

Climate change communication and education country profiles: Approaches to greening education around the world

WHY IS CLIMATE CHANGE EDUCATION IMPORTANT?

Climate change communication and education (CCE) is a critical tool to help citizens understand and address the impacts of climate change. It aims to develop understanding, values and behaviours that can advance collective climate action. It addresses both climate change mitigation and adaptation, and includes a focus on climate justice and, where appropriate, Indigenous knowledge (UNESCO, 2021). The elements of 'good' CCE include learning to know (cognitive), learning to be (socio-emotional), learning to do (action-oriented), and learning to live together (justice-focused) (SEPN, 2020).

Public sentiments increasingly reveal the extent of people's concerns about the impact of climate change on their lives. The majority of respondents in nearly every area covered in the Yale 2022 international public opinion survey on climate change are either 'very' or 'somewhat' worried about climate change. In countries (such as those in Latin America) where respondents are most concerned about climate change, respondents are also more likely to think that climate change will harm future generations 'a great deal' (Leiserowitz et al., 2022). Similarly, the World Risk Poll developed by Lloyd's Register Foundation and conducted in 2021 in 118 countries, found that in 56 countries, more than 50% of respondents think that climate change is a very serious threat (Lloyd's Register Foundation, 2022).

Children and young people are more vulnerable to climate anxiety, which is associated with several negative and complex feelings and emotions

(Hickman et al., 2021). For example, in a 2021 survey, 59% of 16- to 25-year-olds in Australia, Brazil, Finland, France, India, Nigeria, Philippines, Portugal, the United Kingdom and the United States were 'very' or 'extremely worried' by climate change; 75% said that 'the future is frightening' (Hickman et al., 2021).

Quality CCE should help learners overcome feelings of grief, anxiety, denial and apathy (Ojala, 2017; Stevenson and Peterson, 2016). Participatory learning and taking action towards solutions fosters hope and a sense of greater collective agency (Bright and Eames, 2022). Indeed, estimates suggest that behavioural solutions in different areas including food, transport, energy and materials, and agriculture could help reduce emissions by up to 37% by 2050 (Williamson et al., 2017).

Levels of knowledge about climate change vary among students and teachers. For example, less than 40% of 58,000 teachers from 144 countries interviewed by UNESCO and Education International felt confident teaching the severity of climate change (UNESCO, 2021). While 79% of 15-year-old students in the 2018 Programme for International Student Assessment indicated they were aware of climate change, knowledge varied considerably across countries and groups of students (OECD, 2018). Understanding climate change is more difficult where young people lack basic skills. In 18 of 31 low- and lower-middle income countries for which data has existed, since 2019, fewer than 10% of children are reaching minimum proficiency in reading and/or mathematics (UNESCO, 2023a). This highlights a concerning trend in levels of educational preparedness for understanding complex issues like climate change.

In 2023, 70% of 17,000 young people across 166 countries surveyed by UNESCO expressed concerns about the quality of climate change education. More than 9 in 10 students were informed about climate change in school, but 27% could not explain it, 41% could only explain the broad principles, and 2% knew nothing about it. Although 90% believe that schools should 'prepare for climate change', only 79% thought that schools currently fulfilled that role. One in five students felt unprepared, and 91% wanted more comprehensive climate education, notably emphasizing practical actions. Many worried that the topic is often addressed generically without any connections made to tangible solutions (UNESCO, 2023b).

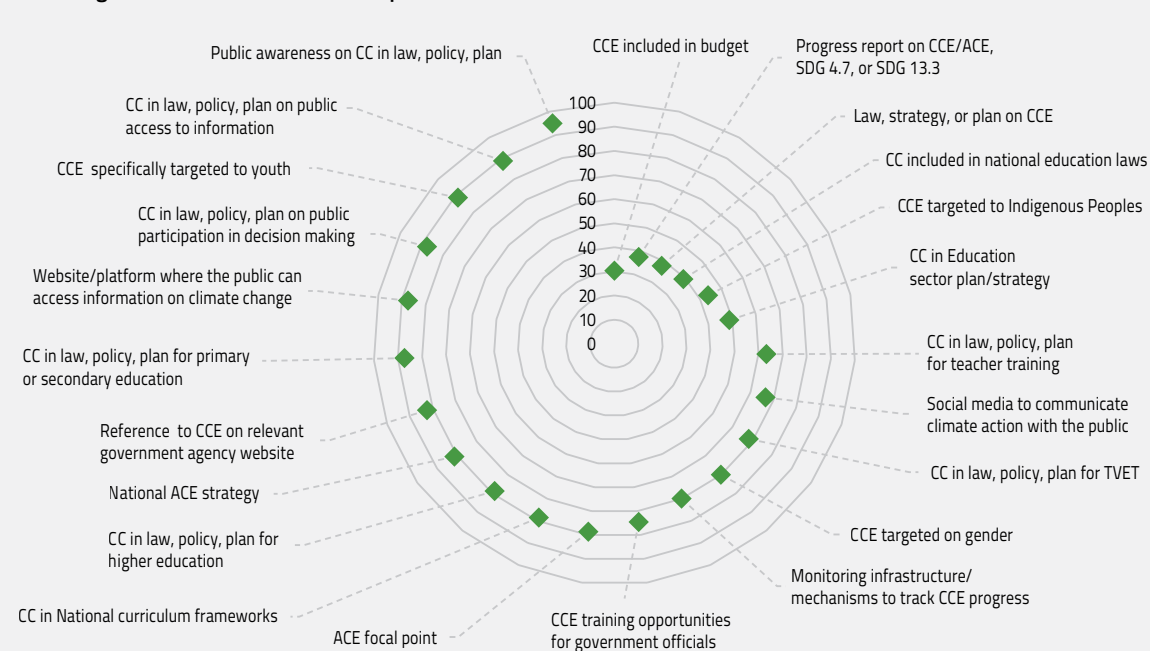
COUNTRY PROFILES: A TOOL TO FOSTER PEER LEARNING AND POLICY DIALOGUE ON CLIMATE CHANGE EDUCATION

An ongoing partnership between UNESCO's Global Education Monitoring (GEM) Report and the Monitoring and Evaluating Climate Communication and Education

(MECCE) Project, hosted by the Sustainability and Education Policy Network (SEPN), has developed 80 country profiles on CCE policies and practices. These are available on the MECCE Project website (www.mecce.ca) and on the GEM Report Profiles Enhancing Education Reviews website (PEER, www.education-profiles.org) which also hosts country profiles on other themes at the core of Sustainable Development Goal (SDG) 4.

The 80 country profiles provide a comparative perspective of countries' progress in relation to Article 6 of the United Nations Framework Convention on Climate Change (UNFCCC) and Article 12 of the Paris Agreement, through Action for Climate Empowerment (ACE); and on SDG Target 4.7, which focuses on education for sustainable development. The profiles cover all regions of the world, all income levels. The countries they cover are home to 75% of the global population.

FIGURE 1:
Percentage of countries' with laws and policies related to CCE and/or CC



Note: CC: climate change; CCE: climate change education.
Source: PEER profiles on CCE.



As the world unites to negotiate the steps needed to mitigate and adapt to climate change, the profiles aim to support peer learning and monitoring of global progress. Each profile describes:

- Context, such as relevant government agencies, laws, policies, plans, terminology and budget allocations
- Climate change education policies and curricula in primary, secondary and tertiary education, teacher training, TVET, and adult education
- Climate change communication for public awareness, public access to education and public participation
- Monitoring and evaluation

The GEM Report and MECCE Project teams have developed several measures to identify global trends in policies and practices in the country profiles (Figure 1). The measures can support countries to learn from peers. They can also support global target-setting and benchmarking in diverse contexts – particularly when used in combination with global indicators, regional and national surveys and polls, and qualitative Information. Some of the measures are illustrated in the following pages.

1. LEGISLATION AND POLICIES SUPPORT MAINSTREAMING CLIMATE CHANGE IN CURRICULA

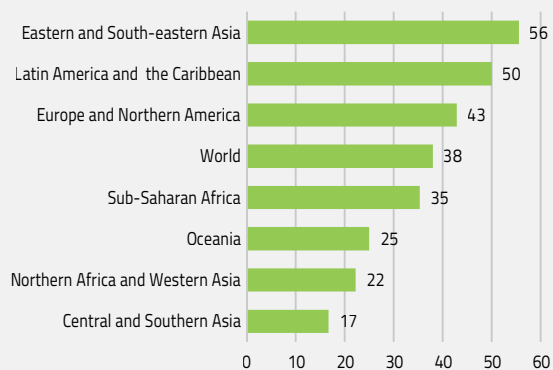


Of the 80 countries, 87% have laws, policies or plans supporting the integration of climate change in primary and secondary education

curricula. However, only 38% have a law, policy and/or strategy specifically focused on CCE; and 49% include the latter in their education sector plan or strategy.

Countries have made great strides in mainstreaming climate change in the curricula at all levels of education.

FIGURE 2:
Only 38% of countries have a national law, policy and strategy specifically focused on CCE



Source: PEER profiles on CCE.

However, only 38% of the 80 countries have a national law, policy and strategy specifically focused on climate change education (CCE) (Figure 2).

In **Bolivia**, the National Strategy of Education and Communication for Climate Change (2009) incorporated climate change concepts into new curricula, while also covering educational spaces, teacher training and the importance of continuous interaction with families. The Plurinational Climate Change Policy (2016) aims to strengthen education and training to improve mitigation efforts and adaptation to climate change, covering capacity building, awareness raising and educational initiatives.

In **Chile**, Article 16 of the Framework Law (2022) refers explicitly to education for climate change. Climate change is addressed in pre-primary, primary and secondary education as part of a broader National Environmental Education Strategy (2023), spearheaded by the Ministry of Education and the Ministry of the Environment.

In **Colombia**, the 2017 National Climate Change Policy sets out five strategies addressing information dissemination on science and technology, education, training and public awareness, and climate change management planning and financing. The policy includes objectives to increase capacity and mainstream climate change into the formal education system.

In **Ethiopia**, the National Curriculum Framework (2020) includes environment and climate change as a cross-cutting issue in all study subjects for grades 1 to 12 and is supported by the guide Integrating Climate Change into the Ethiopian Curriculum (2019).

In **France**, climate change education was integrated in the National Education Law in 2013 and reinforced first in 2019 and further by the Law on Climate Change and Resilience (2021). The National Curriculum Framework also makes ample reference to the environment, sustainability and climate change.

In **Indonesia**, climate change was mainstreamed into the school curriculum in 2011. The Meteorology, Climatology, and Geophysical Agency has also developed a special climate change curriculum.

In **Italy**, Law 92/2019 introduces the transversal teaching of civics in the first and second cycles of education to support the development of knowledge and understanding of the social, economic, legal, civic and environmental structures. Guidelines to complement the law were issued in 2020.

In the **Lao People's Democratic Republic**, Article 46 of the Environment Protection Law (2013) stipulates that the government will encourage environmental conservation by integrating environmental topics into formal and non-formal education curricula, at all education levels, including vocational schools, and public and private universities.

In **Norway**, the Climate Action Plan for 2021-2030 highlights the essential role of climate change education in the transition to a low-emission society. It states that '[t]he entire education system, from schools to higher education institutions, is involved in providing new opportunities and enabling emissions to be cut in the future' (p. 21). The Core Curriculum (2019) emphasizes the role of schools in fostering climate and environmental awareness and underscores the inclusion of sustainable development as an interdisciplinary topic.

The **Tonga** Strategic Development Framework 2015-2025 (2015) developed by the Ministry of Finance emphasizes the risks posed by climate change and prioritizes a knowledge-based economy. The framework promotes climate communication, education on disaster risk preparedness, and awareness of response measures. It also plans to deliver improved technical and vocational education and training.

In the **Republic of Korea**, the National Curriculum Framework began integrating climate change education at all levels in 2007, including at preschool level. The curriculum for 4-year-olds encourages children to have an interest in weather and climate change, and for 5-year-olds, to learn about climate regularity. The National Curriculum Framework is also rooted in the Environmental Education Promotion Act, which aims to develop knowledge and capacity at all levels to prevent and address environmental problems, including climate change.

The **United Arab Emirates'** National Environmental Education and Awareness Strategy 2015-2021 is based on six key objectives. These include to educate youth to drive the country towards a sustainable future, and to ensure alignment and effectiveness of environmental education and awareness efforts. Environmental priorities are written into the pre-primary, primary and secondary school curricula, teaching and learning materials, and national voluntary programmes supporting schools, universities and vocational and education training institutes.

In **Zambia**, the National Climate Change Learning Strategy (2021) commits to integrate climate change in teaching and learning materials from preschool to secondary school.

2. INITIATIVES ENCOURAGING SOCIAL, EMOTIONAL AND EXPERIENTIAL LEARNING ARE EMERGING



Quality CCE is holistic; that is, it incorporates socio-emotional and action learning in addition to cognitive learning. In **Iceland**, Astrid, a digital platform, provides holistic climate change education, aiming to reach students early to inspire action

and combat climate anxiety with scientific evidence. In the **Dominican Republic**, with the support of the Ministry of the Environment and Natural Resources, projects like Eco-School Visits and Green Schools have been developed. The projects involve students, teachers and staff in environmental workshops and excursions and aim to boost environmental education and create a general culture to mitigate climate change.



A few countries incorporate psycho-social, or social or emotional learning on climate change into primary and secondary education. In **Cabo Verde**, the Grade 2 Integrated Science Manual promotes respect for and conservation of natural resources through cognitive and social-emotional learning. In **China**, feelings, attitudes and values have been prioritized since at least 2003, when the Guidelines for the Implementation of Environment Education in Primary and Secondary Schools were developed. The guidelines aspire to prepare learners to care for nature, and respect life, different views and cultural diversity. In parallel, the 2016 Core Competencies and Values for Chinese Students' Development aim to instil global awareness, open-mindedness, and an understanding of human civilization to address global challenges for a shared future. In **France**, the Ministry of National Education and Youth, through Réseau Canopé, provides a wide range of resources for educators and the public, including on eco-anxiety related to climate change, through books, lesson plans, games and online material. In **Türkiye**, the Climate Change Action Plan (2022) notes that the framework for psychological counselling services will be restructured to align with environmental and climate change and sustainable development objectives, focusing on vocational promotion and guidance.

In contrast to these psycho-social aspects, it is more common to see countries emphasize action learning in relation to climate change. In **Ecuador**, the Manual of Good Environmental Practices for Educational Institutions (2018) applies both cognitive and action learning dimensions by promoting campaigns, seminars and environmental activities at school. In **Ghana**, the National Pre-Tertiary Education Curriculum Framework (2018) encourages learners to take climate actions that foster sustainable growth and development. In **Morocco**, the 'One Student, One Tree, One School, One Forest' project has engaged an estimated 6 million students to plant seeds and cuttings in school grounds and surroundings. Pedagogical activities, such as workshops educating students about the value of forests, planting and green spaces, are scheduled before and after each planting activity. The education ministry collaborates with the Mohammed VI Foundation for the Protection of the Environment to offer an Eco-Schools programme. In **New Zealand**, the Climate Change Programme 'Prepare today, live well tomorrow', aims not only to equip students with knowledge but also to encourage

them to take action and to consider what it means for other groups of people to live with climate change. In **Qatar**, the Ministry of Education and Higher Education has run Natural Science Research Competitions for schools since 2015. For its 12th cycle, schools submitted 705 research projects on environmental issues, on topics such as air quality, waste management, water quality and crop irrigation. In **Romania**, the Ministry of Education and the Ministry of Environment, Water and Forests adopted the National Strategy on Education for Environment and Climate Change (2023) involving various institutions, including those supporting outdoor educational activities. The 'Different School' national programme expects students to take part in adventure activities to expand their horizons and promote an active, inclusive and sustainable lifestyle in harmony with nature, and with a focus on addressing climate change.

Extracurricular activities are also used for climate action-related objectives in the curriculum, as seen in **Ethiopia** (Education Sector Development Programme VI 2020-2025), **Jordan**, **Lebanon** and **Namibia** (National Environmental Education and Education for Sustainable Development Policy, 2019). In **Côte d'Ivoire**, the 'Green Pupil' project educates primary and secondary school students about environmental concepts and eco-citizen initiatives, primarily on extracurricular days. In **El Salvador**, the 2021 National Higher Education Policy promotes workshops, guest lectures and extracurricular activities, such as community tree planting events, environmental film screenings, youth climate clubs, and local food and sustainable agricultural initiatives involving poor and marginalized communities.

In some cases, active CCE learning is fostered in the community. In **Cameroon**, the African Association for Green Cities (AVIVE) initiated the Environmental Education project, which promotes the development of school and community botanical gardens, environmental education concepts, and community-led efforts like reforestation, soil fertility restoration and ecological restoration. In **Saint Lucia**, children take part in gardening with support from farmers, caretakers and community extension officers. These initiatives support the national school-feeding programme and promote sustainability and food security.

3. SOME COUNTRIES ARE EMBRACING THE TRANSITION TO GREEN AND SUSTAINABLE SCHOOLS



The UN Transforming Education Summit highlighted the role of schools as agents of change to get every learner prepared for climate change.

At the global level, the Eco-Schools programme contributes to the enhancement of environmental practices worldwide. Launched in 1994 by the Foundation for Environmental Education (FEE), it is implemented by FEE member organizations in 73 countries, and in 26 countries through International Schools. For example, in the **United Arab Emirates**, 45 public and private schools have actively participated in the programme. Eco-Schools that are rewarded with a Green Flag Certification have to implement the programme for at least two years.

Several countries have green-school initiatives at the national level. In **Haiti**, the Green Schools Initiative, launched in 2018 as part of the USAID-funded Reforestation Grant Fund, encourages schools to empower youth through nature-based learning and visits to ecological parks, aiming to create youth ambassadors. In **Indonesia**, the Green School / Adwaita Programme, organized by the Ministry of Environment and Forestry since 2006, takes a holistic perspective aiming to change student behaviour, limit resource use, create a sense of belonging, connect schools to the community, and improve overall awareness about climate change. In **Israel**, Green School Certification encourages schools to not only teach about the environment through subjects, but also to act in a sustainable manner by conserving resources and promoting eco-efficiency. In the **United Arab Emirates**, the Green Education Partnership Roadmap with UNICEF and UNESCO announced by the Ministry of Education ahead of COP28 in 2023 covers eco-friendly initiatives such as seeking green accreditation for 50% of the schools and campuses. Some school-greening initiatives are focused more on the operations and facility aspects of schools. In **India**, the Centre for Environmental

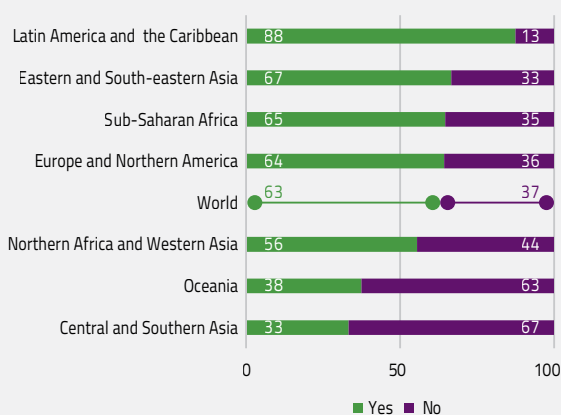
Research and Education has been running the Schools on Solar project since 2018. The project helps to install solar panels in schools and colleges and trains students in solar energy, who are then encouraged to become 'solar ambassadors' and promote environmental awareness. In **Japan**, the curriculum promotes eco-schools, which save energy, reduce carbon emissions and provide environmental education. In **Kenya**, the UNESCO Associated Schools Project Network (ASPNet) covers green-school facilities management. Pre-primary, primary and secondary school students study how to design and maintain the school garden and how to compost.

4. TEACHER TRAINING IS GAINING MOMENTUM BUT 1 IN 3 COUNTRIES DO NOT EMPHASIZE IT



At least one third of the 80 countries do not emphasize climate change in their teacher training plans.

FIGURE 3:
One-third of countries do not emphasize climate change in their teacher training plans



Source: PEER profiles on CCE.



Countries' plans and policies are emphasizing the role of teachers in a transition towards effective climate change education (Figure 3). In most of the 80 countries, modules and resources on CCE are available to teachers. In **El Salvador**, the 2019 National Teacher Training Plan aims to elevate education standards, with a particular focus on climate change. The plan is introducing new teacher specializations on topics such as environmental education and climate change risk management. The plan prioritizes specialization in science, health and environmental education for primary school teachers. A Train-the-Trainer Climate Change module is also available. In **New Zealand**, the Ministry of Education and the Ministry for the Environment have made several online resources available for teachers such as the Science Learning Hub, Pūtātara, and Rangi, incorporating Māori principles. In **Sweden**, the Swedish Meteorological and Hydrological Institute has a guide for teachers on integrating climate change into various subjects, through four perspectives: ethical, environmental, international and historical. An additional guide, 'The climate is changing and it affects you', also helps teachers plan lessons with information on climate change causes, societal impacts, mitigation strategies and adaptation measures. In **Thailand**, the Department of Environmental Quality Promotion, which operates within the Ministry of Natural Resources and Environment, released an Environmental Studies Activity Manual. The manual serves as a teacher's guide and as a resource for the general public, providing essential knowledge on climate change and environmental education. In **Viet Nam**, the Teacher Manual on Climate Change Education (2012) presents student-centred activities for teachers to use when teaching about climate change, including group discussions, mind maps, games and films.

More structured training such as professional development and pre-service training for teachers is available in some countries, but it is less common. In **Israel**, as part of the plan of the Ministry of Environmental Protection (2022), 265 training courses on climate change and the environment were provided to teachers. And in **Scotland**, the organization Keep Scotland Beautiful offers an accredited workshop for educators called Climate Ready Classrooms. In 2013, in **Cambodia**, the Ministry of Education, Youth and Sports published a lesson plan and principles for trainers and teachers-in-training that covered topics related to climate change and the environment. In **Uruguay**, all pre-service teachers have to attend a class called Climate: Components and Factors during their studies.

5. CLIMATE CHANGE TRAINING AND CAPACITY BUILDING ARE PART OF MOST COUNTRIES' PLANS



68% of the 80 countries include climate change in laws, policies and plans related to technical and vocational education and training (TVET); 75% in training for government workers; and 79% in laws, policies and plans for higher education.

In **Cuba**, the Ministry of Agriculture's Agrarian Network on Climate Change conducts research and provides training on climate adaptation and mitigation in the agricultural sector. By 2020, over 200 professionals from affiliated scientific institutions had taken its climate change courses. In **Madagascar**, the National Adaptation Plan for 2021 includes training healthcare professionals about climate change to bridge the knowledge gap in climate-related risks and health impacts. The **Maldives'** Communication Strategy and Action Plan (2019–2023) aims to train various target audiences to integrate sustainable development at all levels of planning and implementation. Key groups include farmers and fisherfolk, social mobilizers, lead agencies on SDGs, youth, women's groups, residents and government authorities.

Sweden provides targeted training for municipalities and businesses, including web-based courses for local communities to respond effectively to climate change.

In **Italy**, a 2018 decree regulating TVET explicitly includes climate knowledge in the outlined competencies. **Fiji's** Low Emission Development Strategy (2018) aims to enhance the TVET system by developing a curriculum aligned with the labour market needs of the low-carbon economy. In **Chile**, higher education prioritizes climate change through academic programmes, research, and community outreach, aligning with the Environmental Education Handbook (2020). Universities and research centres, including the Universidad de Chile and the Global Change Center at Pontificia Universidad Católica de Chile, integrate climate components across academic disciplines.

6. DIFFERENT COMMUNICATION APPROACHES ARE USED TO IMPROVE PUBLIC AWARENESS



In total, 95% of countries included public awareness in climate change-related laws, policies or plans.

Countries often turn to public awareness campaigns to educate communities about the need for more climate-responsible behaviour. In **Bolivia**, national campaigns such as 'Your Plate, Your Planet' aim to promote sustainable food choices for the benefit of people's health and the environment in the context of climate change. Support to international campaigns like 'Claim the Power' and 'The Energy' aim to advocate for environmental preservation in the face of potentially harmful energy projects and their impact on climate change.

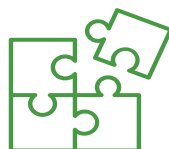
In **Chile**, the Fourth National Communication (2021) mentions public campaigns and educational programmes for schools, communities, Indigenous peoples, and industry to boost understanding and participation in climate change mitigation. These efforts include campaigns like #YoReciclaOrganicos, which raise awareness about the role of organic waste in climate change mitigation. The Ministry of Energy's Technical Assistance Unit uses social media to disseminate climate data.

In **India**, a custom built, 16-coach train called the Science Express Climate Action Special acts as a mobile climate change science exhibition. The train has travelled more than 160,000 kilometres and reached more than 20 million people.

In **Japan**, the COOL BIZ (summer) and WARM BIZ (winter) campaigns provide tips on adapting to weather through internet, television, newspaper and radio messaging.

In 2021, **Malta's** national public awareness campaign in social media #ClimateON aimed to shift its citizens' habits towards living in a low-carbon society.

7. MOST CLIMATE CHANGE PLANS ARE FOCUSING ON PUBLIC PARTICIPATION, YOUTH AND CLIMATE JUSTICE



Of the 80 countries, 88% focused on public participation in their laws, policies and plans and 89% identified youth as a target audience.

Youth are increasingly engaged in climate change actions. For example, in 2021, as part of **Argentina's** Hackathon of Youth for the Environment, 200 secondary school students proposed solutions for environmental problems to government officials, aided by facilitators from the Ministry of Education and NGOs.

Some countries have empowered the youth to raise their voices on the global stage. Through its Ministry of Foreign Affairs, **Chile** runs a Youth Climate Ambassadors initiative, which selects and empowers 30 young Chileans to participate in international climate negotiations and engage in dialogue with the national UNFCCC negotiating team. **France** established the Young Delegates for Climate programme in 2009 to encourage the involvement of youth in climate action and to improve transparency in the negotiation process within the UNFCCC. Two young French citizens accompany the French inter-ministerial team for two years during the sessions of the subsidiary bodies and the Conference of Parties to the UNFCCC.

Other countries are building the public's capacity to participate in decision-making related to climate change. In **Colombia**, the Ministry of the Environment and Sustainable Development proposed a Citizen Participation Plan, encouraging citizens to contribute to decision-making processes through public hearings and consultations. And in **Côte d'Ivoire**, the Ministry of Environment and Sustainable Development, through the National Climate Change Program, organized a public validation workshop of the National Learning Strategy on Climate Change 2022–2026.



Finally, some countries are engaging with climate justice in relation to CCE. For example, **Uruguay's** National Action for Climate Empowerment (ACE) Strategy (2022) ensures a cross-cutting approach that considers human, equity and social justice.

8. SOME COUNTRIES ARE ACTIVELY INCLUDING INDIGENOUS PEOPLES IN THEIR CLIMATE CHANGE EDUCATION AND COMMUNICATION ACTIVITIES

Of the 80 countries, only 44% target Indigenous peoples in their climate communication and education activities.

Many states in **Australia** emphasize Indigenous knowledge in their policies. The National Climate Resilience and Adaptation Strategy (2021) notes the importance of blending 'traditional weather and climate knowledge' with western science to address the climate crisis in climate communications. The Seed Indigenous Youth Climate Network plays a vital role in raising public awareness of climate issues.

In **Canada**, the Expert Panel on Climate Change Adaptation and Resilience was established in 2017 to combine scientific information and Indigenous knowledge in climate solutions and communications. At the University of Saskatchewan, the Master of Education in Indigenous Land-Based Education engages educators to address climate change in their Indigenous land-based education practices.

In **Chile**, the Voluntary National Review highlights workshops run for young people grounded in Indigenous knowledge, the creation of education materials that empower youth, and an emphasis on local ownership.

Ecuador incorporates the ancestral term 'Sumak Kawsay', meaning the 'good' or 'plentiful life', into its national development plans, climate change strategies and Constitution. The term is also mainstreamed across the country's CCE programmes.

The University of **Nigeria**-Nsukka campus has established postgraduate programmes on climate change, which include topics relating to the application of Indigenous technologies in tackling climate change.

9. SOME COUNTRIES ARE ADOPTING GENDER-SPECIFIC APPROACHES

Countries acknowledge the complexity of climate issues and strive to include gender-specific considerations to address the challenges of climate change more inclusively. Of the 80 countries, 70% target girls and gender minorities in their climate communication and education activities.

Côte d'Ivoire prioritizes the mainstreaming of gender in climate action, and the country has developed a National Gender and Climate Change Strategy 2020–2024 (2019), which considers gender as a cross-cutting theme in priority sectors.

In the **Dominican Republic** the Gender and Climate Change Plan (2018) addresses gender issues in relation to climate change and aims to overcome gender inequality.

The Republic of **Nauru's** Framework for Climate Change Adaptation and Disaster Risk Reduction (2015) highlights the inclusion of youth in planning and decision making to address gender gaps in climate adaptation and risk reduction.

Pakistan's Nationally Determined Contribution (2021) recommends promoting women's participation in decision making at local levels and strengthening rights-based approaches and gender-responsive measures, to highlight the importance of women in decision making for natural resources management.

In **Panama**, the Ministry of Environment presented the National Gender and Climate Change Plan in 2021 to strengthen national capacities in mainstreaming gender equality perspectives on climate action policies.

10. RESPONSIBILITY FOR CLIMATE CHANGE EDUCATION AND COMMUNICATION IS OFTEN DISTRIBUTED BETWEEN DIFFERENT ACTORS



In **Israel**, starting in 2015, the Ministry of Education has been working with the Ministry of Environmental Protection to promote educational reform in climate change education. It has set up dedicated

multi-professional and multi-sector teams at its headquarters in cooperation with representatives of civil society, academic experts, and environmental and protest organizations. A declaration on a joint climate change education plan (2022) between the two ministries defines climate change as a mandatory learning area from kindergarten through secondary school.

In **Myanmar**, the Climate Change Strategy and Action Plan 2016-2030 lists the 'promotion of multi-stakeholder partnerships for climate change education, science and technology at international, national and sub-national levels' as an objective. The plan outlines the need to organize national- and regional-level joint climate change science and technology fairs and mentions an activity to implement events on climate science, education and technology in marginalized areas.

Pakistan's civil society organizations are leading training on climate change and cross-cutting issues for building awareness. The Institute of Rural Management operates a country-wide Climate Change Programme conducting community and youth training on disaster risk reduction, water resource management and themes of climate change.

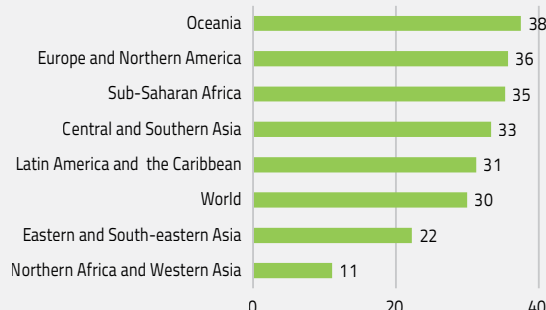
In the **United States**, several non-governmental, civil society, and research organizations support government efforts. The North American Association for Environmental Education also focuses on climate change education. Universities, including Yale and the Harvard University Center for the Environment (in partnership with the Climate Leaders Program at Harvard) have set up various initiatives involving different actors.

11. DESPITE THE URGENCY TO PREPARE LEARNERS OF ALL AGES FOR A GREEN AND SUSTAINABLE FUTURE, BUDGET ALLOCATION FOR CCE IS RARE



Only 30% of the 80 countries have publicly available CCE budgets.

FIGURE 4:
Less than 1 in 3 countries include CCE in their budget



Source: PEER profiles on CCE.

The scarcity of budget allocations for CCE hampers the development of crucial initiatives promoting environmental awareness and responsible behaviour (Figure 4). Some countries recognize this issue and urgently allocate more funds to ensure effective education on the challenges of climate change.

In **Cabo Verde**, the National Adaptation Plan outlines the anticipated expenses for implementing a climate education plan from 2022 to 2028, estimated at approximately US\$1,500,000. This budget covers a curriculum evaluation to identify opportunities for integrating climate adaptation topics and conducting research to address related educational needs, (US\$250,000); and capacity-building programmes for teachers and other stakeholders (US\$1,200,000).

Cambodia's Updated Nationally Determined Contribution (2020) lists funding requirements for adaptation actions and for 'enabling actions' that cover climate change communication and education. The cost is estimated to be US\$21 million out of a total of US\$2 billion required for adaptation actions in infrastructure, water and agriculture.

In **Chile**, the Environmental Protection Fund is designed to support mitigation and adaptation projects addressing the causes and impacts of climate change. According to Article 36 of the 2022 framework law, the fund can finance education programmes in line with the Long-Term Climate Strategy and other climate management instruments. In the 2023 Public Sector Revenue and Spending Budget, Chile allocates about US\$1.4 million for actions related to climate change communication and education, or roughly 0.002% of



Chile's national budget for 2023. This is to support initiatives like the development of the Nationally Determined Contribution and the National School Environmental Certification System.

In **Ethiopia**, the Climate Change Education Strategy (2017–2030) had a budget of US\$2 million to fund the development of climate change materials for primary schools, refresher training for schoolteachers, and monitoring and evaluation of the strategy. Further, 2% of the national allocation to schools from 2017 to 2020 was for environment and forestry clubs to integrate climate change into school activities.

In **Italy**, Law 92/2019 Article 6.1 states that 'a share of 4 million euros per year starting from the year 2020 is intended for training teachers on issues relating to transversal teaching civic education,' which include climate change education.

Portugal's 2020 budget for CCE under the National Environmental Education Strategy allocated US\$500,000 to increase the integration of the environment into the national curricula between 2018 and 2020.

In the **United Arab Emirates**, the first dedicated fund on climate change education, the Greening Education Partnership Multi Partner Trust Fund, will be established at COP28 in 2023 to mobilize resources. The aim is to break down silos, increase coherence of stakeholders' interventions and ensure action for climate empowerment, including education, as a key component in climate-related projects.

In **Zambia**, the government allocated funds to increase awareness of climate change for general education (US\$200,000) and higher education (US\$200,000) from 2021 to 2024. A total of US\$1.5 million was also allocated to these sectors to support mainstreaming of climate change learning in nationally prioritized sector policies and systems.

12. MONITORING AND EVALUATION REMAINS PRIMARILY ASPIRATIONAL



Only 38% of the 80 countries report on SDG target 4.7 and SDG target 13.3.

In September 2022, the UN Secretary-General's Transforming Education Summit emphasized the need to transform education to fully contribute to solutions to the global climate and environmental crisis. It underlined the critical importance of preparing every learner with the knowledge, skills, values and attitudes necessary to address climate change and advocate for sustainable development. To deliver strong and coordinated action in these areas, the Greening Education Partnership, a global initiative launched by UNESCO, will work with member states to monitor their progress in the four key pillars of transformative education: greening schools; greening curriculum; greening teacher training; and education systems' capacities and greening communities. In this respect, the Sustainable Development Goal 4 High-Level Steering Committee asked member countries to accelerate efforts on environmental education by setting benchmarks to measure tangible progress in the coming years, with checks in 2025 and 2030. Specific areas are highlighted, including the number of schools that are green-accredited, and the extent to which national laws, policies and standards cover climate education.

At the national level, a few countries have plans for monitoring, evaluating and reporting on CCE. In the **Cook Islands**, for instance, the Second Joint National Action Plan for Climate Change and Disaster Risk Management indicates the importance of effective monitoring and evaluation structures. It states that, as the implementation of the plan involves the use of state budgets, 'it is important that there is accurate monitoring and reporting of implementation results and that transparency is maintained at all times' (2016, p. 39). As a result, the Monitoring and Evaluation Readiness Assessment Report was developed alongside the plan.

Lebanon is currently developing an online information system, the Monitoring Information System of Climate Action.

In **Myanmar**, the Climate Change Policy (2019) advocates for the policy's implementation to be monitored and evaluated to enable the 'progress towards achieving the purpose of this policy' to be tracked, in order to strengthen the capacities of all stakeholders (2019, p. 31).

Namibia's Communication, Education & Public Awareness Strategy (2019–2030) includes several indicators, including the goal of ensuring that 75% of key target groups understand the significance of climate change adaptation and mitigation. A committee overseeing the strategy's implementation evaluates it using three metrics: activity level, impact, and behaviour change.

In **Nauru**, monitoring and evaluation is part of the Framework for Climate Change and Disaster Risk Reduction (2015) and the National Sustainable Development Strategy (NSDS) 2019–2030. Results based on the strategy's monitoring and evaluation framework will influence budget priorities in the Medium Term Expenditure Framework and the Annual Budget, as well as inform the design of the next NSDS Medium Term Strategic Framework. In **Portugal**, the Climate Basic Law (2021) aims to establish a comprehensive system to monitor and evaluate climate change education and communication, and to increase the transparency and efficiency of public access to climate change information.

In **Zimbabwe**, climate change-related learning in formal education is evaluated through school-leaving assessments, specifically examining students' understanding in subjects like geography and science. There are ongoing plans to enhance the monitoring of climate change learning by developing dedicated content. The National Climate Change Learning Strategy (2020) has allocated an estimated budget of US\$120,000 for this initiative.

CONCLUDING REMARKS

Tools that enhance peer learning and policy dialogue are critical for fostering deeper understanding of climate change education and communication issues. By offering insights into how countries pursue their education targets, the series of profiles by the GEM Report PEER and the MECCE Project teams plays a key role in this respect. As countries follow different paths and approaches to achieve their goals, the country profiles – presenting systematic and comprehensive information on national education legislation, policies and strategies related to SDG 4 and SDG 13 and Action for Climate Empowerment in a comparable way – enrich the perspectives of education planners and decision-makers on this issue. The profiles provide a foundation to inform policy discussions at sub-regional, regional, and international levels, and support the development of solutions to overcome climate change challenges.

For information, contact the Global Education Monitoring Report (education.profiles@unesco.org) and the MECCE Project (mecce.info@usask.ca) teams



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The country examples listed in this brochure are drawn from the 80 CCE profiles referenced on the GEM Report Profiles Enhancing Education Reviews website (PEER, www.education-profiles.org) and the MECCE Project website (www.mecce.ca)

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The 80 country profiles by the GEM Report and the MECCE Project teams are available at www.education-profiles.org and www.mecce.ca. They cover the following education systems: Albania, Argentina, Australia, Azerbaijan, Bangladesh, Bolivia, Brazil, Cabo Verde, Cambodia, Cameroon, Canada, Chile, China, Colombia, Cook Islands, Costa Rica, Côte d'Ivoire, Cuba, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Fiji, France, Gambia, Germany, Ghana, Haiti, Iceland, India, Indonesia, Israel, Italy, Japan, Jordan, Kenya, Kyrgyzstan, Lao People's Democratic Republic, Lebanon, Lithuania, Madagascar, Maldives, Malta, Mexico, Morocco, Mozambique, Myanmar, Namibia, Nauru, New Zealand, Nigeria, Norway, Pakistan, Panama, Portugal, Qatar, Republic of Korea, Romania, Rwanda, Saint Lucia, Scotland (United Kingdom), Senegal, South Africa, South Sudan, Sweden, Tajikistan, Thailand, Tonga, Trinidad and Tobago, Türkiye, Tuvalu, United Arab Emirates, United States, Uruguay, Vanuatu, Viet Nam, Zambia and Zimbabwe.

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