

AUSTRALIA-INDONESIA BRIDGE SCHOOL PARTNERSHIPS PROGRAM

CLIMATE CHANGE EDUCATION TOOLKIT



Australian Government



Asia
Education
Foundation

The BRIDGE School Partnership Program is supported by the Australian Government Department of Foreign Affairs and Trade (DFAT) and implemented by the Asia Education Foundation at Asialink, The University of Melbourne.

What is Climate Change?

As described by the [IPCC's 2023 Report](#), Climate Change refers to the significant and ongoing shifts in the Earth's climate patterns primarily caused by human activities. These activities have led to a measurable increase in global temperatures, resulting in widespread and rapid changes across the atmosphere, oceans, ice caps, and ecosystems. These changes impact weather patterns and exacerbate natural disasters globally. Without substantial and immediate climate action, the future holds even greater risks, including irreversible changes, underscoring the urgent effort required to address climate change globally.

Sustainable Development Goals

The [2030 Agenda for Sustainable Development](#), adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. Embedded within the 2030 Agenda is Goal 13 – Climate Change. This goal formally recognises that climate change is linked to other global issues. Additionally, Goal 4 - Quality Education recognises the importance of Education for Sustainable Development and the pivotal role education plays in addressing climate change.



Image Source: <https://sdgs.un.org/goals>

What is Climate Change Education?

Climate Change Education is about equipping students with the knowledge and skills to understand the causes, impacts, and solutions to climate change. This empowers young people to understand the interconnectedness between human activities and climate change. Climate Change Education means educating on both individual actions and broader systemic changes needed for sustainability. It fosters agency and responsibility, empowering students to advocate for systemic changes essential for mitigating climate change impacts.

Climate Change Education in BRIDGE Schools



1. **Climate Change Education Toolkit:** BRIDGE teachers of all learning areas can use the range of resources in this toolkit as examples of how to incorporate climate change education into their existing curriculum.



2. **Classrooms:** BRIDGE teachers are more likely to include climate change related tasks in their classroom. Therefore, students have the opportunity to learn from these opportunities.



3. **Community:** Students take their learning beyond the classroom, extending outwards to other students, their families, friends and peers.



4. **Action:** Together, young people play a leading role in tackling climate change at both local and global levels.

Climate Change in the Australian and Indonesian curriculums

While the Australian and Indonesian school curriculums may not always explicitly mention climate change, there are abundant opportunities to integrate this crucial topic across subjects. Climate change education is vital for preparing students to understand and address climate issues globally. By incorporating climate change into various disciplines, teachers can empower students to drive positive change in their school communities.

Climate Change Education Australian Curriculum: Version 9.0 - Foundation - Year 6

Subject	Learning Objective	Curriculum
Science	Investigate the interdependence of living organisms within ecosystems and their impact on each other.	AC9S4U01 Year 4
HASS	Investigate the connections Indigenous Australians have with the land and how this influences their sustainable practices.	AC9HS4K05 Year 4
English	Create imaginative texts that explore themes of environmental conservation and sustainability.	AC9E6LY06 Year 6
Mathematics	Collect, represent, and interpret data on climate change and its impact on different regions.	AC9M6M01 Year 6
Health and PE	Investigate how regular physical activity contributes to personal health and environmental sustainability.	AC9HP6M05 Year 5 and 6
Visual Arts	Experiment with techniques and materials to create artworks that raise awareness about environmental issues.	AC9AVA2P01 Year 1 and 2
Design and Technologies	Develop design ideas for sustainable products or solutions that address environmental challenges.	AC9TDE6P02 Year 5 and 6
Languages - Indonesian	Explore texts such as advertisements, brochures, and articles related to climate-friendly products or sustainable practices.	ACLINC038 Year 5 and 6 (V9.0 n/a)

Australian Curriculum: Version 9.0 - Year 7 – 8

Subject	Learning Objective	Curriculum
Science	Analyse and compare which of the earth's resources are renewable and which are not.	AC9S7U03 Year 7
Geography	Investigate the environmental consequences of human activity and strategies for sustainable development.	AC9HG7K05 Year 7
English	Plan, create, edit and publish written and multimodal texts related to sustainability and environmental management.	AC9E7LY06 Year 7
Mathematics	Calculate and compare the carbon footprints of different activities and propose strategies to reduce carbon emissions.	AC9M7ST02 Year 7
Health and PE	Analyse the benefits of active transport for personal health and environmental sustainability	AC9HP8M05 Year 7
Music	Create compositions that express environmental themes and advocate for sustainable practices	AC9AMU8P01 Year 7 and 8
Design and Technologies	Analyse how food and fibre are produced and how these can become more sustainable.	AC9TDE8K04 Year 7 and 8
Languages - Indonesian	Investigate sustainability initiatives in Indonesia and present findings in Bahasa Indonesia.	ACLINC056 Year 7 and 8 (V9.0 n/a)

Australian Curriculum: Version 9.0 - Year 9-10

Subject	Learning Objective	Curriculum
Science	Measure the effectiveness and sustainability of different alternative energy technologies.	AC9S9U05 Year 9
Geography	Evaluate the success of international agreements and policies in addressing climate change and promoting sustainability.	AC9HG10K05 Year 10
English	Craft speeches that advocate for environmental conservation and sustainability, employing rhetorical devices to persuade audiences.	AC9E9LA03 Year 9
Mathematics	Use mathematical models to analyse population growth and its implications for resource consumption and sustainability.	AC9M9ST03 Year 9
Health and PE	Investigate the environmental impact of sports events and propose strategies for promoting sustainability in sports culture.	AC9HP10M05 Year 9 and 10
Visual Arts	Produce multimedia artworks that explore the impact of climate change and advocate for sustainable practices.	AC9AVA10C01 Year 9 and 10
Design and Technologies	Design sustainable urban planning solutions that consider factors such as energy efficiency, waste management, and green spaces.	ACTDEP052 Year 9 and 10 (V9.0 n/a)
Languages - Indonesian	Participate in debates in Indonesian on environmental issues, demonstrating cultural awareness and language proficiency.	ACLINC069 Year 9 and 10 (V9.0 n/a)

Kurikulum Merdeka Indonesia - Sekolah Dasar (SD)

Subject	Learning Objective	Curriculum
Ilmu Pengetahuan Alam (IPA)	Identify sources of energy in the environment, including sunlight and wind. Understand how sunlight and wind contribute to weather patterns.	Handbook Year 3 pp. 107-128
Ilmu Pengetahuan Sosial (IPS)	Identify different landforms and climate zones in Indonesia. Understand how climate influences vegetation and human activities.	Handbook Year 4 pp. 73-88
Bahasa Indonesia	Read and comprehend texts discussing environmental issues, including climate change and deforestation.	Handbook Year 5 pp. 147-170
Pendidikan Pancasila	Discuss the importance of protecting the environment, including addressing climate change through Gotong Royong.	Handbook Year 6 pp.224-244
Seni Rupa	Create artworks that depict environmental themes, including landscapes affected by climate change to raise awareness about climate-related issues.	Handbook Year 4 pp. 17-42

Kurikulum Merdeka Indonesia - Sekolah Menengah Pertama (SMP)

Subject	Learning Objective	Curriculum
Ilmu Pengetahuan Alam (IPA)	Understand the composition and structure of the Earth's atmosphere, the greenhouse effect, and its role in regulating the Earth's climate.	Handbook Year 7 pp. 227-237
Ilmu Pengetahuan Sosial (IPS)	Analyse climate data to identify trends and patterns. Discuss the causes and consequences of climate change.	Handbook Year 8 pp. 01-62
Pendidikan Pancasila	Investigate environmental issues within the local community. Develop a sense of responsibility towards addressing these issues.	Handbook Year 8 pp. 131-164
Bahasa Inggris	Investigate environmental issues related to cleanliness, waste management, pollution, and conservation.	Handbook Year 7 pp. 130-152
Informatika	Explore energy sources, such as solar, wind, and hydroelectric power to understand renewable energy systems.	Handbook Year 8 pp. 73, 264

Kurikulum Merdeka Indonesia - Sekolah Menengah Atas (SMA)

Subject	Learning Objective	Curriculum
Biologi	Explore how organisms, including plants, adapt to changes in their environment. Investigate the impact of environmental changes on ecosystems.	Handbook Year 11 pp. 57-88
Fisika	Discuss the greenhouse effect, climate change, and the physics principles behind global warming.	Handbook Year 12 pp. 110-114
Geografi	Explore climatic factors influencing weather patterns and climate zones. Investigate the causes and consequences of climate change.	Handbook Year 11 pp. 1-62
Pendidikan Pancasila	Analyse the social, economic, and political dimensions of environmental issues. Evaluate policies and initiatives for promoting sustainable development.	Handbook Year 11 pp. 69-108
Ekonomi	Analyse the economic implications of climate change and environmental degradation.	Handbook Year 12 pp.40-90

Case Studies from Australian and Indonesian Schools

The real-world examples below offer tangible demonstrations of innovative approaches for integrating climate change education into school classrooms. By examining case studies from both Australian and Indonesian schools, teachers can gain a comprehensive understanding of diverse perspectives influencing climate change education in the region.

1. Sustainable Art Program - Frankston High School - Australia

Frankston High School in Victoria initiated a Sustainable Art Program where students explored the use of bioplastics in art classes. The program aimed to raise awareness about sustainable materials and practices among students. Through hands-on activities, students learned about the environmental impact of traditional art materials and experimented with creating artworks using bioplastics sourced from natural materials. The initiative not only fostered creativity but also promoted sustainable practices among students, encouraging them to consider the environmental implications of their artistic choices.

[The Melbourne high school creating sustainable artwork with bioplastics](#)

2. School Waste Reduction Initiatives - Australia

In 2019, several schools in Melbourne, including Shelford Girls' Grammar and St Kilda Park Primary School, implemented a "bin ban" policy, requiring students to either reuse containers or take their garbage home. This initiative aimed to reduce waste generation and promote sustainable practices among students, encouraging them to be mindful of their consumption habits. The implementation of the bin ban policy led to a significant reduction in the amount of waste generated by these schools, fostering a culture of environmental responsibility among students and staff.

[Melbourne school's bin ban forces students to reuse containers or take garbage home](#)

3. Sustainable School Garden Programs - Australia

Several schools in Queensland implemented sustainable gardens as part of the "Pick of the Crop" school garden program. Students actively participated in growing fruits and vegetables on the school premises. The initiative aimed to educate students about sustainable agriculture practices, the importance of biodiversity, and reducing carbon footprint through locally sourced food. As a result, students developed a deeper understanding of environmental stewardship and healthy eating habits.

[Queensland Pick of the Crop school program encouraging kids to eat more fruit and vegetables](#)

4. Bush School's Solar Energy Integration - Australia

A bush school in South Australia embraced solar energy as part of its commitment to sustainability and climate education. By installing solar panels on campus, the school not only reduced its carbon footprint but also provided students with real-life examples of renewable energy systems. The initiative included educational programs that taught students about solar technology, energy conservation, and environmental stewardship. Through hands-on experiences with solar energy, students gained a deeper understanding of sustainable practices and their impact on the environment.

[Bush school embraces solar power as students build panels for fish farm](#)

5. Waste Free Werribee – Werribee Secondary College - Australia

Students at Werribee Secondary College spearheaded initiatives to reduce waste and promote sustainability. They implemented a discount for reusable containers at the canteen, introduced Nude-Food lunch boxes, and creatively raised awareness through assemblies, a dedicated website, a rap music video, posters, and an Instagram page, all under the banner of 'Project Zero Waste.' These efforts not only minimised waste but also fostered environmental consciousness and community engagement.

[2023 Student Actions Projects](#)

6. Bin Lid Birds - Lorne College - Australia

Students at Lorne College tackled the issue of Sulfer Crested Cockatoos spreading rubbish in the local community by researching and implementing solutions from across the country. They collaborated with affected groups, partnered with community organizations, and designed educational posters to raise awareness about the issue and possible solutions. Their efforts aimed to mitigate environmental pollution and promote community engagement.

[2023 Student Actions Projects](#)

7. Hydrogen Grand Prix Task - Gladstone State High School - Australia

Students from Gladstone State High School organized a Hydrogen Grand Prix event where students designed and raced hydrogen-powered model cars. This initiative aimed to promote STEM education and raise awareness about hydrogen as a clean energy alternative. Students learned about hydrogen fuel cells, renewable energy, and sustainable transportation. Outcome: The Hydrogen Grand Prix fostered students' interest in STEM subjects and alternative energy technologies. It provided hands-on learning experiences and encouraged collaboration and innovation among participants.

[Students race hydrogen-powered model cars in Gladstone for endurance grand prix](#)

8. War on Waste Film Competition - Australia

Several schools on the Sunshine Coast participated in a War on Waste film competition, where students produced short films addressing waste management and sustainability. Students researched environmental issues, developed scripts, and filmed documentaries focusing on reducing waste and promoting recycling. The initiative encouraged students to become advocates for environmental change in their communities and provided a platform for creative expression on climate-related topics.

[Schools and businesses join war on waste during National Recycling week](#)

9. Landfill Project - Aitken College - Australia

Aitken College have been focusing on reducing the amount of rubbish that goes into landfill. This is in line with the College's strategic plan to reduce landfill accumulation. The Environment team implemented classroom compost bins at Year levels from Prep to Year 9. The school was able to compost all food scrapes such as fruit, vegetables, meat and bread due to the implementation of the Bokashi compost system. Outcomes of this project include increased awareness of global environmental challenges, practical skills in sustainable practices, and a commitment to taking action for a more sustainable future.

[Aitken College - Sustainable Learning Stories](#)

10. Little Things with Wings - Mullum Primary School - Australia

Students at Mullum Primary School addressed declining local wildlife by rewilding their school grounds, focusing on creating habitats for insects and birds. They used data to guide their project, learned about Indigenous plants, and organized an Indigenous Tree Planting Day with community partners. Through an Art Competition, they raised awareness of endangered local animals. Future plans include a new garden bed in Autumn 2024. Learning outcomes encompassed data analysis, community engagement, environmental stewardship, and habitat restoration.

[2023 Student Actions Projects](#)

11. Water Project - Aitken College - Australia

Aitken College have been focusing on completing a water module. Prior to completing the water module. Through conducting a water audit at the end of Term 1 and start of Term 2 by the student environment team Aitken College identified areas the school could focus on to reduce water use. Outcomes of this project include increased awareness of global environmental challenges, practical skills in sustainable practices, and a commitment to taking action for a more sustainable future.

[Aitken College - Sustainable Learning Stories](#)

12. HME ITB Solar Panel Installation - SDN Pelesiran - Indonesia

HME ITB installed solar panels at SDN Pelesiran, Bandung, promoting renewable energy and sustainability in education. The project, led by students, aimed to reduce carbon footprint and educate students about renewable energy. Outcomes include practical experience in solar panel installation, increased clean energy access, and heightened awareness of sustainability.

[Pengabdian Masyarakat HME ITB Pasang Panel Surya di SDN Pelesiran](#)

13. School Waste Reduction - SMPN 2 Mojokerto - Indonesia

SMPN 2 Mojokerto initiated "Sumpah Bang Jai," a waste reduction program where students pledge to minimize school waste. Through waste separation, recycling, and composting activities, students actively manage waste and raise awareness about environmental sustainability. The program fosters a sense of responsibility towards waste reduction and resource conservation. Outcomes include decreased school waste, improved recycling practices, and heightened environmental consciousness.

[SMP Negeri 2 Mojokerto, Kurangi Sampah Sekolah melalui Sumpah Bang Jai](#)

14.Organic Waste to Compost - SMPN 2 Sabang - Indonesia

Students at schools in Sabang, Indonesia, initiated a project to turn organic waste into compost. The project involves collecting organic waste from school canteens and classrooms, composting it using aerobic decomposition methods, and using the resulting compost to fertilize school gardens. Through this project, students learn about the principles of composting, waste reduction, and soil health. Outcomes include practical skills in waste management, environmental stewardship, and the promotion of sustainable agricultural practices.

[Pelajar sekolah di Sabang olah sampah organik jadi pupuk](#)

15.School Gardens - SMAN 15 Semarang - Indonesia

Initiated by SMAN 15 Semarang, students were actively involved in improving their school gardens, transforming them into sustainable spaces that reflect their commitment to environmental stewardship. Through their participation in the Indonesian Government's ADIWiyata program which focuses on fostering environmental awareness, they gained valuable insights into environmental conservation and the importance of preserving natural resources for future communities.

[Gaya hidup berkelanjutan sebagai proyek penguatan profil pelajar pancasila sman 15 semarang tahun 2023](#)

16.Waste Bank Program - SMAN 1 Lingsar - Indonesia

SMAN 1 Lingsar initiated a waste management project which involved educating students on the importance of waste and actively involving them in recycling efforts. This initiative not only enhanced students' understanding of environmental stewardship but also encouraged active participation in preserving their surroundings.

[SMAN 1 Lingsar Libatkan Siswa Urus Bank Sampah, Hasilnya untuk Kas Kelas](#)

Climate Change Education Resources

Resource	Description	URL
Getting Climate Ready: A Guide for Schools on Climate Action - UNESCO	A guide for schools on climate action. Includes ways to become a climate ready school and explicit guidelines for taking action.	A guide for schools on climate action
Curious Climate Schools Website	All your student's questions answered in this user-friendly website which includes detailed responses to frequently asked questions, ideas for taking action and class activities for teachers.	Curious Climate Schools
2023 Student Action Projects – Meg Languages	A colourful relatable flip book that covers topics such as sustainability, inclusion, wellbeing and global partnerships with real-life examples of student action.	2023 Student Action Projects
Climate Action Toolkit – Climate Council	Created by the Climate Council, this tool kit includes ways to use your voice and make everyday changes to help make a difference.	Climate Action Toolkit
Sixth Assessment Report - The Intergovernmental Panel on Climate Change (IPCC)	This report assesses the latest scientific findings on climate change, its impacts, adaptation, and mitigation strategies globally.	AR6 Synthesis Report: Climate Change 2023
Subject to Climate Website	An online hub for K-12 teachers of all subjects to find credible and engaging resources about climate change that have been reviewed by educators.	Subject to Climate

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