



Strengthening Synergies between Electromobility & Air Quality in Latin America

January 27th to 31st, 2025 | Bogota, Colombia | Compiled by: Alejandra Achury and Sandra Meneses

Introduction

The impact of air pollution on health represents the first environmental risk worldwide. In 2021, it was responsible for 8.1 million deaths, an increase compared to the 7 million recorded in previous studies (UN News 2024). In addition, air pollution disproportionately affects children under five, with more than 700,000 deaths in this age group in 2021. In regions such as Africa, Asia and Latin America, the infant mortality rate from air pollution is 100 times higher than in high-income countries (Health Effects Institute 2024).

Bad air quality is one of the main negative externalities of mobility and transport. The emissions from combustion engines, as well as non-exhaust and other factor related to transportation, contribute to the spread of multiple air pollutants and toxins that are harmful to human beings and animals. These emissions contribute both to air pollution and the increase of global temperatures.

Electric mobility has the potential to contribute to the reduction of emissions of air pollutants and the improvement of air quality in cities and provide other benefits. With this in mind, the electric mobility and air quality teams at WRI have decided to collaborate more closely to identify potential synergies between their areas of work. This integrated approach will enable us to more accurately report on the impacts of our efforts, particularly regarding access to public spaces, the influence on air quality, and overall accessibility to transit.

Funded by the WRI Ross Center, this project aims to develop an integrated approach between the electric mobility and air quality teams, using WRI Colombia as a model for other teams in the region. This approach will focus on capacity building to identify and secure funding opportunities for transport projects that incorporate new technologies, such as electric vehicles and include air quality analysis.

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This conference proceedings reflect the presentations and discussions of participants and do not necessarily represent the views of the World Resources Institute or other participating institutions.

Considering the work that WRI has been doing in Latin America over the past five years in these areas, and the leadership shown by Latin American cities in transport electrification, the retreat “Air Quality and the Decarbonization of Mobility: Development of an effective approach to reach the transition for people, nature, and climate” was organized to explore synergies between these two subjects and identify potential collaborative projects. The retreat took place in Bogota, Colombia, from January 27th to 31st, 2025.

One of the key outputs of this effort is the following conference proceeding that captures the retreat's findings and can also serve as a resource for developing comprehensive funding proposals across the region. This conference proceeding aims to document and synthesize the main results and agreements reached during the retreat, with the goal of strengthening collaboration between electromobility and air quality teams in Latin America.

This event included the participation of air quality and electromobility teams from Brazil, Colombia, and Mexico, as well as representatives from the global team (Appendix A). The retreat aimed to consolidate a space for strategic cooperation that enables the identification of key synergies and funding strategies to develop integrated projects in the region. Additionally, this document will serve as a roadmap for the implementation of coordinated strategies, optimizing the impact of initiatives on sustainable mobility and air quality improvement, contributing to cleaner and healthier urban development.

Methodology

The retreat was structured around a series of activities designed to foster the integration of electromobility and air quality teams in Latin America, with the goal of strengthening cooperation and defining joint strategies. Throughout the event (Appendix B), the hosts facilitated a series of activities to promote knowledge exchange, identification of opportunities, and the development of proposals and funding strategies for sustainable projects in the region.

The event had two different kinds of activities: 1) A series of workshops using design thinking methodologies and the Framing structure of WRI; and 2) A series of field visits and interchanging spaces to foster connections among members of the team.

Design thinking for finding thematic connections

As a starting point, the Global Directors of Air Quality and Electromobility presented an initial vision about the future of the teams and basic concepts about each of the fields. Subsequently each office presented an update on the work carried out both on electric mobility and air quality. A focus was made on the potential connections between subjects. These presentations enabled a comparative analysis of strategies and approaches used in the region, identifying best practices and areas for improvement that could be replicated or adapted to other contexts.

Using a design thinking methodology, a broad discussion was carried out to discuss and build a complementary vision for the work of both air quality and electric mobility teams. Several brainstorming and discussion sessions were held, organized around three key thematic topics.

- 1. The integration of electromobility and air quality in Latin America**, where participants developed a shared perspective establishing strategic priorities. The contribution from all participants is listed in Appendix C.
- 2. Project ideation**, which facilitated the generation of concrete proposals for joint initiatives, focusing on technical and financial feasibility. Three different teams were created in order to continue the structuring of these projects, identifying potential beneficiaries, costs, funders and possibilities of scalability.
- 3. Strengthening capacities**, evaluating the technical, institutional, and financial resources necessary for the effective implementation of the identified projects. This included a very detailed identification of current capacities in the network as much as identifying gaps in the teams.

Team building and field visits

As part of the activities, a tour to iconic projects relating to electromobility and air quality in Bogota was arranged.

The Green Movil depot has the biggest electric fleet in Latin America with 406 buses. During the visit, the participants had the opportunity to see the wellness spaces for staff, the operation center, and the hydrogen pilot that is being run. The general manager of Green Movil shared relevant information about the operation, infrastructure, and technology of the buses. Throughout the tour, the advances in the implementation of sustainable transport solutions were highlighted, along with the impact of future technologies. The advances in infrastructure and efficient management strategies demonstrate that the adoption of electric vehicles can be scalable and replicable in different contexts. However, it is essential to continue strengthening charging infrastructure network and promoting public policies that promote the transition to cleaner and more sustainable transport in Bogota.

The visit to the *Barrio Vital El Porvenir*, in the locality of Bosa, with the participation of Secretary of Mobility (*Secretaría Distrital de Movilidad -SDM-*), under the leadership of the *Barrios Vitales* group, showcased the progress and challenges of implementing tactical urbanism solutions in the area. The neighborhood's capacity to integrate urban design and enhance active mobility infrastructure was demonstrated, promoting accessible and sustainable spaces. During this visit, some results were shared, highlighting positive impacts on air quality, emissions reduction, and the community's wellbeing in terms of road safety and overall quality of life. However, its continued success will depend on coordination between the public sector, the community, and key stakeholders, as well as continuous monitoring of the established indicators to ensure the neighborhood's implementation in the next phases. The Secretary of Mobility in Bogota filmed and compile the visit on an Instagram video (*Secretaria de Movilidad 2025*).

This experience allowed the participants to observe first-hand the implementation of new technologies and policies, providing key insights for later discussions about funding and scalability of similar initiatives in Brazil and Mexico.

FIGURE 1 | Visit to Green Movil



Source: WRI Colombia.

Context

Relationship between air quality and electromobility

WRI positions itself as a pioneer in integrating two key strategies — electromobility and air quality — driving a collaborative framework that merges experiences, knowledge, and mechanisms to strengthen sustainable mobility in Latin America. By fostering connections across different sectors and countries (Colombia, Mexico, and Brazil), WRI promotes the development of strategic projects that leverage synergies between both areas, optimizing resources and ensuring a significant environmental and social impact.

Its leadership in developing strategies and innovative solutions around regulatory frameworks, financing, and technological development has helped consolidate successful experiences that serve as models for the region, accelerating the adoption of clean transportation technologies. Additionally, through the creation of dialogue and collaboration spaces, WRI promotes the formulation of joint strategies that enhance energy efficiency, innovation, and climate resilience. With this comprehensive vision, WRI not only strengthens environmental governance but also lays the foundation for a structural transformation that ensures cleaner air, more efficient mobility, long-term sustainable development and healthy communities.

Strategies

One Atmosphere Strategy

The Global strategy of WRI “One Atmosphere” aims to raise awareness about air quality and the need for specific, effective solutions at multiple levels of action: cities, national governments, and international bodies. Air pollution is a global challenge that requires coordinated, evidence-based interventions to reduce its health, environmental and climate impacts.

To address this issue, WRI’s strategy promotes key measures such as the implementation of low-emission zones, the adoption of electric vehicles, improvements in fuel efficiency, strengthened waste management, emission reductions from point sources in air basins, and the transition to clean and equitable energy. These actions not only aim to reduce local air pollution but also contribute to decarbonization and climate resilience in cities.

Through collaboration with governments, the private sector, and civil society, WRI One Atmosphere develops policies, financing mechanisms, and technologies to accelerate the implementation of these solutions. With a comprehensive, multisectoral approach, the strategy lays the groundwork for cleaner air, more livable cities, and a healthier, more sustainable future.

WRI One Atmosphere works to transform knowledge into action, driving concrete solutions to improve air quality and mitigate its health and climate impacts:

- **Focusing energy:** WRI collaborates with partners to generate and apply the latest science, data, and social and physical knowledge, strengthening the understanding of air pollution and accelerating the implementation of effective measures.
- **Reducing friction:** WRI promotes integrated governance approaches at all levels—from neighborhoods and cities to national and international institutions—advancing coordinated air quality management.
- **Accelerating solutions:** WRI translates knowledge into action by working with WRI sectoral teams and external partners to scale effective strategies in sustainable mobility, clean energy, and emissions control.
- **Integrating gender and social equity:** WRI addresses the differentiated impacts of air pollution on various population groups, ensuring that the benefits of clean air are distributed equitably and contribute to sustainable development.

Global E-Mobility Strategy

The transportation sector currently contributes 15 percent of global CO₂ emissions, with road transport being the largest source. WRI's e-mobility strategy envisions achieving net-zero greenhouse gas emissions in both on-road and off-road transportation by 2050 through the widespread adoption of zero-emission technologies that enhance quality of life for all. By transitioning to electric-powered vehicles, implementing sustainable battery recycling, and prioritizing renewable energy sources, global transport emissions will decline. To align with the evolving market dynamics and existing public policies, the team will focus on public and shared transport, freight, and two- and three-wheelers.

At the same time, this strategy aims to go beyond emissions and use the transformation of the transport sector to improve access to economic opportunities, address health and safety inequities, and ensure actions for a just transition. The strategy will focus:

- Just transition for users, operators, and workers across the supply chain is enabled by the electrification of transportation as an entry point.
- Improved access for people to places and goods.
- Reduced greenhouse gas emissions through the electrification of transportation and modal shift.
- Investment in renewable energy and electric infrastructure allowing for more secure, cost-effective, and sustainable energy in cities worldwide.

Air quality and mobility projects in Brazil, Colombia and Mexico

Brazil

The Brazil team has extensive experience in urban transport projects and air quality. One of its earliest initiatives was the FedEx Vehicles & Fuels project under EMBARQ, implemented between 2012 and 2014. This project estimated particulate matter and CO₂ emissions from different fuels such as compressed natural gas, catalysts, and filters in diesel and hybrid buses. At the same time, the team conducted an analysis of pollutant sensor technologies to assess PM₁₀ and NO_x levels following the implementation of Bus Rapid Transit (BRT) systems in Rio de Janeiro, Belo Horizonte, and São Paulo. More recently, the team has built on this expertise, applying new methodologies to estimate health impacts and economic costs. As part of the ImpactAr project, they evaluated the environmental, epidemiological, and economic impact of renewing urban bus fleets in Brazilian cities by replacing them with electric and Euro VI vehicles.

Beyond the transport sector, the team has also worked on air quality assessments in schools. One project focused on identifying and measuring PM_{2.5} concentrations inside and outside school buildings, aiming to raise awareness among children and parents about pollution sources affecting air quality around schools. Finally, leveraging their experience and knowledge, WRI Brasil published a report on the state of air quality in the country, highlighting health evidence, policy gaps, and barriers to advancing air pollution control measures.

Colombia

Electromobility projects in Colombia have been implemented before the establishment of the WRI Colombia office, with significant impact across multiple cities and strong collaboration with various stakeholders in the country. Through projects funded by U.K. Pact and led by WRI Mexico, technical assistance was provided to local governments in with support from local staff.

In the first phase, the environmental, epidemiological, and economic effects of electrifying the 379 buses acquired by TransMilenio (Bogota's BRT system) were estimated using the methodology previously implemented by the WRI Brazil team. Additionally, a study was conducted on personal exposure and noise levels along TransMilenio's electrified routes. In the second phase of U.K. Pact, a roadmap for

public transport electrification was developed for the cities of Monteria, Neiva, and Pasto. This roadmap incorporated results from a market study, route analysis, energy supply assessment, financial evaluation, and impact estimation on health and the environment.

Since the establishment of the WRI Colombia office, technical assistance to cities has continued under initiatives such as TUMI E-Bus Mission and Deep Dive Cities. During the early stages of TUMI E-Bus Mission, the team supported Barranquilla and Valledupar in developing a roadmap for public transport electrification, considering operational aspects, the electric bus market in the country, and the financial viability. Under the Deep Dive initiative, efforts were made to complement Barranquilla's support by coordinating and aligning public policies to advance electrification. Additionally, collaboration with the Metropolitan Area of Barranquilla was identified to assess the electrification of the collective transport system and further advance the city's electrification goals. Through these efforts, the WRI Colombia team has positioned itself as a key reference for electromobility topics among local governments, the Ministry of Transport, energy companies, operators, academia, and other relevant stakeholders.

Through the project Big Bet Bogota, the air quality team analyzed the impact of interventions in the Barrio Vital San Felipe on improving local air quality. By collecting specific data, the study evaluates the effectiveness of sustainable urban design and mobility strategies within the designated area, providing key insights for future actions in sustainable urban spaces.

FIGURE 2 | Field visit to Bogota's cable car system, TransMiCable



Source: WRI Colombia.

Mexico

The WRI Mexico team supported the implementation of U.K. Pact projects in Mexico and Colombia, as previously mentioned. More recently, in Mexico, the team has provided technical assistance to Metrobus, the regulatory authority of the BRT system in Mexico City, through the TUMI initiative, to develop an electrification plan for the BRT system. The strategic planning process considered route operations, cash flow estimation, environmental impact analysis, tool development, and capacity-building for the Metrobus team.

Additionally, the team has worked with the private sector on freight transport electrification under the Clean Fleets, Clean Cities project. As part of this initiative, collaboration with both government and private sector stakeholders aimed to align programs and public policies while fostering strategic partnerships. A pilot was developed in partnership with two leading companies in the sector, alongside workshops designed to strengthen team capabilities.

Results

Vision

During the initial discussions, the team proposed creating a vision for how electromobility and air quality should evolve by 2030. Each participant wrote their vision on sticky notes in a very general manner. Through this exercise, six key categories emerged (work team, roles, narrative, funding, case studies, and impact), highlighting the need for a regional, interdisciplinary, and comprehensive team; positioning WRI as a leading reference in Latin America for implementing electromobility and air quality solutions; developing a joint narrative that integrates both topics and attracts funding sources; and implementing comprehensive projects that improve citizens' quality of life, with a focus on children and vulnerable populations (see Appendix C).

These ideas were integrated to create the vision for WRI's air quality and electromobility teams in Latin America:

By 2030, the WRI Air Quality and E-Mobility team in Latin America will be a leading reference in integrating sustainable mobility and air quality improvement, generating environmental and social benefits across the region.

With a consolidated interdisciplinary network in Brazil, Mexico, and Colombia, we will drive the development of knowledge and innovative projects that respond to the needs of cities, documenting successful experiences and promoting effective public actions.

We will attract international funding and raise awareness among decision-makers to accelerate the decarbonization of public and freight transport, prioritizing the impact on the most vulnerable populations, especially children, pregnant individuals, and the elderly.

Project ideation for the region

The second exercise aimed to generate ideas for potential funding proposals. The team began by writing down workstreams they would like to develop, considering thematic and interdisciplinary integration to drive regional impact by 2030. The preliminary workstreams identified included projects in school environments integrating children's health and road safety, the development of tools and methodologies to demonstrate the impacts of electromobility and air quality for decision-makers, freight transport, health impact analysis, climate and black carbon markets, and the identification of projects in specific locations or events, such as the 2026 World Cup.

A voting process was then conducted to select the three most relevant projects, and diverse groups were formed across topics and countries to develop a proposal and technical brief for funders (summary of the project files can be found in Appendix D).

Healthy and sustainable path to school

Through sustainable mobility strategies and the creation of healthy and safe environments, this project aims to reduce exposure to pollutants in school environments leading to improvements in children's health within intermediate size cities. It proposes a comprehensive approach applicable in different contexts depending on the available time and resources. A diagnosis and analysis of pollution sources and mobility patterns will be conducted to determine a roadmap for prioritizing key strategies. Additionally, training workshops and communication campaigns will be implemented to raise awareness among the school community and parents about the health impacts of poor air quality, promote sustainable mobility, and improve road safety.

QueTanLimpioEsTuAire.com (*HowCleanIsYourAir.com*) - Regional platform for a clean atmosphere and transportation

Developing a regional calculator will enable the assessment of health impacts — and eventually effects on sensitive ecosystems — resulting from the implementation of low- or zero-emission fleets in Latin American cities. This project aims to provide financial authorities and decision-makers with accurate information to compare the health and environmental benefits of zero-emission technologies against the cost of inaction. The tool will model estimates of pollutants such as black carbon, PM_{2.5}, PM₁₀, and methane, assess health impacts with a focus on vulnerable populations, estimate the economic costs of air pollution and climate change externalities, and calculate the costs of implementing zero-emission fleets.

Fleets in Transition

To improve the health and quality of life for populations in areas and routes impacted by freight transport, this project seeks to implement pilot initiatives using zero-emission technologies in logistics company fleets. It will incorporate comprehensive financing strategies, public policy promotion, and technological innovation.

Skills and capacities of the region and WRI

During initial discussions on project experiences and funding proposals, the value of leveraging WRI's global network and the objectives of the OneWRI, an institutional approach that seeks to integrate WRI's mission, values, frameworks and standards throughout all offices and teams. In cases where the local team lacks specific expertise or the proposal's resources are insufficient to include additional technical staff, global experts can serve as advisors or references to strengthen WRI's value proposition. As a result, the final exercise focused on identifying capacities within the mobility and air quality teams in the region and across the network, particularly in cases where a local expert is not available. Cross-cutting teams — such as climate, economics and finance, urban development, communications, equity, and development — were also identified as key contributors to project implementation.

FIGURE 3 | Guided Visit to Vital Neighborhood Bosa El Porvenir



Source: WRI Colombia.

Conclusions

The retreat enabled the electromobility and air quality teams to form a highly collaborative, interdisciplinary group. This integration strengthens strategic decision-making and drives innovative solutions for sustainable mobility. The team is defined by its analytical approach, commitment to innovation, equity, and resilience, and a 2030 vision focused on delivering environmental and socio-economic benefits across the region.

The retreat provided a crucial space to identify regional opportunities and funding challenges, facilitating discussions, strategic connections, and knowledge exchange. A clear vision for the future of the team was developed, aiming to strengthen integrated projects across Latin America. This exercise helped assess WRI's current position and define viable, scalable initiatives for future funding. The development of project briefs will align the strategic vision with adaptable initiatives, strengthening the funding strategy with a particular focus on Latin America.

As a result, strong foundations were established to drive funding proposals for electromobility technologies, promoting a more efficient and accessible transport model. These efforts will not only reduce pollutant emissions but also improve urban air quality.

Next Steps

- Identify and engage key internal and external stakeholders, including strategic partners, to establish projects that improve urban air quality by reducing atmospheric pollutants and minimizing people's exposure to these contaminants.
- Implement a virtual collaboration tool, such as Microsoft Teams, to keep the electric mobility and air quality teams connected and integrated. This platform would allow the creation of thematic channels for each project, real-time document sharing via a cloud-based shared drive, and task management using WRI's Asana platform.
- Consolidate a joint narrative that integrates electric mobility and air quality, positioning WRI as a regional leader in project implementation.
- Launch pilot projects in mid-sized cities or specific urban areas across the region, such as school environments, just transition programs for the adoption of two- and three-wheeled vehicles, and freight transport routes, to demonstrate the benefits of electric mobility and its impact on air quality.
- Establish monitoring and evaluation systems to measure the impact of implemented projects, ensuring best practices are documented and replicated by WRI teams in other contexts.

Appendix

APPENDIX A | Participants

TABLE A-1 | **Retreat Participants**

NAME	ROLE	WRI OFFICE
Beatriz Cárdenas	Global Director of Air Quality	WRI Global
Cristina Albuquerque	Global Director of Electromobility	WRI Global
Angelica Mazorra	Technical Manager	WRI México
Ana Cecilia Perales	Air Quality Coordinator	WRI México
Magdala Arioli	Transport Decarbonization Manager	WRI Brazil
Paula Manoela dos Santos	Senior Manager of Mobility	WRI Brazil
Daniel Cano	Senior Manager	WRI Colombia
Rafael Muñoz	Transport Specialist	WRI Colombia
Alejandra Achury	Technical Analyst	WRI Colombia
Sandra Meneses	Air Quality Coordinator	WRI Colombia

Source: WRI Colombia.

APPENDIX B | Agenda

TABLE B-1 | **Retreat Agenda**

MONDAY, JANUARY 27 TH		
Time	Activity	Objective
8:00 a.m.	Departure to a cable visit Ciudad Bolívar	To learn about different urban initiatives of the city through visits.
10:00 a.m. – 1:00 p.m.	Visit to Transmicable in Ciudad Bolívar, Museum of the Self-Built City and Coffee Museum.	
1:00 p.m. – 2:00 p.m.	Lunch	
3:30 p.m. – 5:00 p.m.	Initial reception at the WRI Colombia office	To welcome participants, offer formal greetings, and create a comfortable atmosphere through an introductory icebreaker.
5:00 p.m. – 7:00 p.m.	Conversations on the terrace	
7:00 p.m.	Welcome Dinner	
TUESDAY, JANUARY 28 TH		
Time	Activity	Objective
8:00 a.m. – 9:00 a.m.	CAF & C40 BREAKFAST – WRI Colombia team, Beatriz Cardenas and Cristina Albuquerque participated	To build relationships and strengthen collaboration with the Clean Air Fund and C40 teams, with a view toward potential Breathe Cities projects in Colombia.
9:00 a.m. – 10:30 a.m.	Electromobility and Air Quality 101	Presentation of key issues to understand both disciplines, identify their points of interaction, and explore potential areas of collaboration.
10:30 a.m. -11:00 a.m.	Coffee break	
11:00 a.m. -12:30 p.m.	Presentation of work from the different offices	To compile the various experiences from the offices in each area, present key projects, and review relevant literature on electromobility and air quality.

12:30 p.m. – 2:00 p.m.	Lunch	
2:00 p.m. – 3:45 p.m.	Team Diagnostic	To identify the factors that have led to collaboration on certain projects and separation on others, define priority areas of expertise, and highlight key specialists across teams.
3:45 p.m. – 4:00 p.m.	Coffee break	
4:00 p.m. – 5:30 p.m.	Workshop: Framing the Opportunity on Electromobility and Air Quality	To envision effective project structuring approaches and explore pathways to enhance regional integration.
7:00 p.m.	Dinner	
WEDNESDAY, JANUARY 29TH		
Time	Activity	Objective
9:00 a.m. – 11:00 a.m.	Visit to the Green Movil bus depot	Visit the Green Móvil workshop and yard, one of the largest electric bus depots in Latin America, currently piloting a hydrogen bus.
11:00 a.m. – 1:00 p.m.	Field visit to Barrio Vital Bosa El Porvenir	The vital neighborhood of <i>Bosa El Porvenir</i> is a project that seeks to improve air quality and the quality of urban environments, focusing on highly polluted areas of Bogota.
1:00 p.m. – 2:30 p.m.	Lunch	
3:30 p.m. – 5:30 p.m.	Identification of technical capabilities and potentialities of the different teams	Have a clear mapping of the training, experiences and strengths of the different teams as well as the mechanisms to work together between offices and teams. Identification of shortcomings.
7:00 -	Dinner	
THURSDAY, JANUARY 30TH		
Time	Activity	Objective
9:00 a.m. – 10:30 a.m.	WRI global meeting - Stories to Watch	
10:30 a.m. – 11:00 a.m.	Coffee break	
11:00 a.m. – 12:30 p.m.	Fundraising Workshop	Analyze the funding efforts we have been making as well as the strategies we have carried out
12:30 p.m. – 2:00 p.m.	Lunch	
2:00 p.m. - 3:45 p.m.	Project worksheet preparation workshop	Formulate ideas of potential projects that allow us to work collaboratively between the two themes.
3:45 p.m. – 4:00 p.m.	Coffee break	
4:00 p.m. – 6:00 p.m.	Project worksheet preparation workshop	Structure ideas into concepts of potential projects that allow us to work collaboratively between the two themes.
7:00 p.m.	Dinner	
FRIDAY, JANUARY 31ST		
Time	Activity	Objective
9:00 a.m. – 10:30 a.m.	Presentations of potential projects	Present potential projects that can foster collaboration across the two thematic areas and regions.
10:30 a.m. – 11:00 a.m.	Coffee break	
11:00 a.m. – 12:30 p.m.	Closing retreat, closing words.	Finish the retreat work, generate conclusions and next steps

Source: WRI Colombia.

TABLE C-1 | **Inputs from Vision Ideation Workshop**

#	Topic	Key points
1	Team	<ul style="list-style-type: none"> ▪ To be an integrated and recognized team in the field of air quality in Latin America ▪ Generate a knowledge base across offices to enable interdisciplinary projects in each office ▪ Have an interdisciplinary team supported by all the capacities in each office ▪ Create a consolidated working team for the region that integrates actions on air quality and electric mobility ▪ Strengthen capacities, engage cities by listening to their needs, and avoid creating additional problems
2	WRI Role	<ul style="list-style-type: none"> ▪ Position Latin America as an example on the topic within WRI's global network ▪ Play a leading role in air quality improvement solutions in Latin America ▪ Be pioneers and at the forefront of joint action on electric mobility and air quality ▪ Facilitate, support, replicate, and document experiences of the transition to electric mobility
3	Narrative	<ul style="list-style-type: none"> ▪ A broad vision of the effects of mobility on the environment and health ▪ Understand the particularities of Latin America in terms of air quality challenges and mobility solutions ▪ Have a narrative that combines the problem (air quality) with the solutions cities can implement (mobility-related) ▪ Focus actions on population groups most affected by air pollution
4	Funding	<ul style="list-style-type: none"> ▪ Bring donor attention to air quality issues in Latin America ▪ Obtain international funding for cities
5	Focus	<ul style="list-style-type: none"> ▪ Interdisciplinary projects in Colombia, Mexico, and Brazil with impact on people, leveraging the expertise of different offices ▪ Develop projects with a participatory focus that generate air quality improvements based on studies of the benefits of electric mobility ▪ Convince decision-makers to take action to improve air quality ▪ Work to create success stories of air quality improvement in cities ▪ Lead the development and implementation of low-carbon technology in public transport and freight, improving quality of life, especially for vulnerable populations (children, the elderly, and pregnant women) ▪ Support small and medium-sized cities to purchase electric buses
6	Impact	<ul style="list-style-type: none"> ▪ Development of national markets around electric mobility and emissions reduction, taking into account energy security ▪ Improved quality of life ▪ Significant increase in electric mobility ▪ Reduction in the share of transport in cities' global emissions

Source: WRI Colombia.

FIGURE C-2 | Project Ideation



Source: WRI Colombia.

TABLE C-2 | Project Ideation

SCHOOLS	TOOLS
<ul style="list-style-type: none"> ▪ School environments with a focus on road safety, city blocks, air quality. ▪ Benefits for children due to school electromobility at the neighborhood level, in cities with a focus on road safety, clean air, noise, mental health. ▪ Projects around schools and access with electricity. ▪ Work for the decarbonization of school fleets in cities with public fleet and monitoring stations in schools ▪ School routes in intermediate cities. <ul style="list-style-type: none"> ▫ Operation ▫ Congestion and environmental benefits and costs ▫ Emphasis on Childhood ▪ Collective transport attacking inequalities and exposure and exposure time. ▪ Children's health projects focused on improving air quality through pacification and electrification. ▪ Reloaded urban safari where it is recognized that makes your air unclean and measures change. ▪ Development of monitors in schools to measure PM₁₀ and PM_{2.5} with campaigns. ▪ To make schools, parents and government aware of the need for sustainable mobility. ▪ Route Measurement Inventory + Perception. ▪ Plans to reduce pollutants on the routes: removing stations, electromobility, road safety intervention. ▪ Working with schools to identify children's routes. ▪ Analysis of contaminants in key routes, hospitals, clinics, elderly population. ▪ University school transport, clean, comfortable and safe. Partnering with universities. 	<ul style="list-style-type: none"> ▪ Communities from the transition to electromobility and electrification of motos in Teotitlán del Valle. ▪ Development of tools for estimating impacts in air by electromobility. ▪ Development of resources and tools for their massification among citizens and governments. ▪ Couple VE studies, health impacts with pollutants. ▪ Construction of health impact scenarios for electromobility. ▪ Layer map. ▪ Methodology for measuring baseline and exposition of urban transformation projects: <ol style="list-style-type: none"> 1. Conveyor system 2. Complete streets 3. Zones 0 emissions ▪ Financial and Economic Analysis, Total Cost of Ownership, and Air Quality Health Benefit Savings ▪ Prioritization of interventions in air, transport and impacted differential population. ▪ Promotion of electric freight transport, strategic applications and estimates of social benefits due to reduced exposure. ▪ Robust tools for comprehensive emissions inventories in the transport sector as a way to position electromobility as a better option. ▪ Technical support for the inclusion of public transport policies that consider air quality criteria, such as sources, exposure, among others. ▪ Working groups or regular committees within a program between banks, NGOs, governments for the co-creation of new financing instruments. ▪ Regional status (ebus radar) of the impact of electrification on exposure in transport. ▪ Regional Inventory of Health Impacts of Poor Air Quality, Particularly in Children. ▪ Inventory of just transitions for electromobility and air quality risks.
HEALTH	POTENTIAL LOCATIONS
<ul style="list-style-type: none"> ▪ Involve the health sector or insurers to quantify costs and relate them to banking, governments – economic impacts. ▪ Virtuous chains with electric mobility to reduce greenhouse gases + air pollutants: Air, CO₂, Economic, Profit Accounting. ▪ Transportation Equity Analysis and Pollutant Exposure. ▪ Charging stations vs. Gas stations and the benefits in clean air, climate and protection (theoretical and or measurement). ▪ Guidelines for planning and construction of charging stations. ▪ Impact analysis of motorcycles, cycle-motors, and electric motorcycles on air quality. ▪ Identify mechanisms for public policy on poor air quality in labor risks for transport companies. 	<ul style="list-style-type: none"> ▪ Enterprise Platform for Charging Electromobility. ▪ Electromobility and clean air in hotels. ▪ World cup 2026 – improving air quality, contributing to combating climate change and clean and safe mobility. ▪ Electrification by clean air in vital neighborhoods: inclusion of impact indicators for electromobility. ▪ Evaluation of personal exposure to workers and passengers of Greenmovil buses. ▪ Preparation of a roadmap for the promotion of zero and low emission transport technologies in Central America.

FREIGHT TRANSPORT

- Enter the Environmental, Social, and Governance (ESG) agenda of the corporate world with metrics of minimum emissions from freight transport and joint air quality actions.
- Reduction of black carbon in the supply chain in the beverage industry, steel, flowers, and others.
- Support and coordination in the production of vehicles with impact assessments.
- Street Design.
- Transport Cutters.
- Getting involved in large logistics sectors – Amazon, Mercado Libre.
- Study of air quality in communities around large logistics hubs.
- Constant technological innovation throughout the life cycle – being at the forefront.

COMMUNICATIONS

- Data, communication, engagement: you recognize that you have dirty air and the causes.
- Technical communication products for engagement, training.
- Pollutant dynamics.
- EV and Air Quality Video Development.
- WRI included in the Latin American electromobility network, ministry desk, relationship.
- Preparation of a roadmap for the promotion of zero and low emission transport technologies in Central America.
- Clean air and electromobility infographics – strategic or innovation fund.

CLIMATE MARKETS

- Guidelines for a black carbon emission program in the construction sector.
- Electric charging and black carbon as part of National Determined Contributions (NDC) actions.
- Black carbon market for electromobility in cities – quantification of benefits in air, climate, productivity for project financing.

Source: WRI Colombia based on workshop outputs.

FIGURE C-3 | Capacity Assessment Workshop



Source: WRI Colombia.

TABLE C-3 | Capacity Assessment of WRI Teams

INTEGRATED MOBILITY	
E-mobility <ul style="list-style-type: none"> ▪ Financial modeling (TCO) ▪ Business models ▪ Operational models ▪ Energy systems: <ul style="list-style-type: none"> • Charging infrastructure • Transmission networks • Policies ▪ Batteries 	Transport planning <ul style="list-style-type: none"> ▪ Routes ▪ Accessibility
Road safety	Active mobility
AIR QUALITY	
Inventories: <ul style="list-style-type: none"> ▪ Greenhouse gases (GHG) ▪ Black carbon ▪ Criteria pollutants 	Exposure models <ul style="list-style-type: none"> ▪ Chemical ▪ Health ▪ Design and analysis
Impact indicators to monitor and evaluate policies and interventions	Participatory science
Estimates of environmental and health impacts in terms of emissions and exposure	Recommendations to maximize benefits, e.g., combining electromobility with LEZ urban policies
Air quality forecast	Satellite images
Community of Practice	Monitoring and evaluation
CORE TEAMS	
Climate finance and energy	Equity
Urban development	Communications
Development	Research

Source: WRI Colombia based on workshop outputs.

APPENDIX D | Overview of developed proposals

TABLE D-1 | **Healthy and Sustainable Path to School**

Durations (months)	Minimum 24 months (Depending on location)
Problem statement	<p>Prolonged exposure to air pollutants affects children's health, increasing the risk of respiratory illnesses and other health problems. Children are particularly exposed to pollutants emitted by vehicles and airborne particles due to their shorter height and higher respiratory rate. Additionally, their lungs, brains, and immune systems are still developing, making them especially vulnerable, particularly those between 0 and 6 years of age. Air pollution, especially fine particulate matter (PM_{2.5} and PM₁₀), is linked to an increase in asthma, allergies, and impacts on learning and cognition (World Health Organization 2016). Studies have also associated exposure to pollution with illnesses such as cancer, otitis media, sickle cell anemia, respiratory infections, obesity, atopic dermatitis, pneumonia, autism, and rheumatological diseases. It also negatively affects academic performance and children's cognitive development (Simoni et. Al 2021). Children are more susceptible to these effects because they spend more time outdoors and breathe proportionally more air than adults. Therefore, air quality in school environments is a key factor for their well-being and development.</p>
Objectives	<p>Reduce exposure to pollutants in school environments through the design of sustainable mobility strategies and safe and healthy environments improving the health of children.</p>
Summary of the project	<p>The project aims to improve the air quality in school environments in medium-size cities in Brazil, Colombia, and Mexico, directly benefiting children, one of the most vulnerable populations to pollution. The project will be implemented through an integral approach divided into five stages: diagnostic, analysis, capacity building, communications and community engagement, and implementation. Data will be collected on mobility and air quality around schools, identifying pollution sources and risks along school routes. The school community will receive training on sustainable mobility and air quality, encouraging behavior change. Campaigns will also be implemented to improve road safety and reduce pollution around schools. Finally, in collaboration with each school, an action plan will be developed with concrete, quickly implementable solutions. In collaboration with schools, an action plan will be developed with concrete solutions and easy implementation. This project aligns with WRI strategy by tackling the connection between air quality, sustainable mobility, and climate change, promoting a safe and healthy environment for children and generating positive impacts on the community and environment.</p>
Potential partners	<p>Public entities, private sector stakeholders, and educational institutions.</p>
Equity considerations	<p>The project integrates a Gender Equality, Diversity, and Social Inclusion (GEDSI) approach throughout all phases—from diagnosis to the design and implementation of solutions. Recognizing that children, caregivers, people with disabilities, and marginalized communities experience road safety risks and exposure to pollutants in different ways, the project includes a series of affirmative actions and inclusive methodologies to promote their empowerment and ensure meaningful transformation.</p> <p>Key measures include:</p> <ul style="list-style-type: none"> ▪ Participatory diagnostics with an intersectional approach, collecting disaggregated data by gender, age, and disability status to highlight differentiated mobility patterns, perceptions of safety, and levels of exposure to pollutants. ▪ Co-creation workshops involving active participation of girls, women caregivers, and people with disabilities to ensure that action plans reflect their lived experiences and specific needs. ▪ Design of road infrastructure interventions based on universal accessibility and gender-sensitive criteria, such as safe crossings, improved sidewalks for people with reduced mobility, and school routes that consider the paths used by young children accompanied by older adults or caregivers. ▪ Educational campaigns tailored to diverse audiences, including materials specifically aimed at women caregivers and teachers, as well as visual and interactive strategies for children and people with low literacy levels. ▪ Capacity-building for inclusive community leadership, encouraging women, youth, and other underrepresented groups to lead advocacy efforts in their school communities.

Source: WRI team.

TABLE D-2 | **Regional platform for a clean transport and atmosphere**

Durations (months)	18 months + 18 months of potential extension for platform operation
Problem statement	Currently, multiple tools have been developed to compare the impacts of electrification progress and to model different scenarios related to climate change improvements. However, the health impacts of transport electrification and their effect on improving people's quality of life have not been adequately included in the conversation. Therefore, it is recommended to establish a mechanism that allows for the analysis of the health impacts associated with air quality.
Objectives	A regional calculator to assess the health impacts of implementing low- to zero-emission vehicles in public transport and freight fleets across Latin American cities. The tool focuses on key pollutants such as black carbon, PM _{2.5} , PM ₁₀ , methane, and others, while also considering noise pollution and the effects on ecosystem health.
Summary	In collaboration with local, national, and regional governments, as well as academic institutions, this project aims to develop a tool that enables the evaluation of the health impacts (and eventually the effects on sensitive ecosystems) of implementing low- and zero-emission vehicle fleets. The tool will allow users to compare the current state of public transport and freight fleets across different cities and to model scenarios based on technological shifts. By supporting comparisons and forecasting, the tool will facilitate informed decision-making, and the monitoring of implementation impacts over time. It will include data visualizations that highlight the urgency of addressing climate and health issues, as well as the opportunity costs of inaction. Additionally, the tool will help visualize the impacts on vulnerable populations, including children, pregnant individuals, the elderly, and people with compromised immune systems.
Potential Partners	<ul style="list-style-type: none"> ▪ Universities ▪ Health institutes ▪ Public entities within local and national governments
Equity considerations	The calculator aims to highlight the health impacts of poor air quality, as well as the benefits of technological change, with a focus on vulnerable populations such as children, pregnant individuals, the elderly, and people with illnesses. It also allows for the identification of how the geographic distribution of polluting vehicles can disproportionately affect people of different ethnicities, races, or socioeconomic backgrounds.

Source: WRI team.

TABLE D-3 | Fleets In-Transitions

Durations (months)	36 months
Objective	Reduce greenhouse gas emissions and air pollutants associated with freight transportation by advancing the decarbonization of urban freight systems. The goal is to improve the health and quality of life of populations living along freight corridors and within areas of influence.
Summary	The objective of the project is to accelerate the decarbonization and reduction of pollution from freight transport in urban areas, thereby decreasing greenhouse gas emissions and harmful pollutants. To achieve this, the project will promote pilot initiatives featuring zero-emission technologies for freight transport, alongside the development of public policies that enable a transition to clean and sustainable logistics systems. The initiative aims to generate positive impacts on the health and quality of life of communities located along freight corridors. Through integrated strategies that include financing mechanisms, regulatory frameworks, and technological innovation, the project will foster a sustainable mobility ecosystem for the logistics sector.
Potential partners or stakeholders	<ul style="list-style-type: none"> ▪ Private sector ▪ C40 ▪ ICCT ▪ World Business Council for Sustainable Development ▪ Automotive associations ▪ Sustainable mobility associations ▪ Science Based Targets initiative ▪ Universities for the installation of low-cost sensors ▪ Public entities
Equity considerations	The project will incorporate a gender and social inclusion strategy to ensure that the benefits of the transition to clean freight transport are accessible to everyone, especially vulnerable communities and sectors. It will also prioritize the inclusion of low-income communities in the design of policies and project actions, ensuring that pollution reduction directly benefits those living in areas with the highest exposure to emissions. In this way, the project will contribute not only to environmental sustainability but also to social equity and environmental justice.

Source: WRI team.

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ABOUT WRI

World Resources Institute works to improve people's lives, protect and restore nature, and stabilize the climate. As an independent research organization, we leverage our data, expertise, and global reach to influence policy and catalyze change across systems like food, land and water; energy; and cities. Our 2,000+ staff work on the ground in more than a dozen focus countries and with partners in over 50 nations.





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