Application Number:
Applicant First Name:
Applicant Last Name:
Email:
School:
Category: Global High Schools
Country: Colombia
Global High School Region: The Americas

General Information

The Global High Schools category recognises high schools or secondary schools, from six geographic regions that propose innovative, impactful and inspirational sustainability projects in the areas of health, food, energy and/or water. The proposed project could be in one area (e.g. water) or a combination of areas (e.g. energy, water, food, and health).

The Prize is intended to encourage students to develop and implement their sustainability ideas and is not aimed at administrative projects or educational reforms at the school.

The award in this category is not given for past achievements but will enable students from winning high schools to implementsustainability projects in their own schools. These **student-led** projects must demonstrate innovative approaches to address sustainability challenges, and inspire students to take active roles in sustainable development.

The **application must be submitted by the students** and supported by the school management. The projects must:

- demonstrate how they meet the three criteria: impact, innovation, inspiration; as explained in the Evaluation Criteria section of this page;
- be able to be implemented and operational within one to two years;
- benefit the school community and/or their local/regional community for several years.

***0.1 Please tell us about your school's vision including its overall aim and focus.**

The ICAM school aims to create and develop in an autonomous, sustainable, and participatory manner, high-quality educational programs in the humanistic, scientific, technological, environmental, and investigative fields. The education programs are in line with the Colombian reality and pursue the integral growth of girls, boys, and adolescents so that they responsibly

transform their reality and contribute to the construction of a society that ensures access to knowledge, fair employment opportunities, peaceful coexistence and fair development of people and their environment.

***0.2 Please specify your school's location.**

Country : Colombia
Region : Cundinamarca
City/Town : Ubaté

***0.3 Please specify the size of your school (in academic year 2021/2022):**

No. of students :
No. of teachers :
No. of teaching assistants :
No. of other staff :

***0.4 Please specify the type of the school.**

Private or Public? : Private
For Profit or Not For Profit? : Not For Profit

***0.5 What is the age range of students at your school?**

Lower age : 5
Upper age : 18

***0.6 Please list all registrations and accreditations with any national or international education bodies (use full names not abbreviations).**

Resolution No. 0010022 of October 30, 2015: Colombian Ministry of National Education approval for secondary school technical agronomic and environmental education with an emphasis on applied research. Resolution No. 000205 of January 14, 2014: Cundinamarca Education Department approval for elementary school education. The ICAM school was recognized by the Japanese Government as an agroecological training facility for the Ubaté region (February 8, 2011). Agreement SSFA-CC-002/2017: The ICAM school was accredited as an ally of the United Nations for the Environment, as one of the five demonstration schools of the South American Andes for the application of the Microfinance for Ecosystem-based Adaptation Program to mitigate climate change in agriculture. National Blue Planet Ecology Award, general category, June 6/2013 and April 22/2022.

***0.7 Please specify the year that your school was established (numerical value only).**

1990

***0.8 Which of the following area(s) does your sustainability project primarily relate to?**

- [ ] Energy
- [ ] Water
- [ ] Food
- [x] Health

***0.9 Please provide a brief summary of your proposed sustainability project. How will it work?**

The students will lead a Community Air Quality Program, to improve the health of 200,000 people living in Ubaté. During the first phase, 20 professors and 150 students will be trained in air quality monitoring, data analysis, and the design of local solutions. This will be a scalable program, in which ICAM students and professors will be Air Quality Trainers for future generations of students. The students will monitor air quality. 10 and 11-grade students will develop internships in coal companies to contribute to long-term solutions, and they will lead a reforestation program in the moorland. The students will form a committee with the regional environmental authority, mining and coal companies, professionals from the regional hospital, and the municipal mayor's office to establish commitments to improve air quality, reduce deforestation and have a more sustainable local industry. The progress of the project will be communicated to the community on the school website, local newsletters, radio stations, and local television channels. ICAM will seek approval from the Ministry of National Education for this Educational Program. In this way, students who participate in the program may later have more opportunities to work for local companies, reducing unemployment in the region.

Innovation

Innovation refers to a creative idea, proposed by students, which solves a challenge or a need for the school and/or local community in the areas of health, food, energy and/or water.

The Innovation criterion requires schools to demonstrate that:

- the project is driven by students who work together to identify a sustainability challenge and create an innovative solution either by utilising existing technologies or by developing their own;

- the students use project management techniques – planning, scheduling, and budgeting to implement the idea, and apply learnings at school to deliver the desired sustainability outcome.

The Prize does not award any educational, training or similar programmes as the proposed project.

***1.1 What specific problem in your school and/or community are you addressing with your sustainability project? Please provide all relevant details.**

The National Government has identified air pollution as the most serious environmental problem in Colombia since it causes more than 8,000 premature deaths and thousands of illnesses each year. Because of the high number of charcoal kilns and coke production, the Ubaté region ranks fourth in Colombia in terms of air pollution, affecting the health of 200,000 people. Given that Ubaté has estimated coal reserves of 241.9 million tons in its subsoil, 97 percent of the municipality is currently susceptible to unrestricted mining. Coal mining also has a negative impact on key natural ecosystems such as the Páramos, high mountain ecosystems (moorlands), putting the supply of water and other ecosystem services of this and other surrounding regions at risk. The regional´s environmental authority is too small, and therefore there is not enough capacity to monitor and control all the environmental impacts created by the local coal companies. Currently, there are no programs in place to mitigate the environmental impacts of local industry. The ICAM students are trained as agronomic and environmental technicians with knowledge in water and forest conservation. They are willing to support a more environmental development of the local industry with new capacities in air quality.

***1.2 What makes your sustainability project innovative and why do you think it will succeed in your school or community?**

The project is innovative because of the students' leadership and ability to bring together the environmental authority, the hospital, mining companies, the mayor's office in Ubaté, and the community to agree on a work plan to improve air quality. Air pollution is one of the main environmental problems in the region with health implications, and no interventions to address it until now. This project originates at the school, benefits students, and has regional implications. The students will lead a community air quality monitoring network. Internships in the local coal industries will allow students to design and implement solutions. Besides, the

students are proposing mitigation and adaptation strategies for a comprehensive solution to the problem. ICAM is the region's only agricultural and environmental technical school with an emphasis on applied research. It has received community recognition for 33 years for moorland conservation, water governance, and organic food production. With the project, students will be more empowered because they will have new technical skills and a more sustainable school. Furthermore, ICAM will seek Ministry of Education certification for this Program created by the project, which will provide students with new technical recognition and open doors for them after graduation.

***1.3 Who will be involved in implementing your project? What will be their roles? (State student involvement first and then additional support provided by teachers, local community leaders, parents, etc.)**

Students will conduct the project, design the air monitoring campaigns, conduct the measurements, analyze the data, and make recommendations for the coal industry and community health care. They will direct the conservation activities for the moorland ecosystem. They will communicate the findings and direct the work with the various actors and the community. Teachers will guide students and oversee the completion of the project. They will ensure the program's continuation for future generations of students. Teachers will manage financial resources in collaboration with the school's financial office. The air quality working committee is made up of representatives from local businesses, the environmental authority, the regional hospital, the mayor's office, and ICAM students. The committee will design the air quality improvement plan and promote its implementation based on the information provided by the ICAM students. Technical experts from Hill Consulting will provide support in air quality technical aspects. Mayors and municipal councils will support the incorporation of the project's recommendations. They will use the knowledge gained from the project to improve the planning of the territories. ICAM will look for support from the Industrial Environmental Chamber for supporting the local coal-based industry with available technical options to improve their environmental performance.

Impact

Impact refers to a positive change, as a result of the proposed project, that improves the well-being of the students and/or local community and delivers educational benefits for students.

The Impact criterion requires schools to demonstrate that:

- the project delivers measurable sustainability outcomes – in terms of access to sustainable energy, clean water, essential healthcare and/or nutritious food in your school or wider community;

- the project delivers educational benefits for both current and future students. These benefits may include, but are not limited to better access to education and/or improving technical skills in the area of sustainable development.

***2.1 If you won, what would be the impact of your project on your school and local community within the short term (1 year) and long-term (3+ years)?Please be realistic on what is possible and provide details (e.g. energy generation in MWh, water savings,etc.)**

Short-term impacts: the program will train 50 teachers and 350 students from ICAM and other schools in the region; there will be a community air quality monitoring network; the Ubaté community will be empowered in air quality governance; there will be a new technological program at ICAM that has been approved by the Ministry of Education; and the local coal industry will incorporate environmental improvement with the student internship program. Long-term impacts: In five years, the program will train at least 50 teachers and 5,000 students from ICAM and other schools in the region. There will be an improvement in the air quality and thus better health conditions for 200,000 people living in Ubaté (measured by the local hospital and the health authority); 5 hectares of the moorland will be reforested and therefore the risk of water shortage for the population will decrease; there will be the incorporation of best environmental practices in local industry and therefore less deforestation and better air quality, and there will be an increase in carbon sinks due to better management of ecosystems in Ubaté.

***2.2 How many students are expected to benefit from your project within the next 5 years? (numerical value only)**

5000

***2.3 What will be the total cost of implementing the project (in USD)? (numerical value only)**

96107

***2.4 How confident are you of deploying your project if you do not win the Zayed Sustainability Prize?**

- (●) Not Confident
- ( ) Neutral
- ( ) Confident

***2.5 List the activities/tasks needed to achieve your intended result and complete your project. Include who from your team is responsible for overseeing each task and the cost associated. You can add up to 10 rows.**
- Please note that the cost figures submitted by the school have been taken out for privacy reasons; all applicants need to include specific costs in the table below!

Task	Cost(USD)	Description	Who does the work	Duration (weeks)
1) Design of an Academic Program in air quality for the current and following generations.		During the first phase, 20 professors and 150 students will be trained in air quality monitoring, data analysis, and the design of local solutions. With this, students and teachers will create didactic material to train themselves the new generations of students and teachers, as well to train students from other schools in the region. There will be material design and printing, including infographics and brochures, as well as the creation of a documentary. The material will be used by the students to continue the program by training new students and professors' generations in the coming years. There will be workshops to share the project with other schools in the region. This cost includes workshops, material design and printing, and the creation of a documentary.	Students and teachers will desing the trainning program and material for future generations. Teachers will lead the generation of the new Academic Program. The technical experts will give the first trainning and colaborate in the creation of the Academic Program.	30
		Based on commercial monitors available, the ICAM school will purchase four sensors for		

2) Development of the communitary air quality monitoring network and diagnosis of air pollution in Ubaté.		monitoring particulate matter (PM2.5) at fixed stations. The students will define the strategic places to monitor air quality. In addition students will use 30 personal monitors to characterize the levels of pollution to which people are exposed in different locations throughout the region. The influence of climatic variables on atmospheric pollution behavior will be investigated. It is considered the acquisition of a set of equipment for monitoring environmental variables (temperature, humidity, rainfall). During the field phase for monitoring air quality, students will identify the most critical areas and will make an initial diagnosis. In the costs are considered: four sensors for fixed stations, 30 personal sensors, local transportation costs for students to take air quality measurements, and the purchase of 5 laptops for data acquisition and data processing.	Students and teachers will select the monitors to purshase with the advice of the technical experts. ICAM's financial office will purchase the equipment. Students will perform the monitoring phase with the advie of the technical experts and supported by the teachers.	16
3) Reforestation of the moorland “Páramo de Guerrero”.		The students will lead the reforestation of the moorland "Páramo de Guerrero". They will select the native species to plant according to the ecosystem and will plant 10,000 native trees that allow the recovery of around 5 degraded hectares of the moorland. The students will invite different actors such as the local government, the environmental authority and representatives from local coal industry to get involve in the process. In the costs are	Students under the supervision of teachers, with the support of the environmental authority.	30

		considered: 10,000 native plants and natural fertilizers.		
4) Joint work with relevant actors to generate positive impacts in the air quality in Ubaté.		Students and teachers from the ICAM school, the environmental authority, mining companies, the municipal mayor's office, the regional hospital, and civil society will form a working committee to improve air quality in the region. Measures to improve the region's environmental quality, such as improvements in manufacturing processes and moorland reforestation, will be agreed upon with the committee. Students will complete internships in regional coal mining companies and those that use coal in order to provide practical solutions to improve Ubaté's environmental conditions. This cost includes workshops, material design and printing.	Students and teachers from the ICAM school, the environmental authority, mining companies, the municipal mayor's office, the regional hospital, and civil society. The Industrial Environmental Chamber's assistance will also be sought in developing solutions for local coal companies.	48
5) Transversal technical support.		Two technical experts in air quality will develop the first set of training sessions for ICAM teachers and students. They will advise the students duriing the development of the air quality monitoring phase, in the analysis of the data, in the generation of technical reports, and in the design of technical solutions for the region.	Hill Consulting has been identified as a preliminary candidate for this position.	48
6) Community involvement.		The progress of the project will be communicated to the community on the school website, local newsletters, radio stations, and local television channels. The students will	Students and teachers.	96

		organize workshops to increase community awareness on environmental sustainability.		
7) Teachers' assistance throughout the project's development, as well as search for approval for a new Education Program.		Throughout the project's development, the ICAM teachers will accompany and guide the students. Teachers, in particular, will direct the design of the technical training program and ensure the Program's continuity. ICAM will seek approval from the Ministry of National Education for this Educational Program. In this way, students who participate in the program may later have more opportunities to work for local companies, reducing unemployment in the region. Teachers will develop the ICAM process for obtaining Ministry of Education program certification.	Teachers.	96
8) Assistance from the financial and administrative office of the school for the development of the project and the management of financial expenses.		The financial office of the school will accompany the development of the project to guarantee the good management of the resources. National taxes and a contingency item for all the project estimated as 10% were included in this cost.	Financial school´s office.	96

***2.6 What is the total duration of the project implementation (in months)? (numerical value only)**

Inspiration

Sheikh Zayed bin Sultan Al Nahyan, the founding father of the UAE, placed great importance in education and strongly believed that a country's greatest investment lies in building generations of educated and knowledgeable youth and that the prosperity and success of the people are measured by the standard of their education. He was a firm believer of youth's active role in the development process by sharing responsibilities to lay foundations for the success of the society. Continued through the Prize, Sheikh Zayed's legacy is a source of inspiration for the young generation.

The Inspiration criterion requires schools to demonstrate that:

- the project reflects Sheikh Zayed's core values – tolerance, sustainability and human development that were central to his own approach and actions;
- the project can be sustained in the long term;
- the project inspires students to become the next generation of innovators, entrepreneurs and leaders capable of addressing sustainability challenges;
- the project further inspires responsible actions from the wider community and other schools.

***3.1 What (or who) inspired you to develop this project and how does that reflect Sheikh Zayed's legacy?**

To present this project, the students were inspired by Sheikh Zayed's legacy values of collaboration among all to preserve our environment, as well as unity to pursue fair and humanitarian sustainable development. Students are also motivated by their school's achievements. 1) A significant number of students at the school come from families who work in coal mines and blast furnaces to produce coke. As a result, they are aware of the harmful health effects of air pollution and have witnessed relatives and friends become ill or even die as a result of it. 2) The students have learned about their own school's history. 33 years ago, when it was founded, only 20% of Ubaté's children could attend high school. Nowadays, 80 percent of children attend secondary school, and 60 percent of those who graduate can attend university. Students understand that better technical education can improve their own and others' opportunities. 3) The students have made their territory more environmentally sustainable. They transformed an old mine into a sustainable farm, with solar energy, and ecological water management. They promote organic farming practices. The students value nature and have learned how to live in greater harmony with it.

***3.2 How will this project inspire more sustainable actions from within the school or the local community?**

ICAM has become a regional leader in environmental education and sustainability. The students converted an old mine into the farm where the school is located. ICAM has supported

rural aqueducts for water security, and it has collaborated with the United Nations to train producers in organic farming techniques. By incorporating contributions in air quality and moorland reforestation, this project encourages students to strive for total sustainability. Furthermore, the project will inspire the community because it will promote interventions that will result in lower environmental and health impacts from coal mining and industry, which are the region's largest source of employment.

***Impact Video**

Schools are required to submit a video, no longer than two minutes, as part of the application. The video must be delivered by the students and should address the following:

- a clear explanation of the type of the proposed project and how it is innovative;
- the positive impact that your project aims to achieve;
- explain how your project will be sustained beyond 1-2 years and continue to create long-lasting positive impact in your school and wider community.
- why should you win the Prize?

Please select on Youtube the option of subtitles in English. Link: https://www.youtube.com/watch?v=2DHvjXniSH8

Other Information

Principal Details

***Name**

***Contact number**

***Email**