparency through disclosure of IAQ in accessible formats.
- Align IAQ indicators with broader ESG and sustainability reporting frameworks.
- Support marketing and awareness campaigns, including retail, e-commerce and point-of-sale initiatives, that translate IAQ performance into tangible benefits for consumers, occupants and organizations.

Recognizing the Dynamic Nature of Indoor Air Quality

Indoor air quality is dynamic, changing with occupancy, seasonal conditions, ventilation performance, operational practices and outdoor air events. Periodic IAQ assessments and performance testing provide valuable information, and for many buildings represent an important and leading step toward understanding and improving IAQ. Where resources and technology permit, continuous monitoring helps provide a more complete picture of real-world performance by identifying changing conditions over time, supporting operational improvements and helping building managers respond to unexpected events. As IAQ transparency initiatives continue to evolve, advances in sensing technologies and controls are creating new opportunities to deploy continuous monitoring where appropriate, while recognizing that many settings will continue to rely on prescriptive building practices, targeted assessments and other context-appropriate approaches.



Aligning Financial Incentives with IAQ Performance

Financial mechanisms can play a critical role in accelerating adoption and overcoming cost barriers.

Recommended actions:

- Expand public and private incentive programs, including rebates, grants and other financial mechanisms, to support IAQ improvements in buildings and infrastructure (Related government actions are discussed in greater detail in Lever 3, Advocacy and Policy Development.)
- Incorporate IAQ performance into insurance models, health-related cost savings and risk assessments.
- Develop financing models that better account for long-term benefits, including productivity gains and reduced healthcare costs.
- Develop financing approaches that support phased IAQ improvements in existing buildings, recognizing that many buildings will improve performance over multiple investment cycles rather than through whole-building renovations.
- Address the “first-cost” bias by promoting lifecycle cost analysis and value-based investment approaches, while advancing solutions that address split-incentive issues.

Leveraging Public Sector Leadership and Procurement

Public institutions can play a catalyzing role in shaping demand and demonstrating feasibility. This strategic priority also appears in Lever 3, Advocacy and Policy Development, reflecting its cross-cutting importance.

Recommended actions:

- Integrate IAQ requirements into public procurement policies for buildings, equipment and services.
- Prioritize IAQ improvements in schools, healthcare facilities and government buildings.
- Use public infrastructure projects as demonstration sites for scalable IAQ solutions.
- Align funding and capital planning processes with IAQ performance objectives.

Harnessing Behavioral Drivers and Learning from Crisis Moments

Moments of heightened awareness present opportunities to drive lasting change.

Recommended actions:

- Develop strategies to sustain IAQ demand beyond emergency events, emphasizing the value of prevention and preparedness.
- Leverage crisis-driven awareness to advance education, behavior change and policy adoption.
- Provide clear guidance on IAQ best practices during and after periods of elevated indoor air risk, including infectious disease outbreaks, wildfire smoke, extreme weather and other public health emergencies.
- Build preparedness frameworks to respond to future surges in demand.

Proof Points and Emerging Models

Voluntary leadership certification systems are helping show what stronger IAQ expectations can look like in practice, demonstrating holistic healthy building performance. Public procurement is also becoming an important proving ground, with governments beginning to integrate IAQ into new public building projects and major renovations, as well as school modernization efforts. At the same time, new policies are emerging designed to jumpstart behavior change by providing financial incentives for making IAQ improvements. Meanwhile, crisis events, from wildfires to severe flu outbreaks, continue to show how quickly demand can increase when the threats are more visible and acute. The strategic opportunity now is to make IAQ a more consistent part of how buildings are valued, improved and managed.

Healthy Materials: Market Demand in Action

Growing demand for healthier building materials has long influenced the market. As more and more organizations prioritize healthier product choices in design, construction and procurement, industry has responded with greater innovation, new product offerings and increased investment in materials and products that align with leading health-based frameworks, standards and transparency initiatives. This reinforcing cycle of demand and innovation helps expand the availability of healthier building materials and products, supports pollutant source control and improves indoor air quality.



Expanding Adoption and Implementation Through Codes and Standards

Codes and standards remain among the most effective mechanisms for raising baseline expectations and scaling protections across the built environment.

Recommended actions:

- Encourage the adoption and regular updating of IAQ-focused codes and standards across jurisdictions to reflect advances in science, technology and public health.
- Expand the integration of IAQ provisions into building codes, procurement standards and retrofit policies.
- Encourage broader and more consistent adoption of proven IAQ codes and standards across jurisdictions and building sectors.
- Strengthen implementation pathways, enforcement mechanisms and accountability systems to improve real-world performance while offering flexible implementation approaches for different jurisdictions (e.g., commissioning, periodic assessments or continuous monitoring, as appropriate).
- Identify and provide the resources government agencies need to enforce IAQ codes and standards effectively, including educational resources for building-industry practitioners.
- Ensure that IAQ codes and standards reflect differences in building use and occupant vulnerability, including schools, healthcare facilities and residential environments.

Protecting Indoor Air Through Disasters and Recovery

Disasters and extreme events can rapidly degrade indoor environments through smoke, dust and particulate matter, water intrusion and mold, damaged ventilation systems, overcrowding and extended use of temporary accommodations.^{71,72} Healthy indoor air should therefore be integrated throughout disaster preparedness, emergency response, recovery and reconstruction. “Build back better” initiatives provide an important opportunity to incorporate source control, moisture management, appropriate ventilation and filtration, low-emitting materials, indoor air quality assessment and commissioning alongside structural safety, energy efficiency and climate resilience.

Illustrative Stakeholder Roadmap

With various market blind spots suppressing demand for IAQ, coordinated action is needed across the full set of stakeholders shaping best practice, demand and investment.

- **Governments** should implement incentives, procurement policies and overarching policy frameworks that drive IAQ demand.
- **The private sector** should embrace value-creating strategies to integrate IAQ into business strategy, asset management and investment decisions.
- **Manufacturers and suppliers** should continue to drive efficiencies and help scale the production of affordable, high-performance IAQ solutions and technologies.
- **Financial institutions** should develop products that recognize IAQ as a driver of value and risk mitigation.
- **Public health organizations** should communicate the health and economic case for IAQ improvements.
- **Consumers and occupants** should demand healthier indoor environments and engage in decision-making processes.

Mapping Progress and Call to Action

Progress will be best reflected in how IAQ is better recognized, valued and acted upon across markets. As demand becomes more consistent and aligned with health and performance outcomes, IAQ will transition from a reactive concern to a core expectation in the built environment.

Core indicators of progress should include:

- **Market Demand:** Increased market demand for buildings and products that demonstrate superior IAQ performance, fostering competition and market differentiation.
- **Financial Incentives:** Expanded availability and uptake of financial incentives supporting IAQ improvements.
- **Procurement and Investment:** Increased integration of IAQ into procurement policies and public infrastructure investments.
- **Technology Access:** Growth in the availability and affordability of IAQ technologies across market segments.
- **Behavior Change:** Demonstrable shifts in consumer and organizational behavior toward prioritizing healthy indoor environments.

Financing and Resource Mobilization

The Case for This Lever: Making IAQ an Investable Priority

IAQ improvements, particularly across the existing building stock, require capital for assessments, upgrades, operations, maintenance, monitoring, workforce capacity and long-term performance. Without financing strategies that make these investments easier to justify and easier to deliver, progress will be intermittent. Financing and resource mobilization are essential to market transformation because they can be a determining factor in whether IAQ improvements are made. The ability to unlock public, private and philanthropic capital can help scale solutions across the built environment.

The opportunity presented by this lever is to make IAQ investment more visible, more valued and more actionable. Better financing approaches can help connect indoor air improvements to both the health and economic outcomes they support, from reduced illness to increased productivity, and from enhanced asset performance to stronger resilience. Drawing lessons from energy efficiency, IAQ can benefit from financing models that translate long-term benefits into near-term investment decisions. The goal is to increase investment in IAQ by building the financial pathways that will spur implementation.

The Core Challenge: Capturing IAQ's Value

The core challenge is capturing IAQ's benefits in the financial models that guide building decisions. Improved indoor air can create value for employers, occupants, students, patients, healthcare systems, insurers, building owners and society. However, those benefits are often difficult to quantify, monetize or assign within traditional financing and risk models. A longstanding market barrier is the split incentive between those who invest in healthy indoor air and those who benefit from it. Building owners often bear the upfront costs, while occupants, employers, healthcare systems and society realize much of the resulting value. As a result, IAQ improvements and upgrades are seen as added costs rather than value-generating investments.

Many owners and institutions lack clear methods to evaluate the return on investment that comes from improved ventilation, filtration, monitoring, operation and maintenance. Unlike energy efficiency, where savings can be measured directly through reduced utility costs, IAQ creates multiple value streams, including avoided healthcare costs, workforce productivity, educational outcomes, business continuity, organizational resilience and long-term asset value. These benefits are broader and more distributed, making them harder to capture through conventional payback models. This creates a need for more innovative financing tools and valuation approaches. Public agencies, private lenders, philanthropic funders, insurers, employers and building owners need better ways to integrate the health, productivity, resilience and risk-reduction benefits of IAQ into capital planning, underwriting, procurement and investment decisions.

Strategic Priorities and Targeted Recommendations for Market Transformation

Unlocking and Expanding Funding Sources

Closing the financing gap begins with increasing access to capital across sectors and geographies.

Recommended actions:

- Expand grants, subsidies and financing programs from governments, multilateral organizations and international development banks to support IAQ improvements, with a focus on high-impact sectors such as schools, childcare facilities and healthcare systems.
- Integrate IAQ into existing funding programs for energy efficiency, climate resilience and public health infrastructure.
- Explore opportunities to integrate IAQ into existing energy financing solutions, including pay-from-savings models, such as energy savings performance contracts (ESPC), energy-as-a-service (EaaS) and utility energy efficiency programs.
- Support investments in both equipment upgrades and pollutant-control and airborne-infection-prevention strategies, including ventilation, filtration and building maintenance and repair.
- Develop targeted funding mechanisms for underserved and high-risk communities to ensure equitable access to improvements.
- Collaborate with financial institutions and investment funds to finance IAQ improvements in critical facilities, especially schools.

Mobilizing Blended Finance and Innovative Capital Structures

Blended finance approaches can accelerate investment by aligning public, private and philanthropic capital.

Recommended actions:

- Support the creation of dedicated IAQ investment platforms that aggregate demand and streamline capital deployment.
- Facilitate public-private partnerships between governments, finance institutions and private investors to expand access to funding.
- Develop blended finance models that leverage lower-cost capital to de-risk private investment in IAQ improvements.
- Connect public funding with private sector participation to support implementation and reach more buildings.

Innovative Financing for IAQ Improvements

A growing number of organizations are developing innovative financing mechanisms to support school modernization projects that improve indoor environmental health, with a particular focus on IAQ. School districts often face severe financial constraints to make such improvements. To help overcome these challenges, emerging models leverage public-private partnerships, usage-based service agreements and pay-from-savings approaches. These mechanisms can reduce upfront costs, expand access to capital and enable schools to deploy IAQ solutions without incurring additional debt.

Developing Health-Linked Financial Instruments

New financial models are needed to capture the full value of IAQ improvements.

Recommended actions:

- Develop pioneering IAQ-linked financial instruments, including health bonds and performance-based contracts tied to measurable outcomes.
- Advance methods for quantifying and integrating health-related cost savings into financial models.
- Engage health and life insurance providers to recognize IAQ improvements as risk-reducing investments.
- Explore mechanisms to link IAQ performance with employer-sponsored health benefits and workplace productivity metrics.
- Refine existing financing mechanisms to integrate IAQ with energy efficiency, operational performance, climate resilience and other building performance objectives, creating a stronger value proposition for investment.

Embedding IAQ into ESG and Institutional Investment Frameworks

IAQ must be recognized as a material factor within broader sustainability and investment strategies.

Recommended actions:

- Ensure that sustainable financing mechanisms reflect investments in health and IAQ.
- Integrate IAQ into environmental, social and governance (ESG) reporting frameworks and social sustainability metrics.
- Encourage institutional investors to incorporate IAQ performance into due diligence and asset valuation processes.
- Promote standardized metrics to enable comparability and transparency across investments.
- Identify and promote complementary financing pathways for contexts where institutional investment or ESG-driven mechanisms have limited reach, including approaches suited to small-scale developers, households and community-led initiatives.

Leveraging Insurance and Risk-Based Incentives

Insurance is a largely untapped but promising area for creating incentives that encourage IAQ improvements and reward better building performance.

Recommended actions:

- Collaborate with insurers to incorporate IAQ performance into underwriting and risk assessment models.
- Develop premium incentives for buildings that meet defined IAQ leadership thresholds.
- Quantify the relationship between IAQ and risk reduction, including health outcomes and operational disruptions.
- Position insurance incentives to expand financing opportunities and reinforce market signals.

Proof Points and Emerging Models

Emerging financial models in other fields provide insight into how IAQ investment can scale. Performance-based contracting in energy efficiency has demonstrated the viability of linking capital deployment to measurable outcomes, while blended finance structures have successfully mobilized private capital for climate and infrastructure investments. Increasingly, institutional investors are incorporating health and well-being metrics into ESG frameworks, signaling growing recognition of IAQ as a material factor. One strong example is GRESB, which includes health and well-being as part of its global benchmark that measures the ESG management performance of real assets and portfolios.⁶⁹

At the same time, pilot initiatives linking building performance to insurance pricing and workplace health outcomes suggest a pathway for integrating IAQ into risk and value calculations. These models indicate that when financial systems are aligned with outcomes, investment can scale rapidly.



Illustrative Stakeholder Roadmap

Advancing IAQ financing requires coordinated action across financial, public and private sectors.

- **Governments** should prioritize the integration of IAQ into funding programs, incentives and regulatory frameworks, while expanding access to capital for high-need sectors.
- **Financial institutions and investors** play a critical role in developing and scaling IAQ-linked financial products, incorporating health outcomes into investment decision-making.
- **Insurance providers** can accelerate adoption by recognizing IAQ improvements as risk-reducing measures and aligning pricing accordingly.
- **Industry and building owners** should develop and adopt lifecycle investment approaches, recognizing IAQ as a driver of long-term value rather than short-term cost.
- **Philanthropy and development organizations** can catalyze innovation and equity-focused investments through targeted funding and technical assistance.

Mapping Progress and Call to Action

Progress in financing and resource mobilization will be reflected in the degree to which capital flows align with the health and economic value of improved indoor air quality. As financing mechanisms evolve to recognize IAQ as essential infrastructure, investment will expand, enabling broader adoption and more equitable outcomes across sectors and geographies.

Core indicators of progress should include:

- **Capital Deployment:** Increased volume of public, private and blended finance directed toward IAQ improvements across sectors.
- **Financial Innovation:** Growth in IAQ-linked financial instruments, including health bonds, performance contracts and insurance-linked incentives.
- **Cost Accessibility:** Reduction in financial barriers to IAQ improvements, particularly in high-need and underserved communities.
- **Market Integration:** Expanded incorporation of IAQ into ESG frameworks, investment criteria and asset valuation.
- **Equity Outcomes:** Increased investment in priority sectors such as schools, healthcare facilities and public housing.

Codes, Standards and Leadership Certifications

The Case for This Lever: Raising the Floor, Lifting the Ceiling

Codes, standards and voluntary leadership rating or certification systems are essential to scaling improved IAQ while advancing both baseline practice and market leadership. By embedding IAQ best practices into the rules, requirements and expectations that govern buildings, this lever accelerates IAQ by both pushing and pulling the market.

This dynamic has been demonstrated across other areas of public health. Building codes that mandate fire safety, plumbing standards that ensure clean water and food safety regulations that prevent contamination have proven extraordinarily successful at making essential health protections a standard part of everyday life. In each case, codes and standards make health- and safety-focused specifications a baseline, shifting the burden of vigilance away from individuals and toward systems that ensure consistent protection. IAQ has yet to undergo a similar shift.

At present, elements of IAQ are addressed by various codes, standards, guidelines and voluntary leadership programs. The opportunity is to align, strengthen and scale what has already proven effective. Codes and standards have long been among the most powerful tools for raising the floor. Leadership programs, too, help set high-performance thresholds, creating pathways for early adopters and market leaders.

The Core Challenge: Enabling Adoption by Increasing Alignment and Implementation Consistency

Codes, standards and leadership certification systems provide key tools for advancing IAQ. The primary challenge is adoption and market reach. Improving alignment and implementation consistency can broaden adoption and reduce confusion.

Even where effective codes and standards exist, implementation and enforcement can vary considerably, reducing their impact in practice. At the same time, voluntary leadership programs play a role in pushing the market forward, establishing higher performance thresholds, supporting early adopters and demonstrating what leading practice can look like before it becomes standard practice.

The broader challenge is ensuring that these systems evolve together. Advancing IAQ at scale will require greater alignment across these mechanisms, wider adoption of proven approaches and more consistent application across regions and building sectors.

Strategic Priorities and Targeted Recommendations for Market Transformation

Strengthening and Expanding Health-Based IAQ Frameworks

The continued advancement of IAQ standards depends on expanding the reach, consistency and practical application of science-based frameworks across jurisdictions and building sectors.

Recommended actions:

- Advance IAQ standards grounded in health-based thresholds and evolving scientific evidence, aligning building design and operational requirements with outcomes that protect occupant health.
- Support greater alignment and harmonization across standards and regulatory frameworks to reduce fragmentation and improve consistency across markets.
- Continue to translate scientific guidance into clear, practical and implementable approaches suitable for codes, standards and operational practices.
- Promote codes and standards that address ventilation, filtration, moisture management, mold prevention and pollutant source control.
- Regularly update standards to reflect emerging science.
- Embed IAQ objectives within interrelated building-related agendas and policy frameworks to leverage existing momentum, funding and implementation pathways.



The Growing Role of Health in Building Codes and Standards

Building codes and standards have traditionally relied on prescriptive design requirements, such as minimum ventilation rates, to establish “acceptable” indoor environments. Increasingly, advances in building science and public health are elevating health outcomes as a guiding principle, complementing prescriptive requirements with health-informed performance measures and pollutant-based targets. This evolution reflects a growing emphasis on how buildings achieve better IAQ in practice, while recognizing that prescriptive requirements remain foundational for supporting safe building environments. Some recent examples include the World Health Organization’s health-based indoor air quality guidelines, ASHRAE’s Standard 241⁷⁰ for control of infectious aerosols and other regional efforts to integrate IAQ into building performance standards.

Expanding Adoption and Implementation Through Codes and Standards

Codes and standards remain among the most effective mechanisms for raising baseline expectations and scaling protections across the built environment.

Recommended actions:

- Encourage the adoption and regular updating of IAQ-focused codes and standards across jurisdictions to reflect advances in science, technology and public health.
- Expand the integration of IAQ provisions into building codes, procurement standards and retrofit policies.
- Encourage broader and more consistent adoption of proven IAQ codes and standards across jurisdictions and building sectors.
- Strengthen implementation pathways, enforcement mechanisms and accountability systems to improve real-world performance while offering flexible implementation approaches for different jurisdictions (e.g., commissioning, periodic assessments or continuous monitoring, as appropriate).
- Identify and provide the resources government agencies need to enforce IAQ codes and standards effectively, including educational resources for building-industry practitioners.
- Ensure that IAQ codes and standards reflect differences in building use and occupant vulnerability, including schools, healthcare facilities and residential environments.

Protecting Indoor Air Through Disasters and Recovery

Disasters and extreme events can rapidly degrade indoor environments through smoke, dust and particulate matter, water intrusion and mold, damaged ventilation systems, overcrowding and extended use of temporary accommodations.^{71,72} Healthy indoor air should therefore be integrated throughout disaster preparedness, emergency response, recovery and reconstruction. “Build back better” initiatives provide an important opportunity to incorporate source control, moisture management, appropriate ventilation and filtration, low-emitting materials, indoor air quality assessment and commissioning alongside structural safety, energy efficiency and climate resilience.

Strengthening Leadership Certifications and Market Leadership Programs

Leadership certifications and voluntary frameworks play a critical role in pulling the market forward, accelerating innovation and demonstrating what higher levels of performance can achieve.

Recommended actions:

- Continue advancing IAQ metrics and leadership thresholds within certification and voluntary leadership programs.
- Strengthen alignment between leadership programs and codes and standards to support long-term market evolution and uptake.
- Promote certification systems as tools for market signaling, transparency and differentiation.
- Use leadership programs to pilot emerging practices, technologies and verification approaches that can help inform future codes and standards.

Foundational WHO Guidance Supporting Indoor Air Quality Standards and Practice

Many national building codes, standards and voluntary certification systems draw upon or align with guidance from the **World Health Organization (WHO)**. These publications provide a foundational scientific basis for understanding the health impacts of indoor air pollution and for informing the development, implementation and continuous improvement of indoor air quality policies, standards and best practices worldwide.

WHO Resources

- WHO Global Air Quality Guidelines: Particulate Matter (PM_{2.5} and PM₁₀), Ozone, Nitrogen Dioxide, Sulfur Dioxide and Carbon Monoxide, 2021.⁷³ Provides updated, evidence-based air quality guideline values for major air pollutants, serving as a global scientific benchmark for protecting public health and informing air quality standards.
- WHO Guidelines for Indoor Air Quality: Household Fuel Combustion, 2014.⁷⁴ Recommends interventions to reduce exposure to household air pollution from solid fuel use and improve health through cleaner cooking, heating and ventilation practices.
- WHO Guidelines for Indoor Air Quality: Selected Pollutants, 2010.⁷⁵ Establishes health-based guideline values and recommendations for priority indoor air pollutants to support risk assessment, policy development and exposure reduction.
- WHO Guidelines for Indoor Air Quality: Dampness and Mould, 2009.⁷⁶ Summarizes the evidence linking dampness and mold to adverse health outcomes and provides recommendations for preventing and mitigating indoor moisture problems.
- Strategic Approaches to Indoor Air Policy-Making, 1999.⁷⁷ Introduces a comprehensive public health framework to help governments develop, implement and strengthen national indoor air quality policies.

Proof Points and Emerging Models

Recent developments demonstrate the growing convergence of IAQ, building performance and public health objectives. New standards in regions around the world have emerged that focus on raising the floor for indoor air quality. The recast Energy Performance of Buildings Directive (EPBD) in the European Union illustrates how indoor environmental quality can be more fully integrated into broader energy and building policy frameworks. Similarly, the emergence of building performance standards in U.S. cities reflects a broader shift toward outcome-oriented approaches that create opportunities to incorporate IAQ alongside energy, emissions and resilience objectives. Leadership certification systems have also helped accelerate market transformation by advancing performance-based approaches, establishing leadership performance thresholds, supporting early adopters and demonstrating market demand for healthier buildings. In many cases, these voluntary programs have helped pave the way for broader adoption and future codes or standards.

Illustrative Stakeholder Roadmap

Advancing IAQ through codes, standards and leadership systems will require coordinated action across governments, standards-setting organizations, industry leaders, certification bodies and public health institutions.

- **Governments** should continue integrating IAQ into building policies, codes and procurement frameworks while supporting more consistent adoption and implementation across jurisdictions.
- **Standards-setting organizations** play a critical role in advancing alignment, translating scientific evidence into practical requirements and supporting harmonization across markets.
- **NGOs and civil society organizations** should continue to advocate for the adoption and updating of IAQ-focused codes and standards while helping build broader public and stakeholder engagement and support.
- **Industry stakeholders**, including developers, designers, owners and manufacturers, should help accelerate implementation, innovation and scalability across the building sector.
- **Leadership certification bodies** should continue advancing higher performance pathways, supporting market differentiation and informing the evolution of future codes and standards.
- **Public health institutions** should help ensure that IAQ frameworks remain grounded in health outcomes and robust scientific evidence and support reductions in inequity.

Mapping Progress and Call to Action

Progress will be reflected not only in the expansion of IAQ-focused codes, standards and leadership certifications, but in the degree to which these systems become more aligned, widely adopted and consistently implemented across markets and geographies. Over time, IAQ should increasingly become a normalized component of building performance, embedded alongside safety, energy efficiency, resilience and occupant well-being.

Core indicators of progress should include:

- **Standards Adoption:** Increased integration and adoption of IAQ standards across codes, policies and building frameworks.
- **Market Alignment:** Greater consistency and harmonization of IAQ approaches across jurisdictions and sectors.
- **Implementation Consistency:** Improved enforcement, verification and operational adherence to IAQ codes and standards.
- **Leadership Advancement:** Continued improvement of IAQ-focused interventions and solutions within certification and leadership programs.
- **Accountability:** Increased use of monitoring (including air testing and other IAQ assessments), reporting and benchmarking systems supporting IAQ performance.



Partnerships and Collaboration

The Case for This Lever: Leveraging Collaboration to Go Faster and Further

Improving IAQ is inherently a systems challenge. It spans public health, building design and operation, environmental science, policy, finance and community behavior. No single institution, sector or discipline has the mandate, expertise or reach to address it alone. As a result, meaningful progress depends on the ability to align actors across traditionally siloed domains and coordinate action at scale.

Historically, efforts to improve indoor environments have been fragmented, with research, policy and implementation advancing in parallel rather than in concert. While this has generated valuable innovation and localized success, it has also limited the ability to rapidly advance solutions, share knowledge efficiently and align incentives across sectors. Global challenges such as climate change, by contrast, have demonstrated the power of coordinated, multi-stakeholder collaboration in propelling systemic change.

Cities Working Together for Clean Ambient Air

The C40 Cities Clean Air Accelerator demonstrates how collaboration can help jurisdictions achieve more together than they could by themselves. By bringing together more than 50 cities around shared commitments, technical assistance, peer learning and common targets, the initiative has accelerated the adoption of clean outdoor air policies while strengthening accountability and knowledge sharing.⁷⁸ The partnership illustrates how coordinated action can help spur innovation, build political momentum and translate ambitious goals into measurable outcomes.

By forging transdisciplinary alliances, enabling knowledge exchange and aligning public and private actors, this lever creates the connective tissue required to translate isolated efforts into coordinated, far-reaching impact. The long-term objective is to establish a globally connected ecosystem of stakeholders spanning governments, civil society, industry, academia and communities, working collaboratively to co-create, implement and continuously refine solutions that improve indoor air quality across all regions and contexts.

The Core Challenge: Overcoming a Fragmented Landscape

A central challenge in advancing IAQ is the disparate and decentralized nature of stakeholders, knowledge and action across sectors and geographies. While a wide range of actors are engaged—from scientists and engineers to policymakers, building practitioners and community organizations—their efforts are often disconnected, leading to inefficiencies, duplication and missed opportunities for broader adoption.

This fragmentation is reinforced by differences in language, priorities and incentives across disciplines. Public health professionals may focus on disease prevention, while building professionals prioritize cost, energy performance or operational efficiency. Without shared perspectives, priorities and coordinated strategies, these separate and varied approaches can create misalignment, slowing the integration of IAQ into broader systems of decision-making. In addition, knowledge related to IAQ is not always accessible or effectively shared. Research findings, best practices and case studies are not widely viewed or known, limiting their impact. This is particularly challenging in low-resource settings, where access to technical expertise and implementation support may be constrained.

Strategic Priorities and Targeted Recommendations for Market Transformation

Forging Transdisciplinary Alliances

Effective IAQ strategies require collaboration across disciplines and sectors.

Recommended actions:

- Establish formal alliances linking experts, NGOs, industry, academia and community organizations.
- Support the co-creation of national and regional IAQ strategies, frameworks and implementation guides.
- Align stakeholders around shared goals, metrics and timelines.
- Promote interdisciplinary approaches that integrate health, engineering, environmental and social perspectives.

Collaboration in Action: Reaching Global Consensus

Addressing complex public health challenges often requires collaboration across disciplines. To establish a common language for pathogens that transmit through the air, the World Health Organization (WHO) convened experts from public health, medicine, engineering, aerosol science and infection prevention. Through its collaborative process, the group reached consensus on updated terminology for how pathogens transmit through the air, creating a common foundation for research, public health, building design and indoor air quality policy.⁷⁹

Facilitating Knowledge Sharing and Global Learning

Scaling IAQ solutions depends on the ability to share knowledge efficiently and equitably.

Recommended actions:

- Identify or develop global platforms for sharing IAQ research, data and best practices.
- Support conferences, workshops and collaborative forums that bring together diverse stakeholders.
- Create open-access repositories of case studies, tools and implementation guidance.
- Enable cross-regional learning, collaboration and knowledge exchange.

Expanding Public-Private Partnerships

Public-private collaboration is essential to accelerating innovation and deployment.

Recommended actions:

- Encourage joint initiatives between philanthropy, governments and industry to support R&D, policy development and implementation.
- Develop partnership models that enable scaling across regions, building types and sectors.

Building Inclusive and Community-Centered Partnerships

Effective collaboration must include and empower communities most affected by IAQ challenges.

Recommended actions:

- Engage community-based organizations as active partners in IAQ initiatives.
- Incorporate local knowledge and lived experience into program design.
- Support capacity-building efforts that enable communities to participate meaningfully in decision-making.
- Ensure that partnerships prioritize equity and address disparities in exposure and access.

Proof Points and Emerging Models

Emerging models of collaboration, including the Global Commission, demonstrate the potential for coordinated action on IAQ. Regional cross-sector coalitions have brought together public health organizations, building-industry leaders and policymakers to align strategies and amplify impact. International networks focused on health and IAQ likewise show how knowledge sharing and coordinated advocacy can drive global change.

In the education sector, partnerships between school systems, public health agencies and community organizations have successfully implemented IAQ improvements, illustrating the value of sector-specific collaboration. These examples suggest that when partnerships are structured, inclusive and sustained, they can significantly enhance the effectiveness of IAQ interventions.

Illustrative Stakeholder Roadmap

Advancing IAQ through partnerships requires clearly defined roles and sustained engagement across stakeholders.

- **Governments** should convene and support multi-stakeholder platforms, enabling coordination and aligning policy, funding and implementation efforts.
- **Industry stakeholders** can contribute technical expertise, innovation and operational capacity, while participating in collaborative initiatives.
- **Academic and research institutions** should generate and disseminate knowledge, supporting evidence-based decision-making.
- **Healthcare institutions**, including healthcare professionals, serve as trusted voices to communicate the health importance of IAQ while helping ensure that efforts stay grounded in the best available scientific and public health evidence.
- **NGOs and civil society organizations** play a critical role in community engagement, advocacy and implementation support.
- **International organizations** can facilitate global coordination, knowledge exchange and capacity-building across regions.

Mapping Progress and Call to Action

The strength of partnerships and collaboration will be reflected in the extent to which stakeholders are aligned, engaged and working collectively to advance IAQ solutions. As collaboration becomes more structured and durable, it will enable more efficient use of resources, faster dissemination of knowledge and sustained impact.

Core indicators of progress should include:

- **Partnership Growth:** Increase in the number and scale of cross-sector partnerships and coalitions focused on IAQ.
- **Knowledge Exchange:** Expanded participation in global and regional knowledge-sharing platforms.
- **Collaborative Initiatives:** Growth in joint programs spanning research, policy and implementation.
- **Sector Engagement:** Increased coordination within key sectors such as education, healthcare and housing.
- **Equity Participation:** Greater inclusion of community-based organizations and underserved populations in partnership efforts.

Implementation, Monitoring and Evaluation

The Case for This Lever: Measuring What Matters

The success of any global framework ultimately depends not on the strength of its ideas, but on the consistency, scale and accountability of its implementation. In the case of indoor air quality, there is no shortage of evidence, technologies or policy pathways. Yet overall progress remains intermittent and difficult to measure. This section, Implementation, Monitoring and Evaluation, serves as the bridge between intention and outcome. This lever provides the foundation for accountability by helping the movement assess forward momentum, identify gaps and adjust strategies over time, ensuring that actions are contributing to shared goals and ambitions.

The Core Challenge: Measuring Progress Over Time

While momentum around indoor air quality is growing, change can seem opaque given difficulties in measuring outcomes across sectors and regions. Many of the strategies outlined throughout this Framework—from policy development and education to financing, technology deployment and public engagement—are advancing in parallel, but often without shared indicators, consistent reporting mechanisms or coordinated systems for evaluation.

As a result, it remains challenging to assess the extent to which these solutions are becoming embedded within institutions, professional practice, market expectations and public policy. Unlike climate change, where emissions reductions and adaptation benchmarks provide widely recognized indicators of success, IAQ encompasses a broader and more diverse set of outcomes, making progress and long-term impact inherently more difficult to assess. Advancing IAQ at scale will therefore require a shared commitment to measuring adoption and growth across multiple dimensions, learning from implementation and continuously refining strategies over time.



Strategic Priorities and Targeted Recommendations for Market Transformation

Establishing Shared Indicators of Progress

Creating meaningful accountability requires clear and consistent indicators that measure how IAQ is advancing across policy, markets, institutions and professional practice.

Recommended actions:

- Develop common but context-appropriate indicators to measure and assess progress across the key levers of market transformation, ensuring they remain practical and adaptable across different national contexts, data environments, levels of institutional capacity and market maturity.
- Track adoption of IAQ policies, standards, technologies, design approaches, research findings and operational practices across sectors and regions, particularly those aligned with the common indicators.
- Measure integration of IAQ into professional education, workforce training and credentialing systems.
- Monitor public awareness, market demand and investor interest related to healthy indoor environments.

Strengthening Monitoring, Reporting and Transparency

Transparent reporting systems are essential to evaluating impact, improving comparability and sustaining momentum.

Recommended actions:

- Encourage countries to identify an appropriate lead institution to coordinate implementation of national healthy indoor air actions, while recognizing that institutional arrangements will vary across countries.
- Promote standardized approaches for monitoring IAQ performance and related health outcomes.
- Support data-sharing frameworks that enable benchmarking and cross-sector learning.
- Align IAQ reporting with broader sustainability, resilience and public health reporting frameworks where possible.

Supporting Continuous Learning and Reevaluation

Implementation should be treated as an ongoing process of refinement, evaluation and improvement.

Recommended actions:

- Regularly evaluate the effectiveness of IAQ interventions, policies and implementation strategies.
- Capture lessons learned from leading practices, pilot programs and regional models.
- Establish feedback loops that allow stakeholders to refine strategies based on emerging evidence and outcomes.
- Share findings broadly to accelerate global learning and replication of successful approaches.

Indicators of Market Transformation

Across this movement, and across every lever of the Framework, the ultimate indicators of success remain straightforward: measurable progress, broader adoption and healthy indoor air for more people. In that sense, this Framework is also the checklist: its recommendations and core indicators offer a way to track and evaluate success.



Conclusion

“Indulge me in a modest experiment.
For the next few seconds try paying close attention to the
air escaping your body, as if this were your last living breath
on Earth. How much do you really know about this air?”

— Sam Kean⁸⁰

When it comes to people's health, every breath matters.

The overwhelming majority of breaths people take each day happens indoors. The quality of that air shapes their health, learning, productivity, resilience and quality of life. It influences whether children can learn to their full potential, whether workers can think clearly and perform at their best, whether older adults can age safely, whether people living with chronic disease can thrive and whether communities become healthier, more resilient and more prosperous.

When indoor air fails us, the consequences are deep and harmful, measured in preventable disease and premature death, diminished opportunity, widening inequities, reduced productivity, rising healthcare costs and, ultimately, unrealized human potential.

For too long, these consequences have been accepted as inevitable. They are not.

The challenge before us is no longer about understanding why healthy indoor air matters. It is about organizing ourselves to act with the urgency, coordination and ambition the evidence demands. What has too often been missing is the strategic alignment needed to connect these efforts in ways that reinforce one another. The opportunity has never been greater to create a flywheel of market transformation, unlocking a new era of healthier buildings and healthier people.

That is the purpose of this Global Framework for Action.

The recommendations presented across the Framework's nine interconnected levers of market transformation are intended to help governments, businesses, financial institutions, researchers, civil society and communities drive and institutionalize change. Guided by shared principles but adaptable to different national and local contexts, they offer a foundation upon which countries can build their own pathways, priorities and Blueprints for Action.

History shows that societies can fundamentally change expectations when science, leadership, markets and public demand align. Safe drinking water. Food safety. Building energy performance. Each became part of everyday life not through a single breakthrough, but through sustained collaboration, trusted institutions and collective action.

Healthy indoor air should follow that same path.

The measure of success for this Framework will not be the strategies and recommendations themselves, but whether they inspire action, influence decisions and mobilize the global community to ensure future generations grow up benefiting from healthy indoor air wherever they live, learn, work and heal.

That future is within reach.



IV. Footnotes

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