



# Latin America for Climate Change Education

## **PROJECT OUTCOMES**

2020-2024



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Eva Perrier-Ponsin, Office for Climate Education



## CONTENT

Foreword.....	3
The Genesis of the ALEC Project.....	4
Strategic Objectives.....	6
Results and Achievements.....	9
Key Figures.....	13
Expansion.....	14
Perspectives.....	15

# FOREWORD

by Natalie Nicetto, Project Manager, and David Wilgenbus, Executive Director, Office for Climate Education

## ALEC, A PIONEERING PROJECT IN LATIN AMERICA

This report outlines the results and achievements of the *América Latina para la Educación Climática* (ALEC) project, coordinated by the Office for Climate Education (OCE) from 2020 to 2024. Launched with the goal of enhancing climate change education in Latin America, starting with a pilot phase in Mexico and Colombia, the project has effectively addressed critical needs for quality climate education by:

- **Equipping Teachers:** Provided around six thousand of educators with the necessary scientific knowledge and pedagogical tools to confidently and effectively address climate change in their classrooms.
- **Empowering Younger Generations:** Equipped young individuals with the essential knowledge and skills required to navigate and address the challenges posed by a changing climate, fostering an action- and solution-oriented generation.
- **Integrating Climate Change into Educational Curricula:** Laid the foundation for integrating climate change as a core component of educational programs.

We extend our gratitude to our Colombian and Mexican operational partners—Stem-Academia, Universidad del Rosario, Fondo Acción, Innovec, Eco-Schools Mexico, and Centro Mario Molina. Their collaboration has been an invaluable source of motivation and inspiration.

Our heartfelt thanks also go to our institutional supporters, including the French Development Agency (AFD), the French Ministry of Energy Transition, the Colombian Ministry of Education, Siemens Stiftung, and local education secretariats, whose unwavering support has been crucial to our achievements.

Looking ahead, we outline the future trajectory and planned steps for the ALEC project, building on its results and lessons learned to implement similar initiatives in other regions of the world, such as Africa and Asia.

We hope this report provides valuable insights and remains at your disposal for any further questions or discussions.



## THE GENESIS OF THE ALEC PROJECT

In 2018, a significant disparity was evident between the aspirations for and the realities of climate change education across the globe. While international frameworks such as the UN Framework Convention on Climate Change (UNFCCC) and the Paris Agreement called for robust Action for Climate Empowerment (ACE), efforts remained largely concentrated on enhancing public awareness rather than integrating climate change education into formal school curricula.

A UNESCO survey highlighted this gap:



while **95%** of teachers acknowledged the importance of educating students about climate change



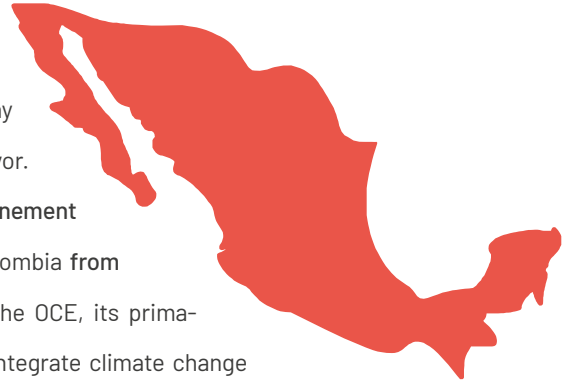
less than **30%** felt equipped to tackle the subject effectively.

Responding to this critical need, the ALEC project was initiated to foster a transformative educational shift. By adopting a regional strategy that aligns with specific environmental challenges and local contexts, the project aims to cultivate a generation that is more empowered and climate-conscious.

## A Pioneering Initiative

The ALEC pilot project stands as a pioneering initiative launched by the Office for Climate Education (OCE), marking its first foray into a targeted and impactful climate change education endeavor.

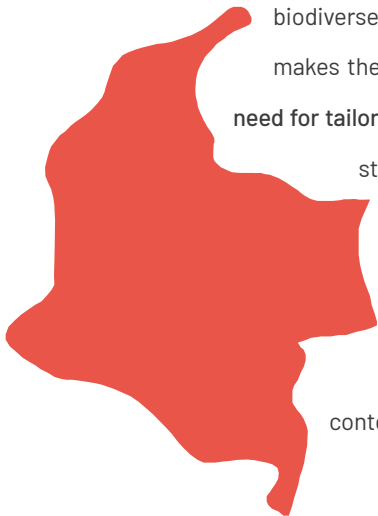
With the financial backing of the Fonds Français pour l'Environnement Mondial (FFEM), the project has been operational in Mexico and Colombia from 2020 to 2024. Aligning seamlessly with the broader objective of the OCE, its primary aim is to: **empower primary and secondary school teachers** to integrate climate change concepts and issues into their classrooms, as well as **provide policy support** to national education systems.

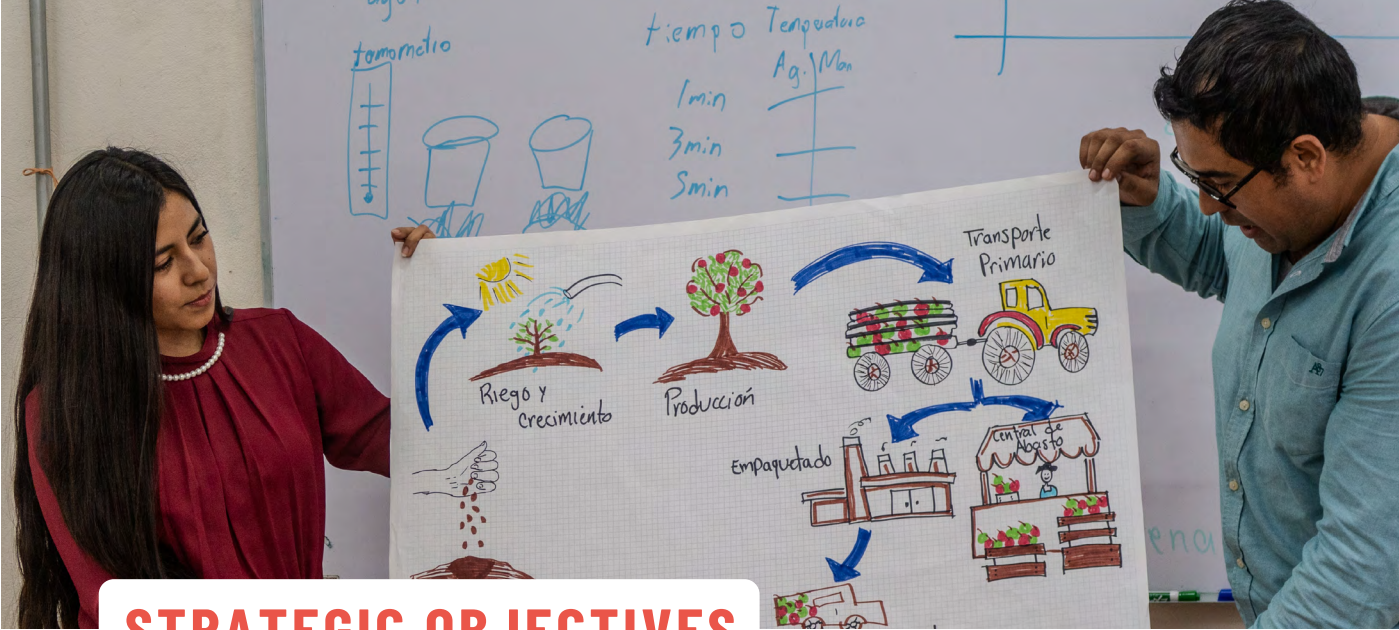


## Mexico and Colombia

Mexico and Colombia were chosen as focal countries because of their distinct environmental, socio-economic, and educational contexts. Both countries are facing severe consequences from climate change, especially in their vital sectors such as agricultural, underscoring the need for targeted educational interventions. As two of the most

biodiverse nations in the world, their rich diversity of ecosystems and geographical features makes them highly vulnerable to a wide range of climate-related challenges, highlighting the **need for tailored climate education in these regions**. Educationally, Mexico operates under a highly structured national curriculum, whereas Colombia benefits from greater flexibility in its educational methodologies. Despite these differences, both countries face similar challenges in integrating Climate Change Education (CCE) into their curricula and lack adequate training programs for teachers in this crucial area. This strategic selection sought to address these gaps by leveraging the unique educational contexts of each country to **pioneer innovative and effective climate education initiatives**.





## STRATEGIC OBJECTIVES

The ALEC project is committed **to enhancing climate change education** among primary and secondary school students in Latin America to foster behavioral shifts towards ecological transition. Since its inception in 2020, the pilot phase has been operating in **Mexico and Colombia**, with plans to broaden its reach across the region. The ALEC project adopts **a comprehensive, systemic approach** to climate education implementation

by providing teachers with evidence-based educational resources and professional development, fostering communities of practice, supporting local school projects, and involving both institutions and NGOs. Through this strategy, ALEC aims **to achieve effective, large-scale, and sustainable integration and dissemination of climate education** within Latin American school systems.



**Production and dissemination of free, interdisciplinary educational resources**, based on IPCC reports and adapted to local contexts, for teachers, students, and trainers.

**4 COMPONENTS**



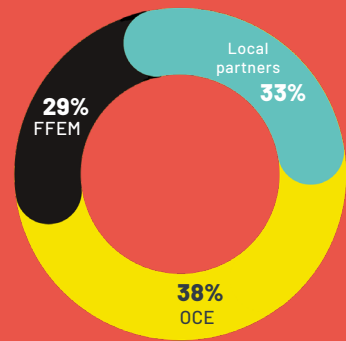
**Fostering of communities of practice** to promote peer-to-peer learning and the exchange of best practices among educators, scientists, decision-makers, and NGOs.



**Monitoring and evaluation** to track progress and develop strategies for growth in other regions.



**Professional development of teachers and trainers** through face-to-face and online training, enhancing climate literacy and active pedagogies such as inquiry-based and project-based learning. These trainings are followed by field visits and support for local student-led projects focused on climate adaptation and mitigation.



The project is supported by a total investment of **4 million euros**, with 28% contributed by the French Facility for Global Environment (FFEM), marking its first venture into educational projects. The remaining funds are secured through contributions from local public and private partners in Mexico and Colombia, as well as from the Office for Climate Education (OCE).



“It has been a very enriching experience in the sense that, initially, we expected only natural science teachers to be interested in the topic. Yet, upon examining the teachers who have been participating in the training, we found elementary school teachers and educators from other fields besides natural sciences. This shows the interest and relevance of climate change topics in education today and their importance for teacher training.”

**YESENIA QUICENO SERNA,**  
 Coordinator of the Natural Sciences and Environmental Education  
 Network at the Government of Antioquia, Colombia.



"We recommend starting with small actions. No action is too small for a big cause. Everything is possible, and everyone can contribute. We are genuinely committed to seeing it through, not just leaving it unfinished. This benefits our country, our planet, and us. After all, we will be the ones living in the future world, along with our children."

## **STUDENTS**

of the Ignacio Manuel Altamirano Technical High School  
in Presa Brockman, Municipality of El Oro, Mexico.



"The students share what they've learned with their siblings, parents, and grandparents, who are often the most hesitant. Despite this, the students remain dedicated to convincing them and raising awareness about the urgent and pressing issue of climate change."

**YEHIMI LIZETH GASPAS GASPAS,**  
Science teacher at Benito Juárez García School  
in Boquilla de Abajo, Cañitas de Felipe Pescador, Zacatecas, Mexico.





# RESULTS AND ACHIEVEMENTS

## RESOURCES PRODUCTION

Over the past five years, the OCE has developed a range of open educational resources in Spanish, based on the latest IPCC reports. **Some of these resources have been adapted by project partners to suit their specific educational and climatic contexts, while new resources have also been developed to address emerging needs.**

Adaptations include modifying lessons to better align with local curricula, substituting experimental materials that are unavailable in rural or disadvantaged schools, and incorporating local examples and case

studies into the educational content. **This approach enhances student engagement**, as they are more motivated when exploring their own environment before generalizing to a global phenomenon that may seem less relevant to them. The newly adapted resources are meticulously reviewed by scientists and pedagogical experts and tested in local schools before final publication and dissemination.

This effort led to the creation of three classroom manuals for **Mexico**, ten teaching modules, and numerous videos for **Colombia**.

### #EXAMPLE

Adapting climate change educational resources to meet the needs of local teachers, the socio-economic context of the country, and the school curricula can be a complex undertaking. In each country, a multidisciplinary team of local scientists and educators came together to address this challenge, working closely with the international Scientific and Pedagogical Committee of the OCE.

In Mexico, the primary adaptations involved finding more accessible substitutes for experimental materials. For example, lamps could be replaced with sunlight, and thermometers could be substituted with a piece of butter or chocolate.

Similarly, local examples from Mexico were incorporated into scientific explanations and case studies. WStudies show that students retain information more effectively when it is familiar to them or directly relevant to their lives.



→ SCAN THE QR CODE TO ACCESS ALL THE RESOURCES PRODUCED DURING THE ALEC PROJECT

# TEACHER TRAINING

One of the most crucial components of the ALEC project was the **professional development of teachers**. The OCE and local partners successfully trained over 6,000 teachers, directly impacting 150,000 classes and reaching around 400,000 students from various backgrounds, including rural, urban, coastal, and inland areas. The indirect impact, due to the waterfall effect and communities of practice is estimated to include **17,000 teachers** and **1 million students**.

In Mexico, the main states where the trainings was conducted included Estado de México, Zacatecas, Tlaxcala, Tamaulipas, and Veracruz. In Colombia, training was provided in Bogota, Antioquia, Guaviare, Cesar, Pasto, Sucre, Villavicencio, Ibagué, Cundinamarca, and Cajicá.

The project evaluation revealed that over **90% of participants improved both their scientific knowledge of climate change** and their teaching practices.

Training teachers from such diverse backgrounds in climate change education promoted equity and a true climate "education for all" approach, ensuring that all students, regardless of their situation, could have access to quality education on this critical issue. This comprehensive strategy is essential for empowering students and communities to tackle climate change locally and proactively.



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## #EXAMPLE

In Colombia, Stem Academia initially intended to deliver face-to-face training. However, with the onset of the COVID-19 pandemic coinciding with the project launch, they quickly adapted by developing an extensive online course (45 to 60 hours).

Providing thorough and constant support to teachers enrolled in the course - through synchronous online sessions and in-person sessions when schools reopened - proved highly effective. This method achieved a completion rate of nearly 70% across approximately twenty cohorts, a notable success for a distance learning program. In total, Stem Academia has delivered over 1,000 hours of training, demonstrating its ability to pivot and maintain high engagement and completion rates despite the challenges posed by the pandemic.



## COMMUNITIES OF PRACTICE

Another objective of the ALEC project was **to create a community of practice**. Today, not only has this objective been achieved, but the project has also established a vibrant community of interest. ALEC successfully brought together people and organizations from both the pedagogical and scientific spheres to develop and share knowledge through reflection on practical experiences, fostering a collaborative environment where partners learn and grow together.

From the outset, partners from Mexico and Colombia collaborated in a complementary manner, even though they had not known each other before the project. This collaboration extended to forming local alliances with educational authorities, civil society organizations, and businesses, all of which were instrumental in facilitating the project's implementation.

As a result, **a robust network of over 30 allies has been created**. The project's visibility and popularity have grown through its presentation at numerous regional and international events, such as the **Climate COPs and its annual regional climate education conferences**. These engagements have attracted new institutional partnerships, particularly with the OCE, leading to the development of **pilot extensions**. Over four years of operation, the ALEC project has successfully built a strong community of practice and interest, fostering collaboration, expanding networks, and promoting climate education on a broader scale.



## EVALUATION AND MONITORING

The ALEC project, initially launched as a pilot, aimed to scale up in the medium term to promote climate change education and encourage adaptation and mitigation actions among students, teachers, and their families throughout the Latin American region. To achieve this scale-up, **thorough evaluation and monitoring were essential**. From the project's inception, **terms of reference and key performance indicators were co-designed by partners and the external evaluator**, Technopolis Group, to ensure a rigorous assessment.

The evaluation of the ALEC project focused on:

- **Effectiveness:** Assessing whether the project achieved its objectives, including the development of educational resources, teacher training, and student engagement in climate initiatives.
- **Relevance:** Evaluating how well the project's activities addressed local needs.
- **Sustainability:** Determining the likelihood that the project will continue after the initial support ends.
- **Project Design Improvement:** Identifying ways to enhance the project's design and prepare for expansion in Latin America, in alignment with UNESCO's Greening Curriculum Guidance.

The evaluation reviewed progress, drew lessons, and provided recommendations for future implementation, ensuring that the ALEC project effectively contributes to quality climate change education.



## CROSS-CUTTING AND ADDITIONAL ACTIVITIES

In addition to the originally planned activities, the project partners proactively developed new initiatives, demonstrating their commitment and responsiveness to local needs.

- In Colombia, for instance, **the University of Rosario conducted two research surveys**. The first assessed the current climate change content in school textbooks, revealing that it was minimal and lacked contextual relevance. This survey methodology is now being replicated in France, leading to a research thesis co-supervised by OCE and Colombia.
- **Fondo Acción leveraged its expertise and school network to identify existing adaptation and mitigation projects**. They created narratives, including podcasts and videos, to inspire other teachers to develop similar projects in their classrooms.
- In Mexico, **Innovec developed and implemented a masterclass on project-based pedagogy** to complement the training. This masterclass equipped teachers with the necessary tools to effectively transition from theoretical understanding to practical action with their students.
- Meanwhile, **Eco-Schools** proposed to share the activities developed within the project framework with their network of teachers and gather feedback for improvement.

Additionally, both countries collaborated to produce a written resource compiling all the school projects that emerged from the training courses.

**5.956** TEACHERS TRAINED  
IMPACTING APPROXIMATIVELY  
**400.000** STUDENTS



**67** TRAININGS  
**47** CONFERENCES  
AND HIGH-LEVEL EVENTS



A NETWORK OF **33** PARTNERS  
IN **13** COUNTRIES



**3** GUIDE BOOKS FOR TEACHERS  
**22** ONLINE COURSES  
**36** VIDEOS



**206** MEDIA MENTIONS  
(PRESS, TV, RADIO)



## KEY FIGURES



HONDURAS

COSTA RICA

GUATEMALA

PANAMA

PERU

CHILE

ARGENTINA

# SCALING EFFORTS

Preliminary actions (trainings, public policy support, conferences) have been deployed in these countries for potential expansion.

# PERSPECTIVES

## LEADING SUSTAINABLE CLIMATE CHANGE EDUCATION IN LATIN AMERICA

Given the project's success and the growing need for climate education as the impacts of climate change intensify, **there is a compelling need to scale up ALEC's reach and impact.** The proposed extension aims to build on existing achievements, address identified challenges, and broaden the scope of the project to include new regions and innovative components. Serving as a pilot for national institutions, ALEC develops plans for curriculum adaptation and project expansion. Its comprehensive and systemic approach —providing research-based resources, professional development, community support, and institutional involvement— ensures the effective, large-scale, and sustainable dissemination of climate education in school systems.

The specific objectives of the scale-up phase will be as follows:

- Continue implementing extensive training programs for educators, focusing on climate science and active pedagogies.
- Update existing educational resources and produce new ones tailored to diverse local contexts in Latin America.
- Support governments implementing national curriculum that are sensitive to climate change education.
- Develop a collaborative and adaptive approach to the community of practice.
- Improve project evaluation, monitoring, and coordination mechanisms to ensure its sustainability and relevance.

Guided by the **UN's Greening Education Partnership** framework, ALEC will provide a robust foundation, empowering young learners to proactively engage with climate issues. The program will continue to emphasize experiential learning, critical thinking, and community engagement, ensuring that students grasp the science of climate change and develop practical adaptation and mitigation skills.

By embedding climate education deeply into the educational fabric of Latin America, the scale-up phase of the project aims to foster a generation of informed and resilient individuals prepared to tackle the challenges of a changing climate. **This initiative will play a pivotal role in shaping a sustainable future for the region,** as students become advocates for environmental stewardship and leaders in climate action.

THE **AMÉRICA LATINA PARA LA EDUCACIÓN CLIMÁTICA (ALEC)** PILOT PROJECT STANDS AS A PIONEERING INITIATIVE LAUNCHED BY THE **OFFICE FOR CLIMATE EDUCATION (OCE)**, A CENTER UNDER THE AUSPICES OF UNESCO AND AN IPCC MEMBER ORGANIZATION. IT MARKS THE OCE'S FIRST FORAY INTO A TARGETED AND IMPACTFUL CLIMATE CHANGE EDUCATION ENDEAVOR. THE PROJECT IS OPERATIONAL IN MEXICO AND COLOMBIA, SPANNING FROM 2020 TO 2024, WITH THE AIM OF EXPANDING TO OTHER COUNTRIES ON THE CONTINENT. ITS PRIMARY AIM ALIGNS SEAMLESSLY WITH THE BROADER OBJECTIVE OF THE OCE: **EMPOWERING PRIMARY AND SECONDARY SCHOOL TEACHERS TO INTEGRATE CLIMATE CHANGE CONCEPTS AND ISSUES INTO THEIR CLASSROOMS, WHILE ALSO PROVIDING POLICY SUPPORT TO NATIONAL EDUCATION SYSTEMS.**



→ VISIT ALEC WEBSITE

## PROJECT IMPLEMENTED BY



## IN PARTNERSHIP WITH

