



SUSTAINABLE AND CLIMATE-FRIENDLY SCHOOLS

A TEACHER'S GUIDE TO TAKING ACTION



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DRAFT

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 global issues, including biodiversity loss, economic development, poverty reduction, and global peace and security. Government policies and technological solutions are not enough to solve this complex challenge. We need major changes to the ways we think and act.

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 helps us develop the knowledge, skills, and values we need to take action for healthier, fairer, more environmentally sustainable society.

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 people understand the causes of climate change, preparing them to live with the impacts of climate change, and empowering them to take appropriate actions to adopt more sustainable lifestyles.¹

WHOLE-SCHOOL APPROACHES TO ESD AND CLIMATE ACTION

More and more schools around the world are adopting whole-school approaches to ESD and climate action. The basic idea of the whole-school approach is that all members of the school community - not just one or two teachers - need to be involved in order to address diverse education and sustainability issues. These issues include reducing the environmental impact of our schools, reorienting *what* and *how* students learn, and making stronger links between our schools and communities.

Since they first began to be adopted in the 1990's, whole-school approaches have come to be seen as an especially promising strategy for moving toward sustainable development. In a whole-school approach, students' classroom learning about ESD and climate change is reinforced by the informal messages promoted by the school's values and actions. In this way, whole-school approaches move ESD from awareness to action. More specifically, 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 community;
- Students have more meaningful, relevant, and hands-on learning opportunities;
- Teachers have new professional learning opportunities;
- Schools achieve significant ecological footprint reductions;
- School grounds are greener and more beautiful;
- Schools save a lot of money through efficient resource use;
- Schools gain access to teaching resources, expert knowledge, and financial support.²

¹ UNESCO. (2015). *Not just hot air: Putting climate change education into practice*. Retrieved 11 03, 2015, from UNESCO: <http://unesdoc.unesco.org/images/0023/002330/233083e.pdf>

² Henderson, K., & Tillbury, D. (2004). *Whole-school approaches to sustainability: An international review of sustainable school programs*. Retrieved 10 12, 2015, from Australian Research Institute in Education for Sustainability: http://aries.mq.edu.au/projects/whole_school/files/international_review.pdf

HOW TO USE THIS GUIDE

Do you want to help create a healthier, fairer, more environmentally sustainable society? Do you want to empower young people to do the same? If so, this guide is for you!

This guide has been developed for use by people who want to make their school more sustainable and climate-friendly. Often, teachers are the ones to lead whole-school projects within their schools. Yet, as you will see in this guide, anyone can be an ESD and climate action champion: teachers, administrators, building managers, janitors, parents, or even student leaders. In fact, whole-school approaches *must* involve people from all parts of the school community if they are going to succeed.



This guide is organised in four parts. **Part 1**, which you are now reading, explains why you and your school should take on a whole-school approach to sustainable development and climate action. **Part 2** shows the breadth and depth of the changes involved in making your school sustainable and climate-friendly. This section provides 10 guidelines that suggest how you can include sustainable development and climate action in your school governance, teaching and learning, campus, and community partnerships. The guidelines are accompanied by case studies that show how schools around the world are taking action. **Part 3** outlines step-by-step instructions for becoming a sustainable, climate-friendly school. This section offers two guidelines that suggest how you and your school can plan, put into practice, and evaluate your own strategies and visions for change. At the end of this guide, in **Part 4**, you will find a handy checklist of all 12 guidelines.

Recognising that there is no one way of living, teaching, and running a school that is most sustainable everywhere and always, the guidelines are not intended as universal prescriptions for action. Rather, the guidelines are designed to help you lead discussions within your school. You may use the guidelines to assess where your school is situated on its sustainability and climate action journey, as well as to monitor your school's progress over time. It is expected that you will add, change, or delete guidelines as you adapt the whole-school framework to your school's context and vision for change.

HOW THE GUIDELINES WERE DEVELOPED

The guidelines and case studies are based on a survey looking at whole-school ESD and climate action projects at 55 UNESCO ASPnet schools. ASPnet is a global network of 10,000 schools in 181 countries. In partnership with UNESCO, ASPnet schools are working in support of international understanding, peace, intercultural dialogue, sustainable development and quality education.

In addition, this work draws on examples and research from articles published in peer-reviewed journals, scholarly books, national and international guidelines and frameworks, and program materials such as websites, project reports, and newsletters.

KEY CONSIDERATIONS

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

- Expertise, in the form of well-trained teachers and access to external experts;
- Supporting materials and teaching resources;
- Dedicated facilitators to manage the whole process;
- A knowledgeable and committed school principal;
- Adequate long-term financing.³



³ Australian Sustainable Schools Initiative. (2007). *Education for sustainability: A guide to becoming a sustainable school*. Department of Education and Children's Services.

PART 2: AREAS FOR ACTION

A whole-school approach involves including sustainable development and climate action in all aspects of your school, which can be broken down into four interrelated areas for action: school governance, teaching and learning, campus, and community partnerships. Changes in these four areas are achieved through an ongoing process of planning, action, and reflection (see figure below).



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 sustainable development and climate action into all four areas.



SCHOOL GOVERNANCE

GUIDELINE # 1: DEVELOP A SCHOOL CULTURE OF SUSTAINABILITY.

As a teacher, you probably have a good idea of how things are done in your school and what is expected of students, staff and parents. 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. Your school culture sets and reinforces values and expectations about how things should be done. This is why schools should develop a school culture of sustainability.

A SCHOOL CULTURE OF SUSTAINABILITY

A school culture of sustainability is one in which students, staff and parents hold shared values and beliefs about the importance of taking action for a healthier, fairer, more environmentally sustainable society.

Defining what sustainable development means to your school is the first step in developing a culture of sustainability. Some schools see sustainable development as the key to "doing their part" to take care of the planet. For other schools, sustainable development is about addressing issues directly affecting their communities. For example, several schools in disaster-prone Japan see sustainable development as a practical way of helping students and their families stay safe and prepare for the future.

Defining what sustainable development means to your school will require getting input from everyone in your school community. This means seeking input from students, parents, custodial and cafeteria staff, administrators, and other teachers. There are many creative ways you can go about getting input. For example, you can ask your students to brainstorm the things that bug them at school and in the community that probably also bug other people, plants, and animals. You can invite parents to fill out a survey asking them about their beliefs and concerns related to environmental, social, and economic issues. Or, you can organise film nights and workshops where students, parents, and teachers discuss ways of protecting the environment.



The second step in developing a school culture of sustainability is writing a vision, mission, and values that sum up your school's understanding of sustainable development. Your school vision, mission and values should reflect the multiple dimensions of sustainability. This means considering environmental values (such as respect for all forms of life) as well as social, cultural, and economic values (such as a commitment to tolerance, non-violence, and peace). It is important your school vision, mission, and values reflect the specific history, culture, and needs of your school and local community. There is no one way of living, learning, and running a school that is most sustainable everywhere and always.



ON A MISSION TO SUSTAINABLE DEVELOPMENT AT ANTONINE INTERNATIONAL SCHOOL

Beirut, Lebanon

Antonine International School is working hard to develop a school culture of sustainability. Their school mission begins with the statement: "We look towards promoting interdependence among our students in order to prepare them to be good future citizens, active members of a better world."

The final step in developing a school culture of sustainability is making sure that sustainable development is included in the many components that, together, shape school culture. These components include not only the school vision and values, but also strategic plans, policies, procedures, guidelines, budgets, and committees.

CONSIDER THIS!

- Has your school agreed on environmental, social, cultural, and economic values?
- Is sustainable development part of your school's strategic plan?
- Does your school's student code of conduct set expectations for environmental responsibility and non-discrimination?
- Do your school's staff orientation procedures introduce new staff to the school's values and expectations related to sustainable development?
- Does your school's purchasing policy encourage buying environmentally and socially responsible products?
- Does your school give out money to sustainable development projects?
- Does your school assign time for teachers to reflect on ESD issues and experiences at school?
- Do all school committees have a sustainable development representative?

GUIDELINE # 2: INVOLVE EVERYONE IN YOUR SCHOOL COMMUNITY IN ESD AND CLIMATE ACTION.

Everyone in your school community has a role to play in defining and working towards your school's sustainable development and climate action goals. In fact, this is a defining feature of the whole-school approach. On a practical level, involving the whole school community helps you to share the workload and avoid burnout. On a deeper level, an inclusive approach builds commitment to maintaining ESD and climate action projects over time. Also, by having everyone participate, you are giving everyone a chance to develop skills such as critical thinking, consensus-building, and empathising - skills needed for creating a more sustainable society.

Students, teachers, administrators, support staff, custodians, building operators, parents, and local community members all have a role to play (see table below). For example, cafeteria staff can prepare healthy snacks and meals made with local ingredients, students can carry out energy audits to monitor your school's progress in becoming more sustainable, and parents 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 community in deciding which roles they will take on.

CONSIDER THIS!

- Does everyone in your school community participate in making decisions about sustainable development issues and projects?
- Does everyone have the resources they need to act on decisions?
- Can everyone see their impact on the final result of sustainable development and 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 within the school. The school believes that everyone in the school community - 800 students and 200 employees - should know why environmental projects are taking place. Also, everyone should feel like they are part of the process. Only in this way will sustainable development be integrated across the whole school community. 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 various trainings for school community members in order to secure buy-in for the projects. The trainings also ensure everyone has the knowledge and skills they need to take part in the projects. For example, training on waste sorting and cooking oil collection was offered to employees. Also, a gardening workshop was organised for student volunteers, so they could assist maintenance staff in caring for the expanding school gardens.

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

TEACHING AND LEARNING

GUIDELINE # 3: TEACH SUSTAINABLE DEVELOPMENT AND CLIMATE CHANGE IN ALL SUBJECT AREAS

Addressing sustainable development and 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 sustainable development and climate action in all subjects - not only in science and social science courses. No one subject is enough to teach the full complexity of sustainable development and climate change.

CONSIDER THIS!

Some schools foster interdisciplinary learning about sustainable development by transforming their timetables. Instead of organizing their courses around academic disciplines, they teach courses based on sustainable development issues. Other schools retain more traditional discipline-based timetables. In these schools, teachers present discipline-specific theories, concepts, and methods as tools for developing responses to local and global issues. Which approach is better suited to your school?

You don't need to a special course to teach sustainable development and climate change in your school, although such courses are certainly helpful! You can include sustainable development and climate change in every subject (see table below). 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, or practise the communication skills they need to speak out about the issues affecting their lives in language classes.

No matter what subject you teach, it is important to assess student learning related to ESD. 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. There is no doubt that assessing student learning related to ESD and climate action is challenging. It involves measuring students' knowledge about sustainable development and climate change, their skills to investigate different possibilities for action, and their resolve to act for a more sustainable future. Here are some ways you could assess student learning in these areas:

- Have students create **concept maps** to show they understand how social, environmental, and economic issues are connected.
- Have students put together **portfolios** containing work showing how they applied creative thinking skills, such as designing solutions to a problem and learning from other cultures and time periods.
- During one-on-one or group **interviews**, ask your students to tell you about how they used teamwork skills such as building consensus, empathizing, and negotiating.
- Have students write **journals** documenting how they feel about taking part in a sustainability action project such as a poverty reduction campaign.
- Record your **observations** of what your students say and do while they are taking part in sustainable development and climate change activities.

Subject	Examples
Agriculture	<ul style="list-style-type: none"> <input type="checkbox"/> Building and maintaining a school compost <input type="checkbox"/> Interviewing local farmers to learn how climate change is affecting them <input type="checkbox"/> Planting an ecological garden providing fruits and vegetables for the school cafeteria
Arts - Visual and Performing	<ul style="list-style-type: none"> <input type="checkbox"/> Building and maintaining a school compost <input type="checkbox"/> Interviewing local farmers to learn how climate change is affecting them <input type="checkbox"/> Planting an ecological garden providing fruits and vegetables for the school cafeteria
Biology	<ul style="list-style-type: none"> <input type="checkbox"/> Examining how climate change is affecting the spread of diseases such as malaria <input type="checkbox"/> Studying how healthy ecosystems help provide clean drinking water <input type="checkbox"/> Measuring biodiversity in the school yard or local community
Civics/Citizenship	<ul style="list-style-type: none"> <input type="checkbox"/> Taking action to promote human rights in the school or local community <input type="checkbox"/> Interviewing local government officials about their actions to address climate change <input type="checkbox"/> Planning a community clean-up of a local beach or park
Geography	<ul style="list-style-type: none"> <input type="checkbox"/> Field trips to examine the causes and effects of urban sprawl <input type="checkbox"/> Creating maps showing areas of the world most at risk due to climate change <input type="checkbox"/> Researching the social, economic, and environmental impacts of the food service in the school cafeteria
Health and Physical Education	<ul style="list-style-type: none"> <input type="checkbox"/> Showing respect for the environment when hiking on trails around the school <input type="checkbox"/> Examining the health risks associated with environmental factors such as air pollution <input type="checkbox"/> Listing the environmental benefits of healthy practices such as active transportation
History	<ul style="list-style-type: none"> <input type="checkbox"/> Examining how societies throughout history have resolved conflicts and responded to environmental challenges <input type="checkbox"/> Researching traditional ecological knowledge and considering how it might apply to local sustainable development issues <input type="checkbox"/> Analysing political policies and international agreements to promote sustainability
Language and Literature	<ul style="list-style-type: none"> <input type="checkbox"/> Reading stories that contain heroes and main characters of both sexes from a variety of religious and cultural backgrounds <input type="checkbox"/> Practising the communication skills needed to speak out about issues affecting local and global <input type="checkbox"/> Writing poems and stories in response to photos or videos about climate change
Mathematics	<ul style="list-style-type: none"> <input type="checkbox"/> Making graphs to show changes in school energy use <input type="checkbox"/> Calculating statistics on poverty and malnutrition at the local and global levels <input type="checkbox"/> Relating concepts in geometry to the arts, crafts, and architecture of different cultures around the world
Science and Technology	<ul style="list-style-type: none"> <input type="checkbox"/> Investigating the natural and human factors that influence the Earth's climate <input type="checkbox"/> Assessing the social, environmental, and economic impacts of common materials and chemicals <input type="checkbox"/> Researching how women and men from a variety of cultures have contributed to science and technology and used science to solve local and global problems
Vocational and Technical Education	<ul style="list-style-type: none"> <input type="checkbox"/> Using workplace safety measures that protect the health of workers and the environment <input type="checkbox"/> Identifying technological solutions designed in response to social and environmental concerns <input type="checkbox"/> Including environmental and social responsibility in the design of a product

GUIDELINE # 4: USE YOUR LOCAL COMMUNITY AS A CLASSROOM

Students are more engaged when they feel that their learning is relevant to their lives. You can make learning more relevant for your students by including local history, culture, and ecosystems in your ESD and climate action lessons. Even better, you can take learning outside of the classroom and into the local neighbourhood or nearby wilderness settings. These local learning experiences help students become more knowledgeable and connected to their community. This encourages students to take part in making their community a better place.

The easiest way to create local learning opportunities for your students is to bring your students out to learn in the immediate neighbourhood. Your immediate neighbourhood offers more learning opportunities than you might imagine. Your students can measure biodiversity in nearby parks, interview neighbours about what they like and dislike about the area, or examine what kind of walking and biking infrastructure exist around your school. There is no cost to taking your students out to visit the immediate neighbourhood. Also, the risk of taking your students on these mini-field trips is small because you and your students are already familiar with the area.

You can also bring their students to visit buildings, farms, cultural sites and wilderness areas in your community. These visits offer students engaging, real-life contexts for exploring the complexity of sustainable development and climate change. Community partners, such as local businesses, neighbourhood associations, environmental groups, and government officials, can help you organise hands-on learning opportunities in your community. For example, you could take your students on field trips to examine disaster support services or water treatment facilities in your community. Or, your students could experience the day-to-day work of local businesses and organisations by taking part in cooperative education and community service learning programs. You might also have your students design and carry out action projects based on real-life needs identified by a local environmental group. Community partners can help you identify which options are a good fit for your class.

COMMUNITY PARTNERSHIPS CREATE LOCAL LEARNING OPPORTUNITIES FOR STUDENTS AT ENDRUPSKOLEN SCHOOL

Fredensborg, Denmark

Thanks to a partnership with a local non-profit organization, Endrupskolen School in Denmark offers students an 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 teachers and 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 .

GUIDELINE # 5: TEACH YOUR STUDENTS CRITICAL, CREATIVE, AND FUTURES THINKING SKILLS

Communities and experts agree that there is no one way of living that is most sustainable everywhere and always. While we can always learn from each other, it is important to remember that times change and that people and places are different. In our complex, ever-changing world, you must go beyond teaching specific, expert-endorsed ideas about sustainable development. You need to teach your students critical, creative, and futures thinking skills.

- **Critical thinking skills:** identifying what information or perspectives are needed to examine an issue; exposing and questioning assumptions; weighing the evidence supporting a particular position; making recommendations; seeing the particular as part of the whole...
- **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; accepting uncertainty; applying the precautionary principle...

CONSIDER THIS!

Here are some perspectives your students might consider when examining ESD and climate action issues:

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

How can you help your students develop critical, creative, and futures thinking skills? One of the most commonly-used strategies is to engage students in cooperative learning. In cooperative learning, students work with people from various backgrounds with different values and perspectives to find answers to complex questions. This learning environment 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 much more than having students sit at the same table to share answers as they do their individual assignments. Cooperation is not assigning a group project where it is possible for one student to do all the work while the others simply put their names on the final report. To use cooperative learning effectively, you need to structure group work such that each group member's success is dependent on the group's success.

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 educational programs. In 2013, the school introduced the study of complex systems into biology and chemistry courses for 157 senior secondary students.

In the complex systems unit, students work in groups to investigate climate change, virus transmission, and ecosystem dynamics with the help of computer simulations. Through their investigations, students discover the various properties of complex systems, such as positive and negative feedback loops. They also have 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 fits well with students' talents and interests.

The complex systems unit has been used as a learning opportunity for teachers as well as students. Most of the complex systems lessons were observed as part of a peer-to-peer evaluation program. During each class, a teacher-researcher took note of students' comments, questions, and attitudes. It was found that most students engaged enthusiastically in class activities and that the lessons enriched students' knowledge about real-world problems. So that others could benefit from their learning about how children learn complex systems, the teachers presented their research findings in staff meetings and at conferences.



GUIDELINE # 6: EMPOWER YOUR STUDENTS TO TAKE ACTION ON REAL-LIFE SUSTAINABLE DEVELOPMENT AND CLIMATE ISSUES

Given the urgency of addressing climate change and other sustainable development challenges, ESD is action-oriented. If it is worth knowing about these issues, then it is worth acting on them. There are three parts to empowering your students to take action.⁴

1. **Learning about action** - Teach your students the knowledge and skills they need to be successful. For example, you might have your students study the history of local and global efforts to create change. You might also give your students opportunities to develop and practice the skills needed to take action (e.g. consensus-building, active listening, advocating, empathizing...).



2. **Learning through action** - Have your students select, plan and implement sustainable development and climate action projects. You can have students work on their action projects in class or during extracurricular activities. Either way, remember that the goal of ESD 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** - Finally, have your students reflect on what they achieved, what they learned, and what they would do differently the next time.

STUDENTS CREATE A HEALTHY, CLEAN, AND GREEN ENVIRONMENT AT AMALINA ISLAMIC SCHOOL

Tangerang Selatan, Indonesia

Amalina Islamic School set a goal of creating a healthy, clean, and green environment in the school and surrounding community. To help their school achieve this goal, students divided into three teams. Each team chose specific issues students wanted to tackle. The Healthy Team decided to promote eating healthy food and avoiding Styrofoam food packaging. The Clean Team decided to focus on waste. Team members separated organic and inorganic waste and started a school compost. Finally, the Green Team chose to plant trees and flowers in the schoolyard. Students on this team are responsible for watering and caring for these plants.

⁴ Kozak, S., & Elliot, S. (2014). *Connecting the dots: Key learning strategies for environmental education, citizenship and sustainability*. Retrieved 11 26, 2015, from Learning for a Sustainable Future: <http://lsf-1st.ca/dots>

CAMPUS

GUIDELINE # 7: MAKE YOUR SCHOOL CAMPUS A MODEL OF THE MULTIPLE DIMENSIONS OF SUSTAINABLE DEVELOPMENT

The saying "practice what you preach" easily applies to schools. Your school campus - which is probably where your students do most of their learning about sustainable development and climate change - should reflect your school's values. This means applying sustainability principles to the design of school buildings and outdoor spaces and to the day-to-day operations of your school (e.g. purchasing, transportation, resource use, waste disposal...).

The most common way that schools try to become more sustainable is through 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 (see table below). For example, your school might make changes to the school campus that promote healthy, active living, respect for diversity, and global citizenship.

HEALTHY KIDS AND HEALTHY ENVIRONMENTS AT HAWKSTONE PRIMARY SCHOOL

Kwazulu Natal, South Africa

Hawkstone Primary School embarked on its journey to becoming an Eco-School in 2004. Since then, the school campus has become a model of an integrated approach to sustainable development. In particular, the school has shown how healthy environments and healthy communities go hand-in-hand.

One example of the school's integrated approach is focused on water. Guided by a champion teacher, students learned to make hand-washers out of recycled materials. Students have been using these hand-washers ever since to save water and ensure good hygiene at school. Some students have even made hand-washers 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 led by the school's eco-committee revealed that most of the litter polluting the school yard 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. The little packaging that remains is used by students to make crafts such as woven mats, papier-mâché bowls, necklaces, and skipping ropes.⁵

⁵ 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.

Theme	Possible Ways to Model Sustainability
Biodiversity and Nature	<ul style="list-style-type: none"> <input type="checkbox"/> Planting native flowers, trees, and shrubs to increase the biodiversity in your schoolyard <input type="checkbox"/> Planting trees that provide shade for play areas, outdoor learning areas, and the school building <input type="checkbox"/> Planting food-producing plants that can be used in the school cafeteria
Energy and Climate Change	<ul style="list-style-type: none"> <input type="checkbox"/> Turning of lights, computers, and other electronics when not in use <input type="checkbox"/> Making sure doors to the outside of the building are not left open when the heat is on <input type="checkbox"/> Regularly inspecting mechanical equipment to ensure it is working efficiently
Global Citizenship	<ul style="list-style-type: none"> <input type="checkbox"/> Buying fair-trade products <input type="checkbox"/> Buying products made in factories with responsible labour, health, and safety practices <input type="checkbox"/> Painting murals that celebrate cultural diversity in your school
Health and Well-Being	<ul style="list-style-type: none"> <input type="checkbox"/> Serving healthy, organic, local, and minimally packaged foods in the school cafeteria <input type="checkbox"/> Maintaining sinks and faucets to encourage regular hand-washing
Litter and Waste	<ul style="list-style-type: none"> <input type="checkbox"/> Encouraging students and staff to bring litterless lunches <input type="checkbox"/> Establishing a cafeteria composting program <input type="checkbox"/> Placing 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"> <input type="checkbox"/> Putting supports in place to encourage students and staff to walk or bike to school <input type="checkbox"/> Locating new school buildings in areas easily accessed by public transportation
Water	<ul style="list-style-type: none"> <input type="checkbox"/> Planting drought-resistant flowers, trees, and shrubs <input type="checkbox"/> Replacing pavement with natural surfaces that will absorb rainwater from big storms <input type="checkbox"/> Making sure all chemicals are disposed of properly (not just thrown down the drain)

Based on: Bibla, S., & Dudar, E. (2014). *Ontario ecoschools 2014-2015 certification guide*. Ontario Ecoschools.



GUIDELINE # 8: USE YOUR CAMPUS AS A TEACHING TOOL FOR DEVELOPING THE KNOWLEDGE, SKILLS, AND VALUES NEEDED TO CREATE A SUSTAINABLE, CLIMATE-FRIENDLY SOCIETY

Your school building and outdoor spaces offer a free and easily accessible space hands-on learning about sustainable development. You can take advantage of this by giving your students opportunities to see, create, and enjoy the systems that make your school sustainable. 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 that highlight your school's sustainability features.

In addition to being a convenient place for students to study the sustainability features that already exist at your school, your campus is an ideal place for students to learn about taking action. A school is a relatively small place. It is easier to make your school sustainable 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 decide to have your students design and make changes to your campus, be sure to talk to your principal first. Your principal will probably direct you to other people at your school (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.

PROTECTING AND CELEBRATING BIODIVERSITY AT SHINKAYAMA JUNIOR HIGH SCHOOL

Okazaki, Japan

After Japan suffered a huge earthquake and tsunami in 2011, teachers at Shinkayama Junior High School decided their school needed to do more to care for the environment, society, and future generations. They created an environmental education project based on local biodiversity and culture. Students are learning to grow and protect the traditional Japanese Sasayuri lilies in the schoolyard. Thanks to this project, students have been able to decorate their classroom with flowers. They have also made gifts of Sasayuri lilies to the city mayor and to some retirement homes. By protecting local biodiversity, students have created more inspiring places to learn and made deeper connections with their community!

COMMUNITY PARTNERSHIPS

GUIDELINE # 9: BUILD AND NURTURE PARTNERSHIPS WITH PARENTS, LOCAL ORGANISATIONS AND BUSINESSES, AND NATIONAL AND INTERNATIONAL NETWORKS

As you have seen, there is a lot schools can do to help solve local and global issues. However, sustainable development is not something schools can achieve on their own. Sustainable development requires collaboration across institutions, sectors, generations, and cultures. This is why your school should consider making community partnerships part of the core business of your school.

Parents and other members of the community can be allies for your school's ESD and climate action projects. They can contribute knowledge, skills, time, resources, and funding. At the same time, your school can act as a hub for local community members to learn about and work towards sustainability. For example, your school might lead sustainability and climate action tours, organise community clean-ups, or work with other groups to replicate successful projects.

CONSIDER THIS!

Who are possible community partners for your school? There are many options.

- Parents
- Other schools
- Neighbourhood associations
- Local businesses
- Professors and researchers at local universities
- Local environmental groups
- Local government officials and agencies
- National and international ESD networks such as the UNESCO Associate Schools Network and the Foundation for Environmental Education's Eco-Schools program

Schools around the world have shown us that networks are vital to whole-school projects. Teachers from schools around the world report that participating in networks has benefitted them in the following ways:

- Students and teachers get new ideas by sharing their experiences with other schools;
- Students are exposed to diverse perspectives on sustainable development and climate change;
- Students and teachers become more motivated to keep up their ESD and climate action efforts;
- Teachers get access to sustainable development and climate action resources adapted for their local context, without having to develop these resources themselves;
- Schools can keep track of national and international trends in education, sustainable development, and climate change.

While it is clear that community partnerships are vital to whole-school approaches to ESD and climate change, researchers don't know exactly what makes these partnerships succeed. It seems like these partnerships are more likely to succeed when they are integrated into the overall work of the school. In other words, partnerships should not depend on one enthusiastic ESD champion in the school. Another factor that appears to make a partnership more successful is when community partners are publicly thanked for their contributions.

GUIDELINE # 10: ALIGN YOUR SCHOOL'S SUSTAINABLE DEVELOPMENT AND CLIMATE ACTION PROJECTS WITH THE NEEDS OF YOUR COMMUNITY

A whole-school project is more likely to obtain buy-in if the goals and priorities of the project, as well as the strategies designed to achieve those goals, are perceived as relevant and valid by members of the local community. This is why schools should consider aligning their sustainable development and climate action projects to local community needs.

There are many strategies you can use to align your school's ESD and climate action projects to the needs of your local community. For example, you can survey parents about their views on local sustainable development issues, you can participate in events and projects outside the school, or you can include parents and other community members on your ESD team. Part 4 of this guide gives more detail about how you can involve your local community in setting priorities and making plans for sustainable development and climate action.

RECIPROCAL LEARNING PARTNERSHIPS AT SHIN-SHING PRIMARY SCHOOL

Shin-Shing Village, Taiwan

A small school located in an Aboriginal community in a remote area of Taiwan, Shin-Shing Primary School is an excellent example of how school-community partnerships promote learning for sustainable development, within and beyond the school.

After almost a decade of serving the school, the principal of Shin-Shing Primary School applied for funding from the Taiwan Sustainable Campus Program (TSCP). TSCP is a joint initiative of the Graduate Institute of Environmental Education at the National Taiwan Normal University and the Ministry of Education. The TSCP funding allowed the school to scale up efforts to increase environmental literacy and celebrate the local Aboriginal culture.

With the TSCP funding, the school installed solar energy technology, built an ecological stream, and planted an ethno-botanical garden. These projects directly benefited the local community. The ecological stream treated sewage from the community, and local residents got part-time jobs during the construction phase. Students and teachers also benefited from the projects. The stream and garden provide beautiful, accessible sites for hands-on learning about ecological principles. Also, students and teachers gained new opportunities to learn directly from local residents. For example, a local resident taught teachers and students how to make wooden furniture using driftwood that flowed into the community during typhoons. Reaching out to community partners had positive outcomes for the school campus, teaching and learning, and community relations.⁶

⁶ Wang, S.-M. (2009). The Greenschool project in Taiwan. In J. C.-K. Lee, & M. Williams, *Schooling for Sustainable Development in Chinese Communities: Experience with younger children* (pp. 213-231). Springer.

PART 3: BECOMING A SUSTAINABLE, CLIMATE-FRIENDLY SCHOOL

By now, you should have a good idea of what a whole-school approach to ESD and climate action looks like. The next pages explain how you can go about making your school more sustainable.

The key steps involved a whole-school approach to ESD and climate action are planning, action, and reflection. An inclusive ESD team coordinates these three steps. By cycling through these steps, your ESD team will examine how your school's actions fit with sustainable development and climate action. This, in turn, will allow you to use your achievements and lessons learned, for the benefit of the school and of the wider community.



ESD TEAM

GUIDELINE # 11: CREATE AN ESD TEAM INCLUDING STUDENT AND ADULT MEMBERS OF YOUR SCHOOL COMMUNITY

As you have learned, everyone in your school community has a role to play in defining and working towards your school's sustainable development and climate action goals. However, it is not practical to involve everyone in every step on every issue. This is why it is important to create an ESD team that will coordinate your school's ESD and climate action projects.

The role of the ESD team is to develop, implement, and revise your school's action plan for sustainable development and climate action. This involves several meetings at the beginning of the school year to plan your sustainable development and climate change projects, as well as meetings throughout the school year to assess your progress and to adjust your plan as necessary.

You can create an ESD team with the support of your principal and fellow teachers. Ideally, your ESD team should include all the different groups that might have a stake in your school's sustainable development and climate action projects. This means seeking representatives from all parts of the adult school community: teachers, parents, custodial and cafeteria staff, administrators, and support staff. You may also invite individuals and organisations in your local community that might provide technical expertise or that might be affected by your school's projects. These might include environmental organisations, school neighbours, local businesses, and local government representatives. Finally, it is vital to include diverse student representatives. For example, your ESD team might include students from different grades, clubs, and/or school programs (such as International Baccalaureate program students and students with special education needs). As a teacher on the ESD team, 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.



PLANNING, ACTION, AND REFLECTION

GUIDELINE # 12: DEVELOP, IMPLEMENT, AND REFLECT ON A SCHOOL-WIDE ACTION PLAN

Your school probably already runs some ESD and climate action activities. Maybe students planted native trees in the schoolyard, or maybe your school has taken steps to reduce its energy use. Does this mean your school is sustainable? Not necessarily. A commitment to continual learning and improvement through careful planning, action, and reflection is what defines a sustainable school.

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



AL-KAWTHAR SECONDARY SCHOOL'S CONTINUOUS PROCESS OF IMPROVEMENT

Beirut, Lebanon

Al-Kawthar Secondary School set out to raise awareness of climate change and responsible citizenship within their school community. So far, 2421 students, 310 teachers, and 110 parents have been involved in projects including tree-planting, making handicrafts made from recycled materials, visiting national forests, recycling, and conserving water. The school also hosted film screenings and workshops where students, parents, and teachers suggested ways to save the Earth. Following the ISO-26000 guidelines for socially responsible institutions, Al-Kawthar Secondary 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 involved in similar activities in Lebanon and around the world. Parents are kept engaged thanks to leaflets informing them of new developments and projects.

Step	Done?
Planning	
<p>Conduct a self-assessment</p> <p>A self-assessment offers an honest picture of your school's current performance related to ESD and climate action. This assessment helps identify priorities, set targets, and measure success.</p>	
<p>Develop an action plan</p> <p>Your action plan should reflect your school's vision for change, the results of your self-assessment, and student input. At minimum, your action plan should include your school's objectives and priorities, accompanied by specific tasks, expected outcomes, and timeframes.</p>	
<p>Identify curriculum links</p> <p>Linking ESD and climate action projects to the curriculum will makes them more relevant, effective, and long-lasting. You can make curriculum links based on sustainability themes (such as energy and poverty reduction) and pedagogies (such as local learning and cooperative learning.)</p>	
<p>Clarify roles and responsibilities</p> <p>Setting up roles and subcommittees helps ESD team members know and fulfill their responsibilities.</p>	
Taking Action	
<p>Implement your school's action plan</p> <p>Remember that it is important to involve all members of your school community in implementing your action plan.</p>	
<p>Collect data</p> <p>You must collect multiple types of data to capture deep, system-wide change. Your school's ESD assessment portfolio might include:</p> <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, ESD team meeting minutes, and the school's ESD action plan. 	
Reflecting	
<p>Reflect on your goals, strategies and achievements</p> <p>After having attempted to achieve your ESD and climate action goals, take time to change, or even reject your goals and methods. The guidelines in this document provide you with a starting point for assessing your school's ESD and climate action projects. You should modify, add to, or delete guidelines in order to reflect your school's situation and plans for change.</p>	
<p>Share and celebrate your results and lessons learned</p> <p>Communicating results and lessons learned within and beyond the school community builds accountability around ESD and climate action. Sincere, appropriate, and public celebration of school achievements also builds motivation to sustain ESD and climate action projects. Around the world, schools have found creative ways to share their results and lessons learned, including:</p> <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 parents to introduce sustainability practices at home; • Inviting visitors to student-led tours showcasing ESD and climate action projects; • Presenting results and lessons learned at conferences and in academic journals; • Seeking certification with national or international award programs. 	

PART 4: CHECKLIST

To help you plan your sustainability and climate action projects, the 12 guidelines proposed throughout this guide are listed here. You can also use this checklist to monitor your school's progress over time.

Guideline	No	Yes, but we could do better	Yes
School Governance			
1. Develop a school culture of sustainability.			
2. Involve everyone in your school community in ESD and climate action.			
Teaching and Learning			
3. Teach sustainable development and climate change in all subject areas.			
4. Use your local community as a classroom.			
5. Challenge your students to examine sustainable development and climate change issues from multiple perspectives.			
6. Empower your students to take action on real-life sustainable development and climate change issues.			
Campus			
7. Make your school campus a model of the multiple dimensions of sustainability.			
8. Use your school campus as a teaching tool for developing the knowledge, skills, and values needed to create a more sustainable society.			
Community Partnerships			
9. Build and nurture partnerships with parents, local organisations and businesses, and national and international networks.			
10. Align your school's ESD and climate action projects with the needs of your community.			
Community Partnerships			
11. Create an ESD team including student and adult members of the school community.			
12. Develop, implement, and assess a whole-school action plan.			