



United Nations
Educational, Scientific and
Cultural Organization



UNESCO
Associated
Schools

Getting Climate-Ready

A GUIDE FOR SCHOOLS ON CLIMATE ACTION



ACKNOWLEDGEMENTS

We gratefully recognize the many people and organizations that contributed to *Getting Climate-Ready - A Guide For Schools On Climate Action*. In particular, we would like to thank the ASPnet National Coordinators, teachers and students who participated in the International Seminar 'Getting climate-ready: ASPnet schools' response to climate change' (Paris, France, 7 and 8 December 2015) and the UNESCO colleagues who contributed content and peer-reviewed the guide: Gwang-Chol Chang, Denise Gorfinkiel, Kornelia Guse and Ushio Miura.

Author: Natalie Gibb

Coordination: Julia Heiss, UNESCO Section of Education for Sustainable Development and Sabine Detzel, International Coordinator of UNESCO Associated Schools Network (ASPnet)

Editing: Cathy Nolan

Graphic Design: Aurélia Mazoyer (cover), Anna Mortreux

Many of the guidelines and illustrative case studies in this document are based on a survey examining the experiences of UNESCO ASPnet schools involved in climate action initiatives. The author would like to thank Livia Saldari in the UNESCO Section of Education for Sustainable Development for developing and administering the survey questionnaire. Special thanks to UNESCO ASPnet schools in Brazil, Denmark, Dominican Republic, France, Germany, Greece, Indonesia, Japan, Lebanon, Namibia, Oman, Senegal and Côte d'Ivoire for sharing their valuable inputs.

TABLE OF CONTENTS

Part 1	Introduction	2
	Whole-School Approaches to Climate Action	3
	About this Guide	4
Part 2	Becoming a Climate-Friendly School	5
	Developing a School Culture of Sustainability	5
	Everyone Has a Role to Play	6
	Planning, Action and Reflection	8
Part 3	Areas for Action	10
	School Governance	11
	Guideline # 1 Creating A Climate Action Team	11
	Teaching and Learning	11
	Guideline # 2 Teach Climate Change in All Subject Areas	11
	Guideline # 3 Teach Critical, Creative and Futures Thinking	13
	Guideline # 4 Empower Students to Take Action	14
	Facilities and Operations	15
	Guideline # 5 Make Your School a Model of Climate Action	15
	Community Partnerships	16
	Guideline # 6 Build Community Partnerships for Learning and Teaching	16
Part 4	Monitoring progress	18
	Endnotes	19

PART 1

INTRODUCTION

Climate change poses a major threat to humanity. Researchers and communities have shown us that climate change affects where people can live, grow food, maintain infrastructure, and be healthy. Climate change is connected with many other global issues. For example, climate change is linked to inequality and ethics because developing countries are the least responsible for climate change, yet they are the most at risk from its effects. Climate change is also linked to gender inequality because in many contexts, women and girls are more vulnerable to its effects than men. At the same time, they are also active and effective in addressing climate change and its impact.



In September 2015, world leaders adopted the 2030 Agenda for Sustainable Development, a set of 17 aspirational goals to be achieved by 2030 that address shared challenges at the global and local levels. The 2030 Agenda includes a specific goal on climate action (Goal 13) and formally recognizes that the climate crisis is linked to many other global issues. In addition, Goal 13 on climate action and Goal 4 on quality education both recognise the importance of Education for Sustainable Development and the role of education in responding to climate change.

Read more at the Global Goals website: <http://www.globalgoals.org/>

EDUCATION FOR SUSTAINABLE DEVELOPMENT AND CLIMATE ACTION

The far-reaching, global consequences of climate change make it clear that ESD must include a strong climate action component. Schools have a central role to play in helping learners understand the causes of climate change so that they can make informed decisions and take appropriate actions, and in acquiring the necessary values and skills to participate in the transition to more sustainable lifestyles, green economies and sustainable, climate resilient societies¹.

While concerted international action is crucial to reduce climate change— through stronger international legal mechanisms, greater financial resources and support to green technologies - responses to climate change start with each of us, with the ways by which we think and act, with our attitudes and behaviours. Around the world, Education for Sustainable Development (ESD) has emerged as a cornerstone for tackling climate change. Based on the idea that we all have a role to play in addressing global challenges, ESD promotes the knowledge, skills, and values we need to take action for a healthier, fairer, more environmentally sustainable society.

➔ WHOLE-SCHOOL APPROACHES TO CLIMATE ACTION

More and more schools around the world are adopting whole-school approaches to climate action. In a whole-school approach, students' classroom learning about climate change is reinforced by the formal and informal messages promoted by the school's values and actions. In other words, students – girls and boys alike – and other members of the school community live what they learn, and learn what they live.

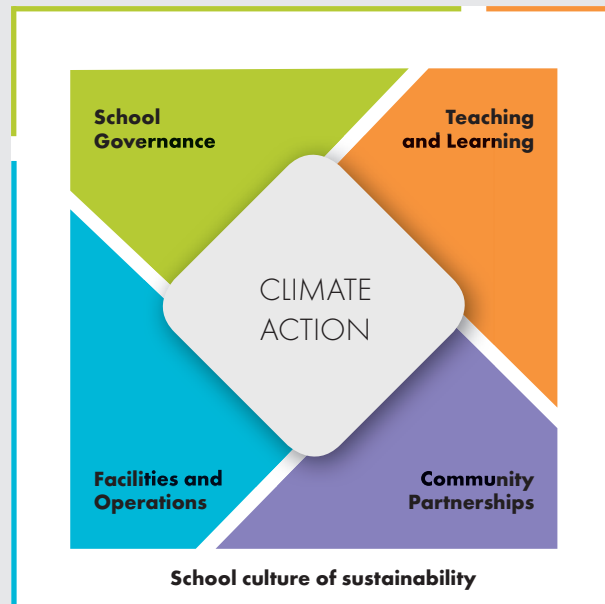
The whole-school approach to climate change means that an educational institution includes action for reducing climate change in every aspect of school life. This includes school governance, teaching content and methodology, campus and facilities management as well as cooperation with partners and the broader communities. The active involvement of all internal and external school stakeholders, namely students, teachers, principals, school staff at all levels and the wider school community such as families and community members in reflecting and acting on climate change is key to a successful implementation of the whole-school approach (the Sustainable School Label, 2016).

Often, teachers and principals are the ones to lead whole-school projects within their schools. Yet, as you will see in this guide, anyone can be a climate action champion: teachers, principals, students, building managers, janitors, support staff and families. In fact, whole-school approaches must involve people from all parts of the school community if they are going to succeed.

Teachers and principals report that whole-school approaches benefit schools and their surrounding communities in the following ways:

- ▶ Students and staff have a greater sense of belonging in the school;
- ▶ Students have more meaningful and hands-on learning opportunities;
- ▶ Teachers have new professional learning opportunities;
- ▶ Schools achieve significant ecological footprint reductions;
- ▶ Schools save money through efficient resource use;
- ▶ School campuses are greener and more beautiful;
- ▶ Schools gain access to teaching resources, expert knowledge, and financial supportⁱⁱ.

GRAPHIC 1 THE WHOLE-SCHOOL APPROACH TO CLIMATE CHANGE



ABOUT THIS GUIDE

Do you want to help create a healthier, fairer, more environmentally sustainable society? Do you want to empower children and young people to do the same? Do you want to make your school more climate-friendly? If so, this guide is for you!

The guide is organized in four parts.

Part 1, which you are now reading, explains why you and your school should take on a whole-school approach to climate action. **Part 2** outlines how your school can plan, put into practice, and evaluate your own strategies and visions for reducing climate change. **Part 3** provides six guidelines that suggest how to concretely include climate action in your school governance, teaching and learning, campus and facility management, and partnerships with the community. The guidelines are accompanied by examples showing how schools around the world are taking action. At the end of this guide, in **Part 4**, you will find a table to help you monitor action in the thematic areas along the six guidelines.

HOW THE GUIDELINES WERE DEVELOPED

The guidelines and examples are based on a survey looking at climate action projects at 55 schools in 12 countries. All schools in the survey are part of UNESCO's Associated Schools Project Network (ASPnet). In addition, this guide draws on examples and research published in peer-reviewed journals, books, national and international guidelines and frameworks and programme websites.

KEY CONSIDERATIONS

Knowledge and goodwill are rarely enough to achieve whole-school change. The experience of schools around the world suggests that climate action projects are most likely to be successful when they are resourced with:

- ▶ A knowledgeable and committed school principal;
- ▶ Expertise, in the form of well-trained teachers and access to external experts;
- ▶ Dedicated facilitators to manage the process;
- ▶ Supporting materials and teaching resources;
- ▶ Adequate long-term financingⁱⁱⁱ.

CONSIDER THIS!

Networks are a good way of getting access to the resources needed for successful climate action projects. Which of these networks could be useful to your school?

- ▶ **UNESCO's Associated Schools Project Network (ASPnet)** - ASPnet is a global network of 10,000 schools in 181 countries, committed to promote UNESCO's ideals of peace, international understanding, intercultural dialogue and sustainable development through developing innovative educational content, pioneering new teaching and learning approaches and collaborating across the globe. Read more at the ASPnet website: <http://www.unesco.org/new/en/education/networks/global-networks/aspnet/>.
 - ▶ **Eco-Schools** - Run by the Foundation for Environmental Education, Eco-Schools involves more than 48,000 schools in 58 countries. Eco-Schools provides tools and resources for schools working to protect the environment. Read more at the Eco-Schools website: <http://www.ecoschools.global/>.
 - ▶ **Local Networks** - Around the world, there are local organizations helping schools take action on climate change. Talk to teachers and principals at other schools to find out which networks are active in your area.
-

PART 2

BECOMING A CLIMATE-FRIENDLY SCHOOL

DEVELOPING A SCHOOL CULTURE OF SUSTAINABILITY

As a principal or teacher, you probably have a good idea of how things are done in your school and what is expected of students, staff and families. But where do these written and unwritten rules come from? Often, they come from your school culture. School culture is a term used to describe the values, beliefs and expectations that lead people in a school to act in specific ways.

A school culture of sustainability is one in which students, staff and families hold shared values and beliefs about the importance of taking action for a more sustainable society. Taking care of the environment and contributing to reducing climate change is an integral part of this. Therefore, defining what climate action means to your school is part of developing a culture of sustainability. Some schools see climate action as key to “doing their part” to take care of the planet. For other schools, it is about addressing issues directly affecting them. For example, several schools in disaster-prone Japan see climate action as a practical way of helping students and their families stay safe and prepare for the future.

Defining what climate action means to your school requires input from everyone in your school: students, families, custodial and cafeteria staff, administrators and other teachers. There are many ways you can go about raising awareness on the topic and getting input for action. For example, you can ask students to brainstorm a list of things that make your school unsustainable. You can survey families about their beliefs related to climate change. Or, you can organize film nights and workshops where students, families and teachers discuss ways of protecting the environment.

The second step is writing a vision, a mission and values that sum up your school’s understanding of climate action. It is important your school vision, mission and values reflect the specific history, culture and needs of your school and local community. People are more likely to invest in a school project if the goals are perceived as relevant and valid by members of the local community.

Once you have developed and written down your school culture it needs to be applied in the everyday life of the school. Therefore, it has to be reflected in school strategic plans, policies, procedures, guidelines, budgets, and in the work of school committees.

ON A MISSION AT NAGOYA INTERNATIONAL JUNIOR AND HIGH SCHOOL

Nagoya, Japan

The Nagoya International School is committed to developing a school culture of sustainability, as expressed in their school mission statement. The institution aims to “nurture in its students the capacity to objectively define what is truly needed in the global society, to take action on their own, and to become active agents for sustainable development.”

CONSIDER THIS!

- ▶ Has your school agreed on environmental, social, cultural and economic values?
- ▶ Is climate action part of your school's strategic plan?
- ▶ Does your school aim at gender equality and ensure equal participation and leadership in decision-making by men and women, girls and boys?
- ▶ Does your school's student code of conduct set expectations for environmental responsibility?
- ▶ Does your orientation introduce new staff to the school's values and expectations related to climate action?
- ▶ Does your school's purchasing policy encourage buying environmentally and socially responsible products?
- ▶ Does your school fund climate action projects?
- ▶ Does your school assign time for teachers to reflect on climate action issues and experiences?
- ▶ Are all school committees linked to the school's climate action team?


EVERYONE HAS A ROLE TO PLAY

Everyone in your school has a role to play in working towards your school's climate action goals. In fact, this is a defining feature of the whole-school approach. On a practical level, involving the whole school helps you to share the workload. On a deeper level, an inclusive approach brings together a variety of skills, knowledge and viewpoints to approach the topic from a truly holistic angle and builds commitment with all stakeholders involved to maintaining climate action projects over time. Also, by having everyone participate, you are giving everyone a chance to acquire knowledge and develop skills such as critical thinking, consensus-building, and empathy needed for creating a more sustainable society.

Students, teachers, principals, support staff, custodians, building operators, families, and local community members all have a role to play (see table 1 next page). Girls and boys, women and men should be equally engaged and active. For example, cafeteria staff can prepare healthy snacks and meals made with local ingredients, students can carry out energy audits, and families can reinforce what students are learning at school by adopting climate-friendly practices at home. It is recommended that you involve everyone in your school in deciding which roles they will take on. Each group should elect representatives that will speak and act on their behalf in the climate action team which is in charge of coordinating the development, implementation and review of the school's action plan on climate change (see chapter 3, guideline #1).

CONSIDER THIS!

- ▶ Does everyone have the means they need to act on decisions?
- ▶ Can everyone see their impact on the final result of climate action projects?
- ▶ Does everyone feel they really understand the issues?

EMPOWERING LEADERS AT COLÉGIO ISRAELITA BRASILEIRO A. LIESSEN

Rio de Janeiro, Brazil

Colégio Israelita Brasileiro A. Liessen is working to create a culture of environmental responsibility. The school believes that everyone in the school - 800 students and 200 employees - should know why environmental projects are taking place. Also, everyone should feel like they are part of the process. To this end, the school's environment team has invited janitors, teachers, students, engineers and others to participate in experiential, non-formal learning activities. They created a green roof, built solar ovens and bamboo bicycle racks, planted spice, flower, and meditation gardens, and converted used cooking oil into biodiesel. These activities have created bonds between different members of the school community, awakened a sense of belonging and pride in the school, and built an environment where ideas and information are shared freely. The environment team has also offered trainings for school community members in order to secure buy-in for the projects. For example, training on waste sorting and cooking oil collection was offered to employees. Also, a gardening workshop was organized for student volunteers, so they could assist maintenance staff in caring for the expanding school gardens.

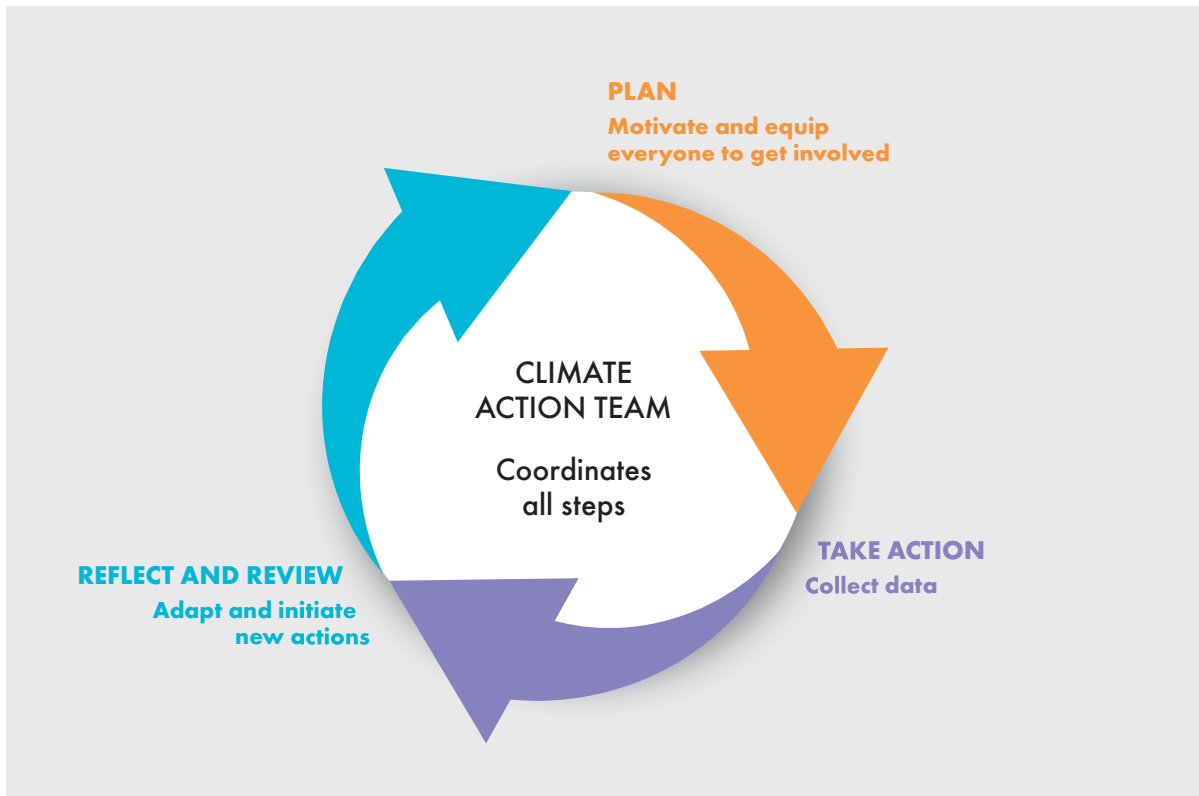
TABLE 1 INVOLVING THE WHOLE SCHOOL COMMUNITY IN CLIMATE ACTION

Consider these examples of how different members of your school community can get involved in climate action projects. Which roles may work well for your school? Can you think of any other ways students, staff, and families at your school could get involved?

MEMBERS OF YOUR SCHOOL COMMUNITY	POSSIBLE ROLES
Students	<ul style="list-style-type: none"> ▶ Planning and leading climate action projects, in class or as part of a club ▶ Carrying out assessments (such as waste and energy audits) to measure your school's progress in becoming more sustainable ▶ Mentoring younger students who are just learning how to take part in climate action
Teachers	<ul style="list-style-type: none"> ▶ Teaching lessons that help students develop knowledge about climate change, the skills to investigate different possibilities for action, and the resolve to take action ▶ Urging everyone in your school community to take part climate-related school initiatives ▶ Reinforcing expectations for climate-friendly behaviour by celebrating actions such as turning off the lights when not in use
Principals and Administrators	<ul style="list-style-type: none"> ▶ Championing your school's vision and values for climate action ▶ Supporting teachers and other staff by giving them the resources, professional development, and release time they need to lead effective climate action projects ▶ Considering knowledge, experience, and values related to climate action when making decisions about hiring new teachers and staff
Custodians and Building Operators	<ul style="list-style-type: none"> ▶ Suggesting changes to building operations to reduce the school's ecological footprint ▶ Teaching students to take care of school gardens and sort waste properly ▶ Making energy-saving changes to your school's heating, cooling or lighting systems
Cafeteria Staff	<ul style="list-style-type: none"> ▶ Preparing healthy snacks and meals made with local ingredients ▶ Separating kitchen waste that can be composted from kitchen waste that cannot ▶ Giving input into the types of plants that could be grown in the school garden and used in the school cafeteria
Office Support Staff	<ul style="list-style-type: none"> ▶ Adopting more sustainable office practices, such as printing double-sided and only when necessary ▶ Helping to spread messages about your school's achievements and lessons learned related to climate action ▶ Presenting your school's values related to climate action when greeting visitors to your school
Families	<ul style="list-style-type: none"> ▶ Adopting climate-friendly practices at home, such as saving water and planting a garden ▶ Volunteering in school-led climate action campaigns ▶ Donating and collecting money and materials to support your school's climate action projects
Local Community Members and Organizations	<ul style="list-style-type: none"> ▶ Identifying local sustainable development issues the school could tackle ▶ Sharing technical expertise about climate change and how to address it ▶ Hosting students on field trips that offer a real-world context for learning about climate change

➔ PLANNING, ACTION AND REFLECTION

Your school probably already runs some climate action activities. Maybe students planted native trees in the schoolyard, or maybe your school has taken steps to reduce its energy use. But what else can your school do to reduce climate change and how can strengthen existing initiatives and initiate new action? A commitment to continual improvement through careful planning, action and reflection is what defines the whole-school approach.



AL-KAWTHAR SECONDARY SCHOOL'S CONTINUOUS PROCESS OF IMPROVEMENT

Beirut, Lebanon

Al-Kawthar Secondary School set out to raise awareness of climate change within their school. So far, 2,421 students, 310 teachers, and 110 families have been involved in projects including tree-planting, making handicrafts from recycled materials, visiting national forests, recycling, and conserving water. The school also hosted film nights and workshops where students, families and teachers suggested ways to save the planet. Following the ISO-26000 guidelines for socially responsible institutions, the school has committed to a continuous process of improvement. At the beginning of the school year, the environmental committee develops an action plan based on what was learned and achieved the previous year. The committee keeps a record of their activities, so the school can identify high-impact activities and activities that could be scaled up. Teachers and students deepen their learning by sharing their experiences with other schools in Lebanon and around the world. Families are kept engaged thanks to leaflets informing them of new developments and projects.

The checklist below describes each of these steps in greater detail.

CHECKLIST KEY STEPS TO BECOMING A CLIMATE-FRIENDLY SCHOOL	
Work with your climate action team to complete each of these steps. Careful planning, action, and revision are the key to the whole-school approach.	
PLAN	<input type="checkbox"/> CONDUCT A SELF-ASSESSMENT A self-assessment offers an honest picture of your school's current performance related to climate action. This assessment helps identify priorities, set targets and measure success.
	<input type="checkbox"/> DEVELOP AN ACTION PLAN Your action plan should include your school's objectives and priorities, accompanied by specific tasks, expected outcomes and timeframes. It should cover the four areas of the whole-school approach, namely school governance, teaching and learning, campus and facility management and partnerships with the community. Here is an example of a template (p. 33-36): http://www.edu.gov.mb.ca/k12/esd/pdfs/sustainable_guide.pdf
	<input type="checkbox"/> CLARIFY ROLES AND RESPONSIBILITIES Setting up roles and subcommittees, being mindful of gender equality, it is important to share the workload and gives everybody a chance to participate. Setting up a climate action team with clear roles and responsibilities which will coordinate the development, implementation and revision of the whole-school action plan is a way to go about it.
TAKE ACTION	<input type="checkbox"/> IMPLEMENT YOUR SCHOOL'S ACTION PLAN The action plan should be implemented in the four areas of the whole-school approach and along the six guidelines. It is important to involve all members of your school community in implementing your action plan.
	<input type="checkbox"/> COLLECT DATA WHILE IMPLEMENTING YOUR ACTION PLAN You must collect multiple types of data to capture deep, system-wide change. Your assessment portfolio might include: <ul style="list-style-type: none"> ▶ Data collected through student-led investigations (such as energy audits, biodiversity counts, transportation surveys, ecological footprint analyses and community attitude surveys); ▶ Quantitative data already collected by the school as part of its normal operations (such as attendance records and electricity bills); ▶ Qualitative data such as samples of student work, lesson plans, teacher observations, photographs, school newsletters, climate team meeting minutes and action plan.
REFLECT AND REVIEW	<input type="checkbox"/> TAKE TIME TO REFLECT ON AND REVIEW YOUR GOALS, STRATEGIES AND ACHIEVEMENTS After attempting to achieve your climate action goals, take time to review or even change your goals, action and methods. The climate action team should coordinate this process.
	<input type="checkbox"/> SHARE AND CELEBRATE YOUR RESULTS AND LESSONS LEARNED Communicating results and lessons learned within and beyond the school community builds accountability around climate action. Sincere, appropriate and public celebration of school achievements also builds motivation to sustain projects. Around the world, schools have found creative ways to share their results and lessons learned, including: <ul style="list-style-type: none"> ▶ Using the data collected to deliver the curriculum (e.g. students create graphs illustrating changes in electricity consumption); ▶ Putting up posters in a prominent spot in the school; ▶ Sharing tips for families to introduce sustainability practices at home; ▶ Inviting visitors to student-led tours showcasing climate action projects; ▶ Presenting results and lessons learned at conferences and in academic journals; ▶ Seeking certification with national or international award programmes.

PART 3

AREAS FOR ACTION

A whole-school approach means including climate action in all aspects of your school, including school governance, teaching and learning, facilities and operations, and community partnerships. Schools often begin their journey of whole-school transformation by focusing on changes in one or two areas for action. Ultimately, however, the goal of a whole-school approach is to integrate climate action into all four areas.

The whole-school approach means considering climate change when planning all aspects of the school.



SCHOOL GOVERNANCE

GUIDELINE # 1

CREATING A CLIMATE ACTION TEAM

Everyone in your school - girls and boys, women and men - has a role to play in working towards your school's climate action goals. However, sharing roles and responsibilities is important to be effective in your work. Setting up a climate action team to coordinate your school's climate work is a way to do so.

The role of the team is to coordinate the development, implementation, and revision of your school's climate action plan in consultation with all other school stakeholders. This involves several meetings at the beginning of the school year to plan your projects and actions, as well as meetings throughout the school year to assess your progress and to adjust your plan as necessary.

You can create a climate action team with the support of your principal and fellow teachers. Your team should include all the different groups in and outside the school that might have a stake in your school's climate action initiatives (see table 1). This is important to have access to different skills, knowledge and viewpoints in the team. When setting up the team, please consider the following:

- ▶ Include student representatives with diverse backgrounds and from different grades/age groups. Don't forget to explain the extent to which students will (or will not) hold decision-making power. This will help avoid feelings of disappointment that might arise when students see that not all of their ideas are put into practice.
- ▶ Seek representatives from all parts of the adult school community: managers, teachers, custodial and cafeteria staff, administrators, support staff and families.
- ▶ Invite individuals and organizations in your local community that might be affected by your school's projects and that might provide technical expertise and other support for your future initiatives. These might include environmental organizations, school neighbours, local businesses, and local government representatives.
- ▶ Ensure equal participation and leadership by girls and boys, women and men
- ▶ Where possible, members of the climate action team should be elected rather than designated so that they can speak and act on behalf of the group they are representing and consult and mobilize them.

TEACHING AND LEARNING

GUIDELINE # 2

TEACH CLIMATE CHANGE IN ALL SUBJECT AREAS

Addressing climate change is complex. Environmental, economic, social, cultural, ethical, political, scientific and technological issues all come into play. For this reason, your school should include climate action in all subjects - not only in science and social science courses.

You don't need a special course to teach climate change in your school, although such courses are certainly helpful! You can include relevant issues in every subject. For example, you can:

- ▶ Have students make graphs showing changes in your school's energy use in mathematics,
- ▶ Create posters about the impacts of climate change in visual arts,
- ▶ Practise the communication skills they need to speak out about the issues affecting their lives in language classes,
- ▶ Have students create concept maps showing links between social, environmental and economic issues,
- ▶ Have students write journals documenting how they feel about taking part in a climate action project.

More examples are mentioned in table 2 below.

No matter what subject you teach, it is important to assess student learning related to climate action. Assessments can improve student learning by providing feedback about what students are doing well and how they might improve. Assessments also send a message that learning in this area matters.

TABLE 2 TEACHING CLIMATE CHANGE IN EVERY SUBJECT

Consider these examples of how you can teach climate change in every subject. Which examples make sense for your school or for your class? Can you think of any other ways you can help your students to understand and take action?

SUBJECT	EXAMPLES
Agriculture/gardening	<ul style="list-style-type: none"> ▶ Design and maintain a school garden and compost ▶ Interview local farmers, male and female, to learn how climate change affects them
Arts - Visual and Performing	<ul style="list-style-type: none"> ▶ Create posters showing the impacts of climate change ▶ Analyze songs with environmental themes or messages
Biology	<ul style="list-style-type: none"> ▶ Examine how climate change affects the spread of diseases such as malaria ▶ Measure biodiversity in the school yard or local community
Civics/Citizenship	<ul style="list-style-type: none"> ▶ Interview local government officials about their actions to address climate change ▶ Plan a community clean-up of a local beach or park
Geography	<ul style="list-style-type: none"> ▶ Do field trips to examine the causes and effects of urban sprawl ▶ Create maps showing areas of the world most at risk due to climate change
Health and Physical Education	<ul style="list-style-type: none"> ▶ Show respect for the environment when hiking on trails around the school ▶ Examine the health risks associated with environmental factors such as air pollution ▶ List the environmental benefits of healthy practices such as active transportation
History	<ul style="list-style-type: none"> ▶ Examine how societies throughout history have resolved conflicts and responded to environmental challenges ▶ Research traditional ecological knowledge and consider how it might apply to local sustainable development issues
Language and Literature	<ul style="list-style-type: none"> ▶ Practice the communication skills needed to speak out about local and global issues ▶ Write poems and stories in response to photos or videos about climate change
Mathematics	<ul style="list-style-type: none"> ▶ Make graphs to show changes in school energy use ▶ Calculate statistics, disaggregated by sex, on poverty and malnutrition at the local and global levels,
Science and Technology	<ul style="list-style-type: none"> ▶ Investigate the natural and human factors that influence the climate ▶ Assess the social, environmental and economic impacts of common chemicals
Vocational and Technical Education	<ul style="list-style-type: none"> ▶ Use workplace safety measures that protect the health of female and male workers and the environment ▶ Identify technological solutions that address social and environmental concerns ▶ Include environmental and social responsibility in the design of a product

GUIDELINE # 3**TEACH CRITICAL, CREATIVE AND FUTURES THINKING**

In our complex, ever-changing world, it is not enough to teach specific, expert-endorsed ideas about climate action. You need to teach critical, creative and futures thinking skills.

- ▶ Critical thinking skills: identifying what information or perspectives are needed to examine an issue; weighing the evidence supporting a particular position; making recommendations...
- ▶ Creative thinking skills: searching for possibilities; learning from other cultures, time periods and contexts; designing solutions...
- ▶ Futures thinking skills: envisioning probable, possible, and desirable futures; comparing short- and long-term effects of decisions; applying the precautionary principle.

How can you help students develop critical, creative and futures thinking skills? A common approach is cooperative learning. In cooperative learning, students work with people from various backgrounds with different values and perspectives to find answers to complex questions. This leads students to consider different ways of looking at issues, solutions and strategies before taking a position.

If you are using cooperative learning for the first time, remember that cooperation involves more than having students share answers as they do individual assignments. To use cooperative learning effectively, you need to structure group work such that each student actively participates to achieve shared goals. For more reading on cooperative learning please consult the website of The Cooperative Learning Institute.

COOPERATIVE LEARNING AT THE 1ST EXPERIMENTAL LYCEUM OF ATHENS - GENNADEIO

Athens, Greece

As an experimental school, the 1st Experimental Lyceum of Athens-Gennadeio is encouraged to introduce innovative programmes. In 2013, the school introduced complex systems into biology and chemistry courses for 157 senior secondary students. In the complex systems unit, students worked in groups to investigate climate change, virus transmission, and ecosystem dynamics with the help of computer simulations. Through their investigations, students discovered the properties of complex systems, such as positive and negative feedback loops. They also had opportunities to apply their learning. For example, a group of students measured the energy sustainability of the school building, to find its weaknesses and construct an action plan to improve it. In a school where students are academically oriented and very interested in science and research, using technology and cooperative learning to teach complex systems fitted well with students' talents and interests. The complex systems unit was used as a learning opportunity for teachers as well as students. Most of the lessons were observed as part of a peer-to-peer evaluation programme. During each class, a teacher-researcher took note of students' comments, questions and attitudes. It was found that the lessons engaged students and enriched their knowledge about real-world problems. The teachers presented their findings in staff meetings and at conferences.

CONSIDER THIS!

Here are some perspectives your students might consider when examining climate change:

- ▶ Local and global perspectives;
- ▶ Gender perspectives;
- ▶ Past, present and future perspectives;
- ▶ Emotional, value-based and fact-based perspectives;
- ▶ Human and non-human perspectives;
- ▶ Perspectives of powerful and marginalized individuals, groups and countries.

GUIDELINE # 4**EMPOWER STUDENTS TO TAKE ACTION**

Given the urgency of the climate crisis, learning must be action-oriented. There are three parts to empowering students to take action^{iv}.

1. Learning about action - Teach students the knowledge and skills they need to be successful. For example, you might have students study the history of local and global efforts to create change. You might also have students practice the skills needed to take action (e.g. consensus-building, active listening, advocating, empathizing...).
2. Learning through action - Have students select, plan and implement climate action projects. Students can work on their action projects in class or during extracurricular activities. Either way, remember that the goal is to empower students to use their learning as the basis for making positive change in their lives, schools, and communities. Therefore, what matters is not so much what goal is pursued. What matters more is whether the project comes from students' ideas, and whether you use these activities to help students develop the skills and resolve to take action.
3. Learning from action - Have students reflect on what they achieved, what they learned, and what they would do differently the next time.

Your school campus is an ideal place for students to take action. It is easier to make your school climate-friendly than to make your whole community, region or country sustainable. By designing and making changes to your school campus, your students will learn about the challenges and possibilities of taking action. If you have students lead action projects on campus, be sure to talk to your principal first. He may direct you to other people (such as other teachers, custodians or support staff) who should be involved. They might have expertise to share, or their work might be affected by the projects your students are planning.



FACILITIES AND OPERATIONS

GUIDELINE # 5

MAKE YOUR SCHOOL A MODEL OF CLIMATE ACTION

The saying “practise what you preach” applies to schools. Your school campus - which is probably where your students do most of their learning about climate change - should reflect your school’s values.

The most common way that schools try to become more sustainable is through action to reduce climate change and environmental improvements such as tree-planting, composting, and more efficient use of energy, water and paper. While environmental improvements are important, your school can go beyond that. Your school can model sustainability and climate action in many different ways (see table 3).

HEALTHY KIDS AND HEALTHY ENVIRONMENTS AT HAWKSTONE PRIMARY SCHOOL

Kwazulu Natal, South Africa

Hawkstone Primary School joined the Eco-Schools programme in 2004. Since then, the school has become a model of climate action. In particular, the school has shown how healthy environments and healthy communities go hand-in-hand. For example, guided by a teacher, students learned to make sinks out of recycled materials. Students have been using these sinks ever since to save water and ensure good hygiene at school. Some students have even made sinks for their families to use at home.

Another example of the school’s integrated approach started as a simple waste management project. When a waste audit revealed that most of the litter polluting the schoolyard was candy wrappers and chip packages, the school decided to tackle litter and unhealthy eating at the same time. The school tuck shop began selling in-season fruit, peanuts and homemade popcorn instead of candy and chips. The healthy snacks are served with little or no packaging. Students use what little packaging remains to make crafts such as papier-mâché bowls, necklaces and skipping ropes’.

TABLE 3 MODELING CLIMATE ACTION

Consider these examples of how your school can model climate action. Which examples could work well in your school? Can you think of any other ways your school could engage?

THEME	POSSIBLE WAYS TO MODEL CLIMATE ACTION
Biodiversity and Nature	<ul style="list-style-type: none"> ▶ Plant native flowers, trees shrubs, fruits and vegetables ▶ Plant trees that provide shade for play areas, outdoor learning areas, and the school building
Energy	<ul style="list-style-type: none"> ▶ Turn off lights, computers and other electronics when not in use ▶ Regularly inspect mechanical equipment to ensure it is working efficiently
Responsible Consumption	<ul style="list-style-type: none"> ▶ Buy local products ▶ Buy products made in farms, plantations and factories with responsible labour, health and safety practices
Health and Well-Being	<ul style="list-style-type: none"> ▶ Serve healthy, organic, local, and minimally packaged foods in the school cafeteria ▶ Maintain sinks and faucets to encourage regular hand-washing
Litter and Waste	<ul style="list-style-type: none"> ▶ Encourage students and staff to bring litterless lunches ▶ Place recycling, compost and garbage bins in key locations to encourage students and staff to put waste in the right place
Transport	<ul style="list-style-type: none"> ▶ Encourage students and school staff to use sustainable transport ▶ Locate new school buildings in areas easily accessed by public transportation
Water	<ul style="list-style-type: none"> ▶ Turn off water when not in use ▶ Replace pavement with natural surfaces that will absorb rainwater from big storms ▶ Make sure all chemicals are disposed of properly (not just thrown down the drain)

COMMUNITY PARTNERSHIPS

GUIDELINE # 6

BUILD COMMUNITY PARTNERSHIPS FOR LEARNING AND TEACHING

There is a lot schools can do to help reduce climate change. However, many issues cannot be addressed by schools alone and require collaboration with external stakeholders. This is why your school should consider developing close partnerships with the community.

Links with the community can also improve your students' learning. Learning experiences outside the classroom help students become more connected to their community. Community partners can help you identify which of the following local learning options might be a good fit for your class.

- ▶ Use your school campus as a laboratory for learning
 - Give your students opportunities to see, create and enjoy the systems that make your school more climate-friendly. For example, students may observe the breakdown of food scraps in the school compost, play in the shade of native trees they planted themselves, or lead visitors on guided tours showing your school's sustainability features.
- ▶ Take learning outside the classroom - Bring your students into the school's immediate neighbourhood. Your students can measure biodiversity in natural spaces, interview community members about what they like and dislike about the area, or examine and learn about natural and/or urban landscapes that exist around your school.
- ▶ Organize local field trips - Bring your students to visit sites such as local farms, plantations, disaster support services, water treatment or waste recycling facilities. These visits offer students engaging, real-life contexts for exploring climate change challenges and solutions.
- ▶ Have students learn through experience - Students can experience the day-to-day work of local businesses and organizations by taking part in cooperative education and community service learning programmes.
- ▶ Challenge students to take action - Have your students design and carry out action projects based on real-life needs identified by a local environmental group. Families and other members of the community can be your allies, contributing knowledge, skills, time and resources.

COMMUNITY PARTNERSHIPS IMPROVE LEARNING FOR STUDENTS AT ENDRUPSKOLEN SCHOOL

Fredensborg, Denmark

Thanks to a partnership with a local non-profit organization, Endrupskolen School offers students inspiring and hands-on learning experiences. Eight times throughout the school year, students visit gardens, farms and kitchens run by the non-profit organization "Haver til Maver." During each visit, classes meet experts such as farmers, cooks, biologists or gardeners who guide students in exploring plants, trees, vegetables, smells and tastes. According to Endrupskolen teachers, these visits have given students the skills and commitment needed to build better food futures for themselves, their families and society as a whole. In addition, learning outside the traditional classroom has helped students develop better relationships with their peers and a better sense of self-esteem.

CONSIDER THIS!

Who in the community can collaborate with your school? There are many options.

- ▶ Families
- ▶ Other schools
- ▶ Neighbourhood associations
- ▶ Local businesses, farms and plantations
- ▶ Community centres
- ▶ Media (local newspapers, radio stations, social media, etc.)
- ▶ Professors and researchers at local universities
- ▶ Local environmental groups
- ▶ Local government officials and agencies
- ▶ National and international networks such as the UNESCO ASPnet and Eco-Schools

Community partnerships can benefit not only students, but also the wider community. Your school can act as a hub for local community members to learn about climate change. Here are some ways your school could inspire and involve others:

- ▶ Host public film nights and workshops to raise awareness about climate change.
- ▶ Lead sustainability tours showing your school's climate action initiatives.
- ▶ Organise community-wide events, such as beach, forest or neighbourhood clean-ups.
- ▶ Work with other schools and local businesses to replicate successful projects.
- ▶ Share climate action stories through social media and local newspapers and radio stations.

ASPNET SCHOOLS AND RESEARCHERS MOBILIZED FOR FOREST CONSERVATION

Côte d'Ivoire

In Côte d'Ivoire, one of the most widespread uses of forest resources is in traditional medicine which is of vital importance with regard to primary health care and contributes to preserving traditional knowledge and cultural heritage. Realizing that the biodiversity of their forests is under threat, the ASPnet schools, together with university researchers and medical practitioners, united their forces to come to the rescue of the forest resources in Côte d'Ivoire. The schools promote botanical gardens where parents as well as traditional medicine practitioners teach students how to conserve and manage forest resources in a more sustainable way. Through the study visits in the botanical garden, students acquire traditional knowledge of medicinal plant cultivation which will enable them to identify, protect, preserve and promote the medicinal plants which have tremendous ecological and cultural importance in Côte d'Ivoire. In collaboration with the experts and researchers, the ASPnet schools are now considering creating a genebank as well as replanting endangered species.



PART 4

MONITORING PROGRESS

Once your school culture of sustainability has been developed you can plan and take action as suggested in the six guidelines listed here. They address the four areas of school life as defined by the whole-school approach. You may also use this checklist to monitor your school's progress over time.

GUIDELINE	NO	YES, BUT WE COULD DO BETTER	YES
School Governance			
1. Set up a climate action team.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching and Learning			
2. Teach sustainable development and climate change in all subject areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. Teach critical, creative and futures thinking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. Empower students to take action.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Facilities and Operations			
5. Make your school a model of climate action.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Community Partnerships			
6. Build community partnerships for learning and teaching.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

CONSIDER THIS!

There are other more detailed checklists available online that you can use to plan and assess climate action initiatives. For example, the following guides are available in English:

- ▶ Framework for Developing Whole-School Approaches to Education for Sustainability: http://www.tlri.org.nz/sites/default/files/projects/9245_Appendix%20A.pdf.
- ▶ Ontario EcoSchools 2015-2016 Certification Guide: http://www.ontarioecoschools.org/wp-content/uploads/2015/09/Certification_Guide_2015_16.pdf
- ▶ Namib Desert Environmental Education Trust; Bush Telegraph (Vol. 13, Nr. 2, 2014): "Tools for a Sustainable School": http://www.nadeet.org/sites/default/files/2014_2_BT_Tools%20for%20Schools.pdf

ENDNOTES

- ⁱ UNESCO, 2015. Not just hot air: Putting climate change education into practice: <http://unesdoc.unesco.org/images/0023/002330/233083e.pdf> (Accessed 11 March 2015)
- ⁱⁱ Henderson, K., & Tillbury, D., 2004. Whole-school approaches to sustainability: An international review of sustainable school programs. Australian Research Institute in Education for Sustainability. http://aries.mq.edu.au/projects/whole_school/files/international_review.pdf (Accessed 10 December 2015)
- ⁱⁱⁱ Australian Sustainable Schools Initiative. 2007. Education for sustainability: A guide to becoming a sustainable school. Department of Education and Children's Services.
- ^{iv} Kozak, S., & Elliot, S., 2014. Connecting the dots: Key learning strategies for environmental education, citizenship and sustainability. Learning for a Sustainable Future: <http://lsf-lst.ca/dots> (Accessed 26 November 2015)
- ^v Wildlife and Environmental Society of South Africa and World Wildlife Fund, 2013. The WESSA/WWF Eco-Schools programme South Africa handbook. Wildlife and Environmental Society of South Africa.

Published in 2016 by the United Nations Educational, Scientific and Cultural Organization
7, place de Fontenoy
75352 Paris 07 SP, France

© UNESCO 2016

ISBN 978-92-3-100193-2



This publication is available in Open Access under the Attribution-ShareAlike 3.0 IGO (CC-BY-SA 3.0 IGO) license (<http://creativecommons.org/licenses/by-sa/3.0/igo/>). By using the content of this publication, the users accept to be bound by the terms of use of the UNESCO Open Access Repository (<http://www.unesco.org/open-access/terms-use-ccbysa-en>).

The designations employed and the presentation of material throughout this publication do not imply the expression of any opinion whatsoever on the part of UNESCO concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The ideas and opinions expressed in this publication are those of the authors; they are not necessarily those of UNESCO and do not commit the Organization.

Designed and printed by UNESCO

Cover photo: Thor Jorgen Udvang/Shutterstock.com

Photo credits:

p.10: llike/Shutterstock.com

p.14: Robert Kneschke/Shutterstock.com

p.17: Les Cayes, Haiti by Chris Dennis is licensed under CC BY NC SA 2.0 on 350.org Flickr account (<https://www.flickr.com/photos/350org/>)

Printed in France



United Nations
Educational, Scientific and
Cultural Organization

Education
Sector

Getting Climate-Ready

A GUIDE FOR SCHOOLS ON CLIMATE ACTION

Do you want to help create a healthier, fairer, more environmentally sustainable society?
Do you want to empower children and young people to do the same?
Do you want to make your school more climate-friendly?
If so, this guide is for you!

The guidelines and examples are based on a survey looking at climate action projects at 55 schools in 12 countries. All schools in the survey are part of UNESCO's Associated Schools Project Network (ASPnet). In addition, this guide draws on examples and research published in peer-reviewed journals, books, national and international guidelines and frameworks and programme websites.

