

# PRIMER: How Climate Change Impacts the K-12 Learning Experience and Solutions

#### Author:

**Emily Walker** Master of Education EARTHDAY.ORG

#### **Editor:**

**Bryce Coon** Master of Education EARTHDAY.ORG

## CONTENTS

01 Introduction ———	3
<b>02 How Climate Change Impacts</b> Specific Examples Of Climate Change Impacting Schools and Students	
<ul> <li><b>03</b> Funding Schools in the Age of Countries Tackling School Infrastruct Issues Caused by Climate Change</li> <li>Global Funding For Renewable Energy</li> <li>Renewable Energy To Power Schools</li> <li>Solar Energy</li> <li>Wind Energy</li> <li>Geothermal Energy</li> <li>Why Does This Matter?</li> </ul>	cure gy
03 The Role of Climate Education in Adapting to Climate Chang Funding Climate Education Green Skills for the Green Economy f	e —— 13-17
04 Conclusion	18-19
Sources	20

2



Climate change and the extreme weather events it precipitates — ranging from flooding and storms to severe heat and wildfires — are profoundly disrupting education for millions of children around the globe.

# INTRODUCTION

A recent World Bank Group report, Choosing Our Future: Education for Climate Action,<sup>1</sup> calculated that 400 million students globally have experienced school closures from extreme weather since 2022 alone.

As of 2019, **258 million students globally**, children of primary and secondary age, spent periods of time not in school due to conflict, geopolitical unrest and increasingly, **climate change related issues**.<sup>2</sup>

We know this age group, 5–14 years old, is the most critically important for children's brain development, as this period is when they form foundational cognitive and emotional skills necessary for effective learning. Nearly **260 million children worldwide**<sup>3</sup> still lack fundamental educational rights and access to regular schooling.

Research by Harvard University, The Science of Early Childhood Development<sup>4</sup> shows that 90% of brain development occurs by age five, and during these years, children develop essential skills such as problem-solving, emotional regulation, and social interaction. Which means that if students miss school, especially at a young age, it not only hinders their individual growth but also incurs societal costs.

A report by 2021, McKinsey & Company<sup>5</sup> studied the impact on U.S. students missing school (in this case during the Covid pandemic) and deduced that a less educated population, as a result of missing classroom time, can lead to decreased economic productivity and increased reliance on social services. If students miss school — we all pay the price.

This primer provides a snapshot of how a changing climate and lack of access to affordable energy are negatively impacting education for millions of students. It also explores how renewable energy can directly address some of these challenges.



## HOW CLIMATE CHANGE IMPACTS CLASSROOMS

EARTHDAY.ORG set the 2025 Earth Day theme as **Our Power**, **Our Planet #RenewableEnergyNow**,<sup>1</sup> calling for the tripling of renewable energy generation by 2030. Here's what motivated this call:

Firstly, **renewable energy**<sup>2</sup> comes from sources that can be replenished, such as solar, wind, and geothermal energy. These **renewable sources do not release greenhouse gases**,<sup>3</sup> unlike fossil fuels, which are major contributors to climate change. (Climate change triggers extreme weather events that keeps kids out of classrooms).

Secondly, 3.8 billion people across the planet do not reach the Modern Energy Minimum (MEM),<sup>4</sup> meaning their per capita electricity usage is under 1,000 kilowatt-hours (kWh), which is the threshold for mitigating poverty.

This energy inequity<sup>5</sup> also affects schools, leaving millions of children in learning environments without regular or affordable energy sources. As a result, schools struggle to function effectively, lacking heating, cooling facilities, and access to working computers and Wi-Fi.

Renewable energy is a means to cheaper<sup>6</sup> and more affordable electricity. Generating electricity from renewable sources such as solar, wind, geothermal, helps to mitigate climate change, limits the negative health impacts caused by fossil fuels and creates energy equity, across the globe. Making it possible for millions of school children to learn in buildings that have electricity, which can be used for cooling and air conditioning. Allowing more schools to stay open, teaching students.

According to United Nations data<sup>7</sup> the number of students missing out on schooling due to climate change accounts for 17% of the world's total school-aged children, and this proportion is much larger in the Global South, with nearly a third of sub-Saharan Africa's kids forced out of school compared to just 3% of children in North America.

### SPECIFIC EXAMPLES OF CLIMATE CHANGE IMPACTING SCHOOLS AND STUDENTS

- Classroom Conditions: In countries like India and Pakistan, rising temperatures can lead to unbearable classroom conditions, making it difficult for students to concentrate and learn. In some regions, classrooms without air conditioning can reach temperatures exceeding 100 °F (38 °C), leading to decreased attendance and learning outcomes. In parts of Africa<sup>8</sup> too, some schools are being forced to close because of extreme heat which risks the overall health of their teachers and students.
- School Closures: In the United States, especially in the southern states, schools may close or adjust schedules during extreme heat waves to protect students from heat-related illnesses. For example, in 2019, several schools in Arizona had to implement early dismissals due to dangerously high temperatures. In the U.S. alone, roughly 36,000 schools<sup>9</sup> across the country need heating and air conditioning



(HVAC) upgrades to provide adequate environments for their students.

- Infrastructure Damage: In places like Australia, extreme heat can damage school infrastructure, such as roofs and air conditioning units, leading to costly repairs and disruptions in education. Schools may have to divert funds from educational programs to address these urgent maintenance issues.
- Reduced Learning Time: In countries like the Philippines, extreme heat can result in reduced learning time. Schools may implement shorter school days to avoid the hottest parts of the day, which can disrupt the curriculum and limit educational opportunities.





- Increased Dropout Rates and Poorer Learning Experiences: Poorly designed school facilities and lack of cooling facilities can negatively impact student performance on tests and lead to decreased attendance<sup>10</sup> and chronic absenteeism]. Temperature, air quality and overall building design can also severely impact the overall behavior and learning of students.
- Health Risks: In sub-Saharan Africa, children attending schools without adequate cooling are at higher risk of heat-related illnesses. Intense heat affects cardiovascular issues, diabetes, mental health, asthma. Many schools simply do not have access to either affordable electricity or the facilities to reduce these stressors in their build-ings.<sup>11</sup> Put simply these schools don't have the means to physically cool their classrooms because in many cases they don't have access to electricity or the cooling equipment to make that a reality.
- Risks to Student's Mental Wellbeing: We know too that climate change can impact mental health, especially in young people, who can experience

a range of issues from climate change anxiety, to solastalgia, eco-anxiety, environmental distress, ecological grief, climate-related psychological and distress.<sup>12</sup> These emerging terms may seem novel but we should remember that they come with the understanding that there are already one bil**lion people** living with some form of mental disorder. By 2050, more than 216 million people could be forced out of their homes and communities. straining education provision at their destination and setting in motion many more cases of psycho-social stress in global student populations.<sup>13</sup>



6



# FUNDING SCHOOLS IN THE AGE OF CLIMATE CHANGE

Right now only 20% of aid for education goes to low-income countries, according to the **Global Partnership for Education**<sup>1</sup> and this lack of funding for vulnerable populations is exacerbated by the fact that they are the populations with the students most impacted by the disastrous effects of climate change.

So, not only do they contribute the least to global carbon emissions, but they continue to suffer disproportionately from the **impacts of climate change**.<sup>2</sup> What makes this situation even more concerning is that just one additional year of education increases climate awareness amongst students by **8.6**%<sup>3</sup> (measured by knowledge and skills on environmental issues).



NEARLY HALF OF YOUNG PEOPLE SURVEYED FELT THEY DID NOT HAVE THE RIGHT SKILLS FOR A SUCCESSFUL CAREER IN THE GREEN ECONOMY



OF YOUTH IN EIGHT LOW & MIDDLE INCOME COUNTRIES BELIEVE THEY DID NOT LEARN ENOUGH ABOUT CLIMATE CHANGE IN SCHOOL

This means that when education is disrupted, students are not learning the basics of reading and writing but they are **also** losing vital science, technology and even climate education lessons that give them the tools and green skills the world needs to combat climate change in the future.

### COUNTRIES TACKLING SCHOOL INFRASTRUCTURE ISSUES CAUSED BY CLIMATE CHANGE



- There are some nations rising to the challenges of climate change — Guyana's Ministry of Education<sup>4</sup> is actively reexamining the current state of education infrastructure through the lens of climate change.
- The government of Bangladesh<sup>5</sup> has invested in climate-resilient school buildings, particularly in coastal areas prone to flooding. They have implemented initiatives to raise school buildings above flood levels and use sustainable materials to reduce vulnerability.
- The Philippines<sup>6</sup> has launched the "School Building Program," which incorporates climate resilience into new school construction. This program aims to design buildings that can withstand typhoons and heavy rainfall, ensuring that students have safe learning environments.
- Malawi<sup>7</sup> has begun constructing climate-resilient schools, including the use of locally sourced materials and designs that minimize heat exposure.

These efforts aim to improve the learning environment for students affected by rising temperatures and erratic weather patterns.

- The Zambian government,<sup>8</sup> in partnership with NGOs, has been working on building schools that can withstand the impacts of climate change, including incorporating rainwater harvesting systems to provide water for schools during dry spells and droughts.
- Costa Rica<sup>9</sup> has implemented a national strategy that includes retrofitting existing school buildings to enhance their resilience to climate-related risks, such as earthquakes and flooding.
- South Africa's Department of Basic Education<sup>10</sup> is investing in "green schools" designed to be energy-efficient and environmentally friendly, aiming to create learning environments that can better cope with the effects of climate change.



But much more needs to be done globally.

### GLOBAL FUNDING FOR RENEWABLE ENERGY

The Green Climate Fund (GCF),<sup>11</sup> the Global Partnership for Education (GPE) and Save the Children have launched a US\$70 million campaign to build resilient schools<sup>12</sup> in vulnerable countries. This financing mechanism will support education systems in vulnerable countries to construct climate-resilient schools and integrate climate change into school curricula.

The U.S. Department of Energy (DOE) doubled the funding for its **Renew America's Schools**<sup>13</sup> grant, "to promote the implementation of clean energy improvements at K-12 public schools across the country. This first-of-its-kind investment, funded by President Biden's Bipartisan Infrastructure Law (BIL), aims to help school communities make energy upgrades that will decrease energy use and costs, improve indoor air quality, and foster healthier learning environments."

This program has so far invested \$372.5 million in public school districts across America, supporting capacity-building initiatives for energy





management at over two dozen Local Educational Agencies (LEAs). As well as funding improvement projects at 410 facilities across 36 states which has benefited roughly 197,000 students and 14,000 teachers.

### RENEWABLE ENERGY TO POWER SCHOOLS

A study conducted by the National Renewable Energy Laboratory (NREL) indicates that if a country's electricity grid were to be powered 80% by clean energy sources<sup>14</sup> — like wind, solar, and energy storage—while incorporating other zero-carbon resources, it could still meet energy demand and maintain a stable electricity supply.

In other words, even with a high percentage of renewable energy, the grid would be capable of providing enough electricity to meet the needs of consumers without interruptions, while also effectively managing the fluctuations in energy production that can occur with renewable sources. This suggests that a transition to a cleaner energy grid is both feasible and beneficial for ensuring reliable electricity supply.



### **RENEWABLES POWERING SCHOOLS**

#### SOLAR ENERGY

Solar technologies harness sunlight to generate electrical energy, primarily through photovoltaic panels or mirrors that concentrate solar radiation. With increasing government incentives, many school districts are investing in solar energy solutions to cut costs and promote sustainability. Solar is one of the quickest growing<sup>15</sup> types of renewable energy and the benefits are in the reduced energy costs and lower CO<sub>2</sub> emissions.

In the United States alone, over six million students<sup>16</sup> attend schools powered by solar energy. For instance, the San Diego Unified School District has installed solar panels on over 100 schools, saving millions in energy costs. Sunnyvale School District, California<sup>17</sup> has installed solar panels on multiple schools, generating over 4.5 megawatts of solar power, which significantly reduces energy costs and provides a hands-on learning opportunity for students about renewable energy. Maine's Renewable Energy<sup>18</sup> Schools has seen several schools in Maine, including the Cape Elizabeth School District, have embraced solar energy, with installations that allow students to learn about solar technology and its impact on reducing carbon emissions. Cedar Rapids Community School District, Iowa<sup>19</sup> has implemented solar projects across its schools, including Grant Wood Elementary, where the solar panels are part of the curriculum, educating students about sustainable practices. Culver City Unified School District, California<sup>20</sup> has launched solar energy projects at multiple schools, providing a significant reduction in electricity costs while integrating sustainability into the educational experience.

In Australia, the Smart Energy Schools Pilot Project<sup>21</sup> has seen around 1,500 public schools across the state install a total of 17 megawatts of solar energy systems. This program not only equips schools with solar panels but also connects them to the Virtual Power Plant grid, enhancing energy accessibility for rural schools. Schools like St. John's Primary School in Melbourne are already reaping the benefits, significantly reducing their energy bills.

Globally, countries like India are also making strides; the Indian government's **"Solar Rooftop Program"**<sup>22</sup> aims to install solar panels on thousands of schools, targeting a significant increase in renewable energy usage in educational institutions. The Kolar district in Karnataka has seen numerous schools benefit from this initiative.

### WIND ENERGY

Wind energy<sup>23</sup> has emerged as one of the fastest-growing forms of renewable energy. Wind turbines convert kinetic energy from the wind into electricity, contributing to the grid's stability. Initiatives like the Wind for Schools Project in the U.S. demonstrate how wind turbines can be integrated into school infrastructure.

This program not only supports energy generation but also enriches students' **learning experiences**<sup>24</sup> by allowing them to observe real-time energy production and analyze operational data from micro-wind turbine installations.

Schools such as St. Mary's School in Nebraska has successfully implemented wind turbines as part of their energy curriculum and they are not alone: Hollis Elementary School, Maine,<sup>25</sup> installed a small wind turbine that not only powers part of the school but also serves as an educational tool for students to learn about wind energy and sustainability. Rocky Mountain High School, Colorado<sup>26</sup> has a wind turbine on its campus, which serves both as a power source and a real-world example for students studying renewable energy technologies.

In Germany,<sup>27</sup> the Halbe-Halbe project engages over 30 schools from elementary to high school, providing them with financial incentives such as half of the energy cost savings. Schools like Auenland School have reported substantial savings, allowing them to invest in educational resources and extracurricular programs.

### **GEOTHERMAL ENERGY**

Geothermal energy offers a sustainable heating and cooling solution for schools. Radnor Middle School in New Jersey,<sup>28</sup> in collaboration with Climemaster,





constructed a 195,000-square-foot facility focused on energy efficiency, comfort, and indoor air quality. This project showcases how community support and corporate partnerships can drive the transition to greener infrastructure.

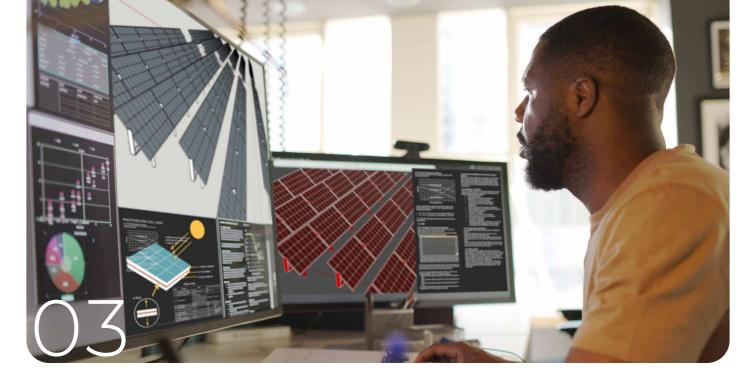
In the U.S., the BOCES program in New York<sup>29</sup> has also invested in geothermal heating and cooling systems for several school buildings, significantly lowering their energy expenses. The Bainbridge Island School District, Washington<sup>30</sup> has implemented geothermal heating and cooling systems in several schools, including Woodward Middle School, enhancing energy efficiency and providing a comfortable learning environment. Snohomish School District, Washington<sup>31</sup> has utilized geothermal energy in the construction of several new schools, focusing on energy efficiency and sustainability as core components of their design.

In Southeast Asia,<sup>32</sup> home to 25% of the world's geothermal generation capacity, countries like Indonesia and The Philippines<sup>33</sup> are exploring the potential of geothermal energy in schools. For example, the Philippine Department of Education is implementing geothermal energy systems in schools in regions like Leyte and Negros, promoting sustainability and reducing energy costs.

## WHY DOES THIS MATTER?

The integration of renewable energy in schools not only supports educational institutions in reducing their carbon emissions but also fosters a generation of environmentally conscious students.

By investing in solar, wind, and geothermal technologies, schools worldwide<sup>34</sup> can pave the way for a more sustainable future while enhancing the quality of education and community resilience.



# THE ROLE OF CLIMATE EDUCATION IN ADAPTING TO CLIMATE CHANGE

While it is critically important to make schools and classrooms climate change resilient, it is also equally as important to give students the green skills and knowledge they need to become climate literate — the best way to do that is through teaching climate education in every school, globally.

At **EARTHDAY.ORG**<sup>1</sup> we believe there are three core reasons why all students should be provided with quality climate education in school:

- CLIMATE ANXIETY: Students are increasingly anxious about the state of the planet and many are suffering from climate anxiety. By engaging with the topic and using social emotional learning techniques, teachers can play an important role in alleviating this anxiety to support their students' well-being.
- GREEN MUSCLE MEMORY: Once we provide students with the information they need to modify their behaviors and to reduce carbon emissions,

it will become second nature to them. That is why, to develop green muscle memory, climate education needs to be taught consistently to children across all subjects, from Kindergarten to graduation.

• **GROWING THE GREEN ECONOMY:** If we are to find ways of mitigating and coping with the problems that the climate crisis is causing and will cause us in the future, we will need to motivate future generations to find solutions and develop new types of industry.

We go into the benefits of the universal teaching of climate education in more detail in our 2024 report Climate Education vs The Climate Crisis<sup>2</sup> and we released The School Guide to Climate Education An Interdisciplinary Framework for School-Wide Implementation<sup>3</sup> for teachers, as a guide on how to incorporate climate education in their classrooms.

Creating these sorts of foundational documents has been a critically important part of the EARTHDAY.ORG Climate Education team's work — both to help educators, leverage policy change and to encourage governments to adopt climate education as a core topic on their school curriculum. Here's other important, climate education centric free materials we have created and shared widely:

 The Case for Climate Education in Two Pages,<sup>4</sup> The Case for Climate Education in Europe in Two Pages,<sup>5</sup> also in Spanish<sup>6</sup>

- School Curriculum Packets<sup>7</sup>
- Earth Day Educators Instagram<sup>8</sup>
- Climate Conundrum Educator Lesson Slides<sup>9</sup>
- The EARTHDAY.ORG State of Climate Education Interactive Map:<sup>10</sup> To help people understand the state of education policy, issues, and action, in any U.S. state, in 60 seconds.
- NDC Guide:<sup>11</sup> An NDC (Nationally Determined Contribution) is a climate action plan that outlines how a country will cut emissions and adapt to climate impacts. Every nation that signed the Paris Agreement is required to establish an NDC and EARTHDAY.ORG believes every NDC should include climate education. This was our simple guide on why and how to do it.

Climate education is how we can prepare young people for the green economy which will be powered by renewable energy. This economy needs a climate savvy and skilled workforce, as well as leaders and entrepreneurs, and climate education will inspire and teach students the skills they need to join this growing green workforce to help drive the global green economy.



### FUNDING CLIMATE EDUCATION

So how can we fund climate education in every classroom? Already funding sources are emerging:

The Greening Education Partnership,<sup>12</sup> in conjunction with the Multi-Partner Trust Fund (MPTF), aims to mobilize \$50 million in its first year to support educational initiatives that promote sustainability and environmental awareness. The goal is to double this funding within three years and continue increasing the investment through 2030. This initiative seeks to:

- Enhance Educational Resources: Provide funding for educational programs and resources that focus on green skills, sustainability, and climate change awareness.
- Build Capacity: Strengthen the capacity of educational institutions to incorporate sustainability into their curricula and operations, ensuring that students are equipped with the knowledge and skills needed for a green economy.
- Foster Collaboration: Encourage collaboration among various stakeholders, including governments, NGOs, and private sector partners, to create a unified approach to education for sustainability.
- Support Innovation: Fund innovative projects and initiatives that address environmental challenges through education, potentially leading to new teaching methods and technologies.
- **Promote Climate Action:** Ultimately, this partnership aims to contribute to



broader climate action goals by preparing a generation of learners who can actively engage in and advocate for sustainable practices and policies.

Investing in education is a strategic investment in the future well-being, health and advancement of society.

Higher educational attainment fosters climate resilience by alleviating poverty, improving public health, and slowing population growth — factors that collectively enhance a community's adaptive capacity to climate change.

Research by the Global Commission on the Economy and Climate<sup>13</sup> indicates that investing in education can yield significant economic returns, projecting that transitioning to a low-carbon economy could generate 65 million new jobs globally by 2030 (Global Commission on the Economy and Climate, 2018).

Moreover, a study published in the journal **Environmental Science and Policy** highlights that education in green skills<sup>14</sup> not only prepares students for future employment but also enhances their capacity to engage in sustainable practices within their communities (Pérez et al., 2020). This educational focus can significantly contribute to local and global efforts to combat climate change, as informed individuals are more likely to advocate for sustainable policies and practices.

Additionally, the United Nations Educational, Scientific and Cultural Organization (UNESCO)<sup>15</sup> emphasizes that education is a critical component of achieving the Sustainable Development Goals (SDGs), particularly Goal 4: Quality Education and Goal 13: Climate Action. By integrating sustainability into curricula, we can foster a generation of learners who are equipped to address environmental challenges and contribute to a resilient economy.

It's not just UNESCO and EARTHDAY.ORG who believe this, **nearly 80%**<sup>16</sup> of global business leaders believe that green skills will be the most important driver of the green transition.

Prioritizing the teaching of green skills and climate education not only addresses pressing our real environmental issues but also drives sustainable economic growth for the future too. By preparing a skilled workforce to tackle climate challenges, we can ensure a more resilient and prosperous future for all of us and it starts in the classroom.

### GREEN SKILLS FOR THE GREEN ECONOMY FOR A GREENER WORLD

Transitioning to a green economy presents significant workforce challenges and opportunities. It is estimated that

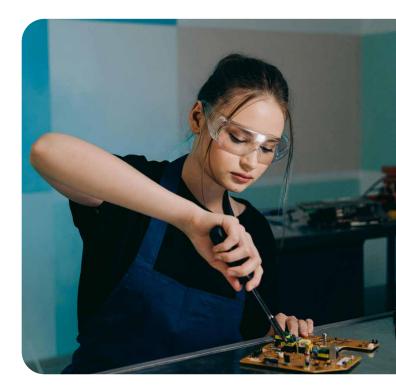


this shift will create around 100 million new jobs<sup>17</sup> in sectors focused on sustainability, such as renewable energy and environmental conservation.

However, alongside this growth, many existing jobs will undergo transformation, requiring workers to be up-skilled to adapt to new technologies and practices. Additionally, an estimated **78 million jobs<sup>18</sup>** may disappear or significantly change as traditional industries pivot toward greener alternatives.

This reality underscores the critical need for targeted climate education and training programs to prepare the global workforce for these important changes, ensuring that workers can successfully navigate the transition while minimizing economic disruption. By investing in up-skilling and re-skilling initiatives, we can equip individuals with the necessary competencies to thrive in a sustainable economy. In the last five years alone, job offers related to renewable energy and environmental resources have increased by 237%.<sup>19</sup> Here's why:

- In Mexico,<sup>20</sup> which has a booming solar energy transition, the Skills for Prosperity program trains and supports learners to make them employable by investing in the foundational and transferable learning of renewable energy.<sup>21</sup>
- As of 2020, Germany<sup>22</sup> produced about 42% of its electricity from renewable sources, primarily wind and solar. The renewable energy sector employed over 300,000 people, with the wind sector alone providing approximately 140,000 jobs (Bundesverband Erneuerbare Energie).
- By 2021, China<sup>23</sup> was the world's largest producer of solar energy, with a total installed capacity of 253 GW. The country employed around 3.5 million people in the solar industry and over one million in wind energy (IRENA, 2022).
- India<sup>24</sup> has set a target of reaching 500 GW of renewable energy capacity by 2030. As of 2021, the country employed over 750,000 people in the renewable energy sector, with significant growth expected as solar and wind projects expand (Ministry of New and Renewable Energy).
- Brazil<sup>25</sup> generates approximately 18% of its energy from renewable sources, particularly from biofuels and hydropower. The wind sector has seen rapid growth, creating over 100,000 jobs in the last decade (ABEEólica, 2021).
- In 2021, renewable energy accounted for 62% of Denmark's<sup>26</sup> total electricity consumption, largely from wind power. The sector has created approximately 35,000 jobs in wind energy alone (Danish Energy Agency).



- Spain's<sup>27</sup> renewable energy sector employs around 90,000 people, with wind energy accounting for approximately 20% of the country's electricity production in 2020 (AEE, 2021).
- The clean technology sector in Canada<sup>28</sup> is projected to generate over 700,000 jobs by 2030, driven by investments in renewable energy and energy efficiency (Clean Growth Hub, 2020).
- As of 2021, renewable energy accounted for 29% of Australia's<sup>29</sup> total electricity generation. The solar sector alone has created over 18,000 jobs, with a goal of employing 80,000 by 2030 (Clean Energy Council).
- The U.K.<sup>30</sup> is a leader in offshore wind, with a target to reach 60 GW of capacity by 2030. The offshore wind sector employs around 26,000 people and is expected to create up to 60,000 additional jobs by 2030 (RenewableUK).



# CONCLUSION

Investing in renewable energy in schools is crucial for cultivating a generation of environmentally conscious citizens. By integrating solar, wind, and geothermal technologies into educational environments, we not only reduce carbon emissions but also show students how to make informed choices about energy generation, consumption and sustainability.

Schools that implement renewable energy solutions can reduce their energy costs by up to 30%, allowing those savings to be reinvested in educational resources.

Equally important is ensuring that schools are equipped with climate-resilient infrastructure. Upgrading facilities to withstand extreme weather and changing climate conditions is essential for providing safe and effective learning environments.

Teaching students climate education is equally as vital. As students learn about environmental challenges and solutions, they develop the knowledge and skills needed to thrive in a rapidly evolving job market. With the transition to a green economy projected to create millions of new jobs, schools are ideally positioned to nurture the talent necessary for this transformation.

Moreover, prioritizing climate education helps alleviate students' climate anxiety, fosters green habits through consistent learning, and prepares them to engage actively in building a sustainable future. Through hands-on experiences and community partnerships, educational institutions can become hubs of innovation and environmental stewardship, driving meaningful climate action.

Ultimately, this investment in making schools climate change ready, backing

the transition to renewable energy in our schools, and teaching climate education across the curriculum is not just about preparing students for the workforce; it is about ensuring a resilient, sustainable future for us all.

By equipping young people with the tools they need to tackle environmental challenges, we are paving the way for a healthier planet and a thriving green economy.

Which is why for 2025, EARTHDAY.ORG's 55th anniversary year, we are focused on two major issues — supporting the growth of climate education worldwide so that it is available to every student, K-12. As well as promoting the tripling of renewable energy by 2030. The best way we can support this call is by shining a



light on renewable energy which is why we have made the Earth Day 2025 theme **Our Power, Our Planet**,<sup>1</sup> championing solar, wind, hydroelectric, geothermal, and tidal generated energy.

Together, let's empower the next generation with the knowledge and tools to lead the charge for a sustainable future — because our planet's health and our children's future depend on it.





### SOURCES

#### INTRODUCTION

- https://openknowledge.worldbank.org/ server/api/core/bitstreams/9d1c318a-bcd3-49fa-b1c6-cc03e18d4670/content
- 2 https://ourworldindata.org/global-education
- 3 https://research.com/education/education-statistics
- 4 https://developingchild.harvard.edu/resources/inbrief-science-of-ecd/
- 5 https://www.mckinsey.com/industries/ education/our-insights/covid-19-and-education-the-lingering-effects-of-unfinished-learning

#### HOW RENEWABLE ENERGY IMPACTS CLASSROOMS

- 1 https://www.earthday.org/press-release/ earthday-org-announces-the-global-themefor-earth-day-2025-our-power-our-planet-renewableenergynow/
- 2 https://www.un.org/en/climatechange/ what-is-renewable-energy#:~:text=Renewable%20energy%20is%20energy%20 derived,that%20are%20constantly%20 being%20replenished.

- 3 https://www.un.org/en/climatechange/raising-ambition/renewable-energy#:~:text=Renewable%20energy%20sources%2C%20 such%20as,than%20coal%2C%20oil%20 or%20gas.
- 4 https://energyforgrowth.org/project/ the-modern-energy-minimum/#:~:text=The%20new%20Minimum%20raises%20 the,tracking%20progress%20against%20 energy%20poverty.
- 5 https://www.sciencedirect.com/science/article/pii/S2772427121000346
- 6 https://www.un.org/en/climatechange/ raising-ambition/renewable-energy#:~:text=Renewable%20energy%20actually%20 is%20the,percent%20between%202010%20 and%202020.
- 7 https://www.reuters.com/business/environment/extreme-heat-is-closing-schools-widening-learning-gaps-worldwide-2024-04-30/
- 8 https://www.nytimes.com/2024/03/20/world/ africa/extreme-heat-south-sudan-schoolsclimate.html
- 9 https://www.gao.gov/blog/challenges-going-back-school
- 10 https://escholarship.org/uc/item/5sw56439
- 11 https://www.who.int/news-room/fact-sheets/ detail/climate-change-heat-and-health
- 12 https://iris.who.int/bitstream/handle/10665/3 54104/9789240045125-eng.pdf?sequence=1

13 https://www.worldbank.org/en/news/ press-release/2021/09/13/climate-changecould-force-216-million-people-to-migratewithin-their-own-countries-by-2050

#### FUNDING SCHOOLS IN THE AGE OF CLIMATE CHANGE

- 1 https://www.globalpartnership.org/results/ education-data-highlights
- 2 https://www.un.org/ohrlls/news/frontline-climate-crisis-worlds-most-vulnerable-nations-suffer-disproportionately
- 3 https://openknowledge.worldbank.org/ server/api/core/bitstreams/9d1c318a-bcd3-49fa-b1c6-cc03e18d4670/content
- 4 https://climatetrackercaribbean.org/ climate-justice/building-climate-resilience-in-the-caribbeans-education-sector/
- 5 https://www.worldbank.org/en/results/2022/08/29/building-coastal-resilience-to-protect-lives-and-livelihoods-in-bangladesh
- 6 https://documents1.worldbank.org/curated/en/363911622944910016/pdf/Philippines-Seismic-Risk-Reduction-and-Resilience-Project.pdf
- 7 https://documents1.worldbank.org/curated/ en/099545010272237260/pdf/P1772201ced-75ce9182e7142761bde013662bca4fe42.pdf
- 8 https://unfccc.int/sites/default/files/resource/ NAP-Zambia-2023.pdf
- 9 https://www.datatopolicy.org/use-case/costa-rica
- 10 https://mecce.ca/wp-content/ uploads/2024/06/9823-UNES-CO-Climate-Change-and-Education-Paper-First-Edition\_WEB.pdf
- 11 https://www.greenclimate.fund/news/greenclimate-fund-global-partnership-educationand-save-children-launch-world-s-largest
- 12 https://www.greenclimate.fund/news/greenclimate-fund-global-partnership-educationand-save-children-launch-world-s-largest
- 13 https://www.energy.gov/scep/renew-americas-schools
- 14 https://www.nrel.gov/docs/fy21osti/79224.pdf
- 15 https://www.carbonbrief.org/wind-and-solar-are-fastest-growing-electricity-sources-in-history/

- 16 https://generation180.org/resource/brighterfuture-a-study-on-solar-in-us-k12schools-2024/
- 17 https://www.sesd.org/domain/338
- 18 https://www.maine.gov/energy/initiatives/renewable-energy/solar-distributed-generation
- 19 https://crschools.b-cdn.net/app/uploads/2021/06/CRCSD-Sustainability-Plan-2021-rs.pdf
- 20 https://www.ccusd.org/apps/pages/index. jsp?uREC\_ID=173190&type=d&pREC\_ ID=357421
- 21 https://www.schoolinfrastructure.nsw.gov. au/what-we-do/we-look-after-our-schools/smart-energy-schools-pilot-project1.html
- 22 https://documents1.worldbank.org/ curated/es/537471520488356991/pdf/124003-NEWS-WBNewsletterJanLR-PUB-LIC.pdf
- 23 https://www.energy.gov/eere/wind/how-dowind-turbines-work
- 24 https://www.nrel.gov/docs/fy08osti/41966.pdf
- 25 https://www.newscentermaine.com/article/ news/education/kidwind-challenge-students-learn-build-wind-turbines/97-401e2ccb-309f-4eb4-9afb-9f120b8ab9fe
- 26 https://www.facilitiesnet.com/energyefficiency/article/Culture-Change-Produces-Large-Energy-Savings-at-Rocky-Mountain-High-School--14022
- 27 https://halbe-halbe.leipzig.de/
- 28 https://files.climatemaster.com/lc523-climatemaster-commercial-radnor-middle-school-case-study.pdf
- 29 https://boces.org/infographics/by-the-numbers/index.html
- 30 https://www.bainbridgereview.com/news/ bond-levy-talks-to-start-at-bisd-for-new-facilities-green-energy/
- 31 https://www.sno.wednet.edu/domain/582
- 32 https://www.thinkgeoenergy.com/geothermal-in-the-philippines-an-urgent-revamp-of-targets-and-development-needed/
- 33 https://www.geothermal-energy.org/pdf/IGAstandard/WGC/2020/01065.pdf
- 34 https://www.earthday.org/our-power-ourplanet-earth-days-2025-theme-decoded/#:~:text=For%202025%2C%20our%20 55th%20anniversary,geothermal%2C%20 and%20tidal%20generated%20energy.

#### THE ROLE OF CLIMATE EDUCATION IN BEATING CLIMATE CHANGE

- 1 https://www.earthday.org/wp-content/uploads/2024/04/Climate-Education-vs-The-Climate-Crisis.pdf
- 2 https://www.earthday.org/wp-content/uploads/2024/04/Climate-Education-vs-The-Climate-Crisis.pdf
- 3 https://www.earthday.org/wp-content/uploads/2024/08/EDO-Teacher-Guide\_v4.pdf
- 4 https://www.earthday.org/wp-content/uploads/2024/04/Climate-Ed\_Two-Pager\_Final. pdf
- 5 https://www.earthday.org/wp-content/uploads/2024/06/Climate-Ed\_Two-Pager\_EU\_ v3.pdf
- 6 https://nam02.safelinks.protection. outlook.com/?url=https%3A%2F%2Fwww.earthday.org%2Fwp-content%-2Fuploads%2F2024%2F06%2FClimate-Education-Report\_Spanish.pdf&data=05%7C02%7Cdavies%40earthday. org%7C196c5789187d4e52cb5c08dc-84ba8b13%7C80c56b7cbada4d10911ac 0ea5ae05a65%7C0%7C0%7C638531183 949832020%7CUnknown%7CTWFpb-GZsb3d8eyJWIjoiMC4wLjAwMDAiLC-JQIjoiV2luMzIiLCJBTil6lk1haWwiLCJX-VCI6Mn0%3D%7C0%7C%7C%7C&sdata=cfdllZDtzL5U1%2BOjovmFAE7T9KtDK7YC-0qvhd%2Fy4haM%3D&reserved=0
- 7 https://www.earthday.org/curriculums/
- 8 https://www.instagram.com/earthdayeducators/reels/
- 9 https://docs.google.com/presentation/d/1Rf\_\_ Gr\_6XXacVwns-rrRbsxEj6jWZ0ZGbptIC68HnO0/edit#slide=id.g2b2e50e4d10\_0\_895
- 10 https://www.earthday.org/state-of-climate-interactive-map/
- 11 https://www.earthday.org/wp-content/uploads/2023/11/NDC-GUIDE-Final.pdf
- 12 https://www.unesco.org/en/articles/steppingfinance-get-every-learner-climate-ready
- 13 https://sdg.iisd.org/news/global-commissionfinds-bold-climate-action-could-deliverus26-trillion-by-2030/

- 14 https://openknowledge.worldbank.org/ server/api/core/bitstreams/9d1c318a-bcd3-49fa-b1c6-cc03e18d4670/content
- 15 https://www.unesco.org/en/education
- 16 https://openknowledge.worldbank.org/ server/api/core/bitstreams/9d1c318a-bcd3-49fa-b1c6-cc03e18d4670/content
- 17 https://openknowledge.worldbank.org/ server/api/core/bitstreams/9d1c318a-bcd3-49fa-b1c6-cc03e18d4670/content
- 18 https://www.ilo.org/media/369551/download
- 19 https://economicgraph.linkedin.com/content/dam/me/economicgraph/en-us/global-green-skills-report/global-green-skills-report-pdf/li-green-economy-report-2022.pdf
- 20 https://iyfglobal.org/blog/investing-planet-through-green-skills-education-mexico
- 21 https://iyfglobal.org/blog/investing-planet-through-green-skills-education-mexico
- 22 https://www.cleanenergywire.org/news/renewables-cover-more-half-germanys-electricity-demand-first-time-year
- 23 https://www.irena.org/-/media/Files/IRENA/ Agency/Publication/2022/Jul/IRENA\_China\_ Carbon\_Neutral\_2022.pdf
- 24 https://www.trade.gov/country-commercial-guides/india-renewable-energy
- 25 https://abeeolica.org.br/en/wind-energy/ the-sector/
- 26 https://ens.dk/sites/ens.dk/files/Statistik/ energy\_statistics\_2021.pdf#:~:text=Share%20 of%20RE%20in%20electricity%20supply%20 In,and%20biogas%20accounted%20for%20 the%20remaining%206.2%.
- 27 https://www.statista.com/statistics/1045649/ share-of-wind-generation-in-the-total-generation-spain/
- 28 https://cleanenergycanada.org/a-net-zerocanada-will-see-700000-more-energy-jobsthan-exist-today-as-clean-energy-job-gainsoutpace-fossil-fuel-declines-report/
- 29 https://cleanenergycouncil.org.au/news-resources/clean-energy-australia-report
- 30 https://www.renewableuk.com/our-work/offshore-wind/

#### CONCLUSION

1 https://www.earthday.org/earth-day-2025/