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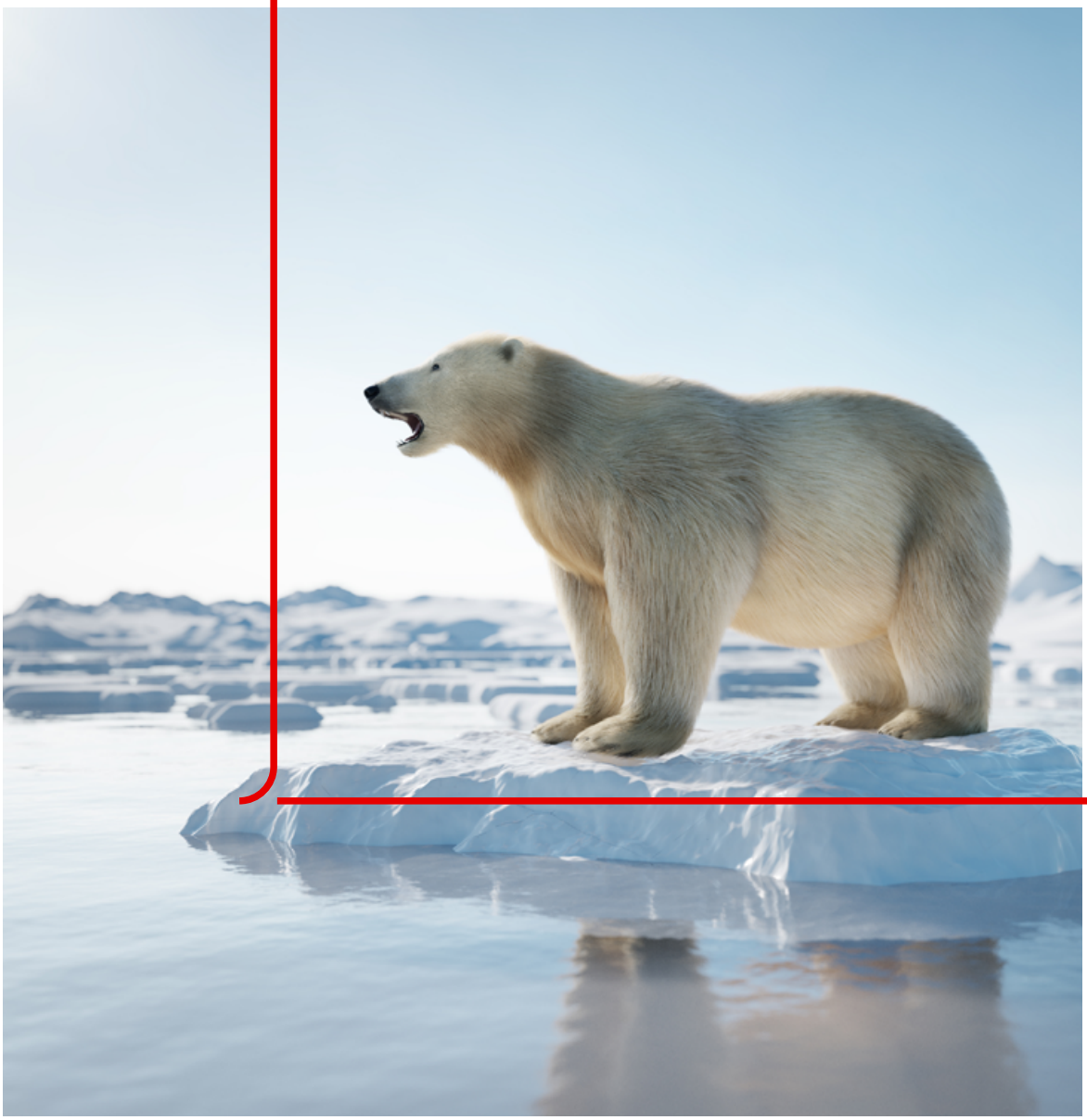
On thin ice

A guide for philanthropists and changemakers to address climate change



03.7 How to support climate education and research

The World Health Organization said, "Climate change is the single biggest health threat facing humanity".[100] However, many people find the risks meaningless to them, which results in a lack of action. So educating and researching the issues will be vital in the fight against the global climate crisis. But where to start?

1. Support climate literacy.

Campaigning and advocacy from Fridays for Future´s dynamic global student movement has spurred over a million young people to push for immediate action on climate change. It's essential for everyone to understand their role in climate change and take informed actions. For instance, education can teach children about best environmental practice and sustainable consumption, and help them appreciate why it's so important to protect nature.

2. Support the science.

Delays in reducing pollutant emissions will mean we fail to maintain global warming below two degrees, and result in consequences like rising sea levels, insufficient nutrition, and poor access to healthcare.[97] Governments need to create supportive frameworks for climate action, and to encourage businesses and individuals to implement climate-friendly processes. Scientists and research institutions need more support bridging the gap between their research and new government policies.[98] Research agencies must pool their resources to maximize results. These results will inform policies, programs and practices – and ensure research underpins everything we do.

3. Invest in research.

This might seem unglamorous compared to practical solutions like planting trees, building solar plants or protecting nature reserves. But research is the foundation of all our efforts to create a sustainable world. To help you decide where to focus your efforts, it's worth looking at research in your area of interest.

Did you know?

"The climate crisis threatens to undo the last fifty years of progress in development, global health, and poverty reduction, and to further widen existing health inequalities between and within populations."[99]

[100] Climate change and health. (2021, October 30). WHO. https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health
[97] Why we need to act now. (n.d.). Climate & Clean Air Coalition. https://www.ccacoalition.org/en/content/why-we-need-act-now
[98] Independent Group of Scientists appointed by the Secretary-General, Global Sustainable Development. (2019). Report: The Future is Now – Science for Achieving Sustainable Development. Retrieved from https://sustainabledevelopment.un.org/content/documents/24797GSDR_report_2019.pdf
[99] Climate change and health. (2021, October 30). WHO. https://www.who.int/news-room/fact-sheets/detail/climate-change-and-health

Creating a climate breakthrough

Prof. Koh Lian Pin
National University of Singapore

What's been your breakthrough discovery on the climate?

I think my work on the potential of nature-based climate solutions was particularly important. Our team showed that forest carbon projects financed through nature-based carbon credits could significantly protect biodiversity and mitigate climate change – while providing a return-on-investment of 46 billion US dollars a year. Most of those profitable sites are located in the Asia-Pacific region.

Efforts to preserve natural ecosystems have often struggled against intensive agriculture, forestry and other lucrative land uses. But carbon finance is slowly shifting economic tides. Not cutting down trees makes increasingly good business sense from a carbon-finance perspective.

Why is climate action research so important?

Addressing climate change requires far-reaching changes in human societies and economies. It requires us to overhaul food systems; how we manage natural environments; and how we make, use and transport energy and goods.

Solutions to avert the most dangerous impacts of climate change exist today. But how can countries and businesses adapt those solutions to their local needs, and avoid widespread disruption?

Solid science is the answer. Research plays a vital role in finding workable solutions and exploring how to implement them in socially acceptable, environmentally responsible and economically viable ways. For example, science can explore how best to reskill fossil-fuel industry workers to ensure they're not left behind. As industries start their journey to net-zero, science will find novel and innovative technologies. And research can help countries protect and restore their precious natural ecosystems.

Which areas should research focus on to find new solutions?

To encourage action, we need to research all areas, such as energy, waste, transport and agriculture. But nature-based climate solutions are arguably an area where research can make a huge difference.

Research has estimated that these solutions can provide over one-third of the cost-effective climate mitigation needed by 2030 to achieve the Paris Agreement's goal of limiting the global average temperature rise below 2°C. The solutions provide multiple benefits to society, including clean air and water, flood protection, food security, and livelihood opportunities. However, less than 3% of global climate finance currently flows towards these solutions, largely due to challenges setting them up. Research will help overcome those barriers and unlock nature's potential.

How to engage with children and students on climate change

Angela Serratore
Program Manager Climate School
MYBLUEPLANET

How to engage with teachers, so they can address climate change with their students

Djian Sadadou
Communications & Communities Officer
Office for Climate Education

Why is climate education important? And from what age should we teach children?

Angela Serratore: Climate education is essential to prepare society for the challenges, and to show people how to adopt sustainable lifestyles. The climate school program provides children in kindergarten with experience-oriented educational activities. It's an important age to start, because young children usually have a very strong connection to nature.

Djian Sadadou: The international community recognizes that educating the next generations on climate is a priority (for example, article 12 of the Paris Agreement). We focus on educating young people aged 9 to 15.

How can education systems make citizens more aware of the climate? And what role should parents play?

Angela Serratore: Education and awareness drive behavioral change. So the education system must raise students' and teachers' awareness, transfer knowledge and know-how, and anchor it all in school structures. We can use creativity and innovation to create solutions which ultimately become part of the whole system. Parents also need to support and encourage their children and school in tackling these topics.

Djian Sadadou: Education systems are essential for awareness because they train the next generations. Teachers have the balancing act of teaching children about climate-change challenges while promoting a positive vision of their future. We need to help teachers learn more about climate-change issues and familiarize themselves with specific approaches: for example, inquiry-based science education, critical thinking and project-based learning. Parents play an essential role too. They're powerful allies in amplifying the learnings their children acquire in school.

What results have you seen? How do you measure them?

Angela Serratore: Children and juveniles are curious and enthusiastic. Using head, heart and hand in harmony, we can create a lasting impact. Our practical and experience-oriented activities enable young people to enjoy unique experiences and make memories that last a lifetime. Through interviews and questionnaires, we've found they appreciate this approach and the practical relevance to their lives.

Djian Sadadou: We're always in contact with teachers on the ground. We've seen that teachers and students are eager to use our resources on climate change. For teachers who often lack time and a scientific background, our resources are a trustworthy source of scientifically sound and ready-to-use class activities. Students feel empowered by the knowledge they gain, which is essential in helping them develop what we call "a critical mind with a hopeful heart."

What challenges do you face? And how do you overcome them?

Angela Serratore: The big challenge is breaking down complex topics to a level that's clear and exciting. However, our project team believes that there's not necessarily a lack of knowledge, but a lack of action in society. So we need to listen to individual needs, motivate, and create opportunities for people to take action. We achieve this through practical and experience-oriented activities – and they're a lot of fun.

Djian Sadadou: The first challenge is the absence of climate-change topics in most school curricula. Secondly, school systems are often organized according to disciplines, especially at secondary level. But we know that climate change education needs an integrated interdisciplinary approach. Lastly, students can sometimes develop "eco-anxiety." To overcome these challenges, we:

- help education systems and policymakers integrate climate change into school curricula
- develop educational resources and activities that promote active teaching methods, and an interdisciplinary approach to climate change education
- propose concrete projects and actions for classes that help the next generations think about and build towards a resilient future.