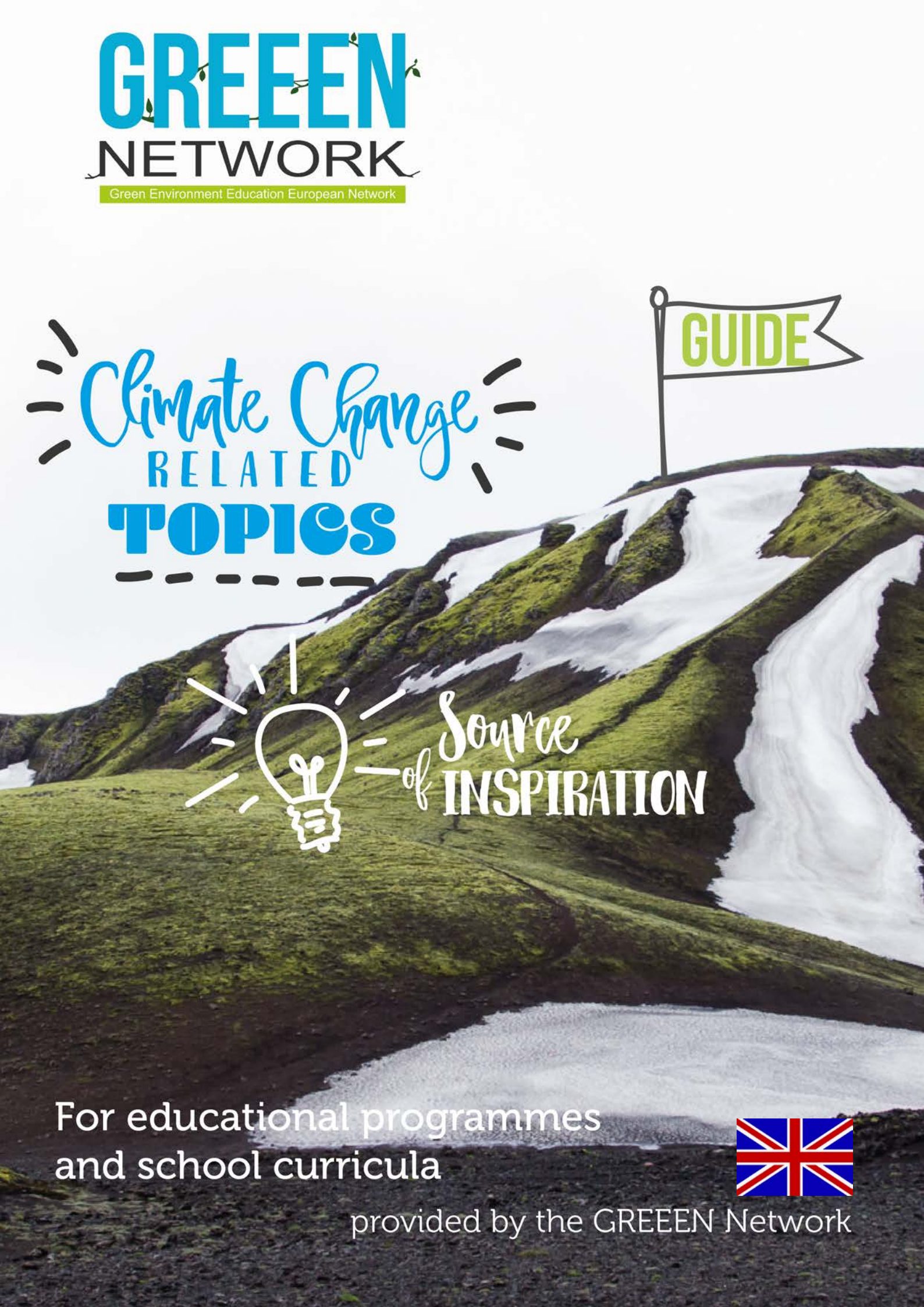
GREEEN NETWORK

Green Environment Education European Network

GUIDE

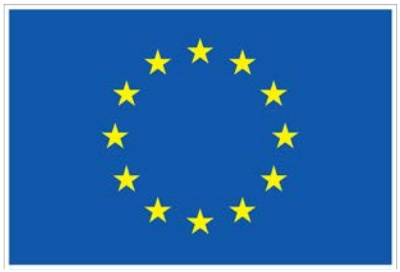
Climate Change RELATED TOPICS



Source of INSPIRATION

For educational programmes and school curricula

provided by the GREEEN Network



Lifelong Learning Programme

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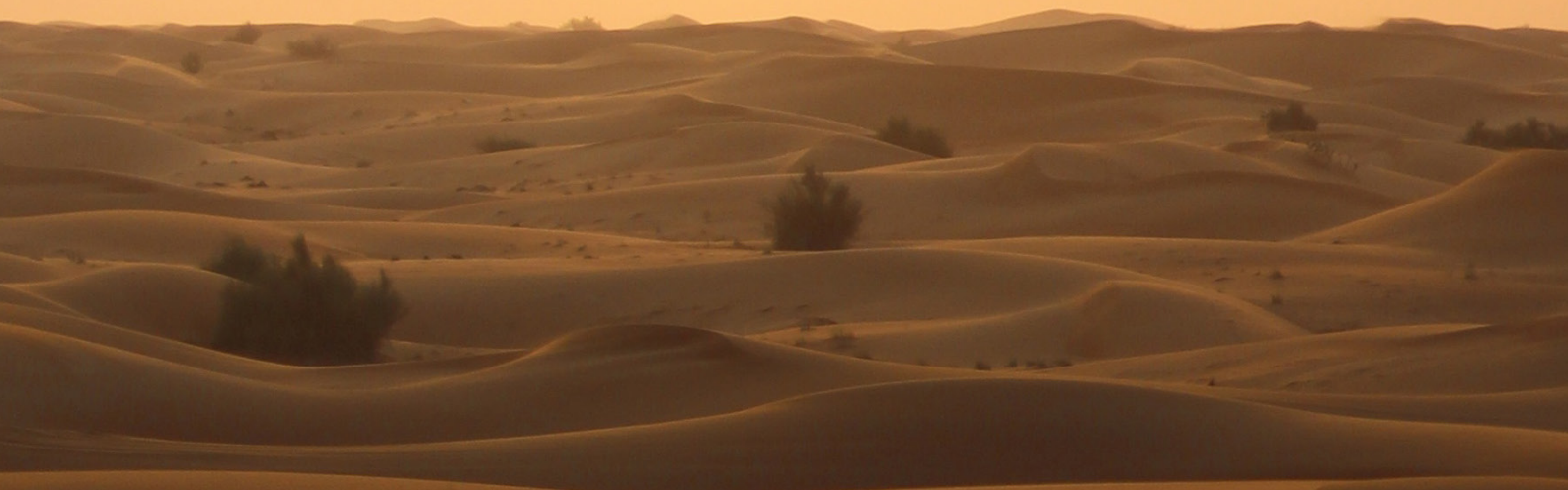
ABOUT THIS GUIDE

This guide was developed by the partners of the European Project GREEEN, Green Environmental Education European Network, funded by the Lifelong Learning Programme Comenius. Since 2007, the European Union (EU) has funded different kinds of educational development projects through the Comenius programme. The objective of Comenius is to enhance the quality of school education through transnational collaboration. As part of the Comenius programme, GREEEN was launched in 2014, and it pursues the Comenius' objectives. GREEEN consists of 16 partners from 12 countries, with people from schools, universities and NGOs from all over Europe. The focus of GREEEN has been to develop the education on climate change and sustainable development in European schools, with consideration to existing national standards. This guide is the result of the work of GREEEN.

FIRSTLY,
THIS GUIDE IS MEANT TO **SERVE TEACHERS** AND OTHER EDUCATION PROFESSIONALS AS A **SOURCE OF INSPIRATION** FOR THE **INTEGRATION OF CLIMATE CHANGE** RELATED TOPICS **INTO EDUCATIONAL PROGRAMMES** AND SCHOOL CURRICULA.

SECONDLY,
IT AIMS TO **PROMOTE CREATIVITY** IN SCIENCE EDUCATION, **MAKING SCIENCE EDUCATION** MORE **TANGIBLE**, **INNOVATIVE** AND **ATTRACTIVE** BY ADDRESSING A CRUCIALLY IMPORTANT ISSUE.



The guide is divided into three main sections:

1

TEACH CLIMATE CHANGE

Part I addresses why it is important to teach climate change and sustainable development in schools, and not only in nature science subjects. It also includes thoughts on what GREEEN considers to be critical knowledge and competences students and teachers need to have.

2

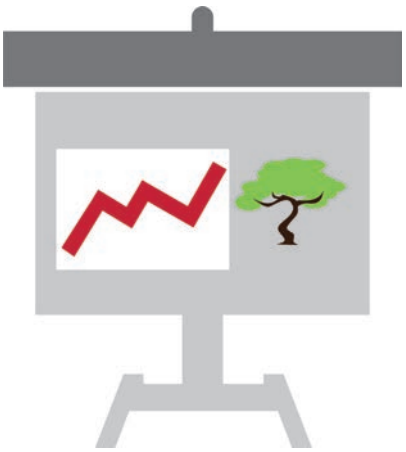
GOOD PRACTICE EXAMPLES

Part II presents a selection of good practice examples (i) on how climate change has been integrated into specific subjects or into extracurricular activities (e.g. students' clubs, project days), and (ii) on how to approach climate change in a multidisciplinary way. The examples were gathered by the GREEEN partner schools and are all based on real experience.

3

NETWORK ACTIVITIES

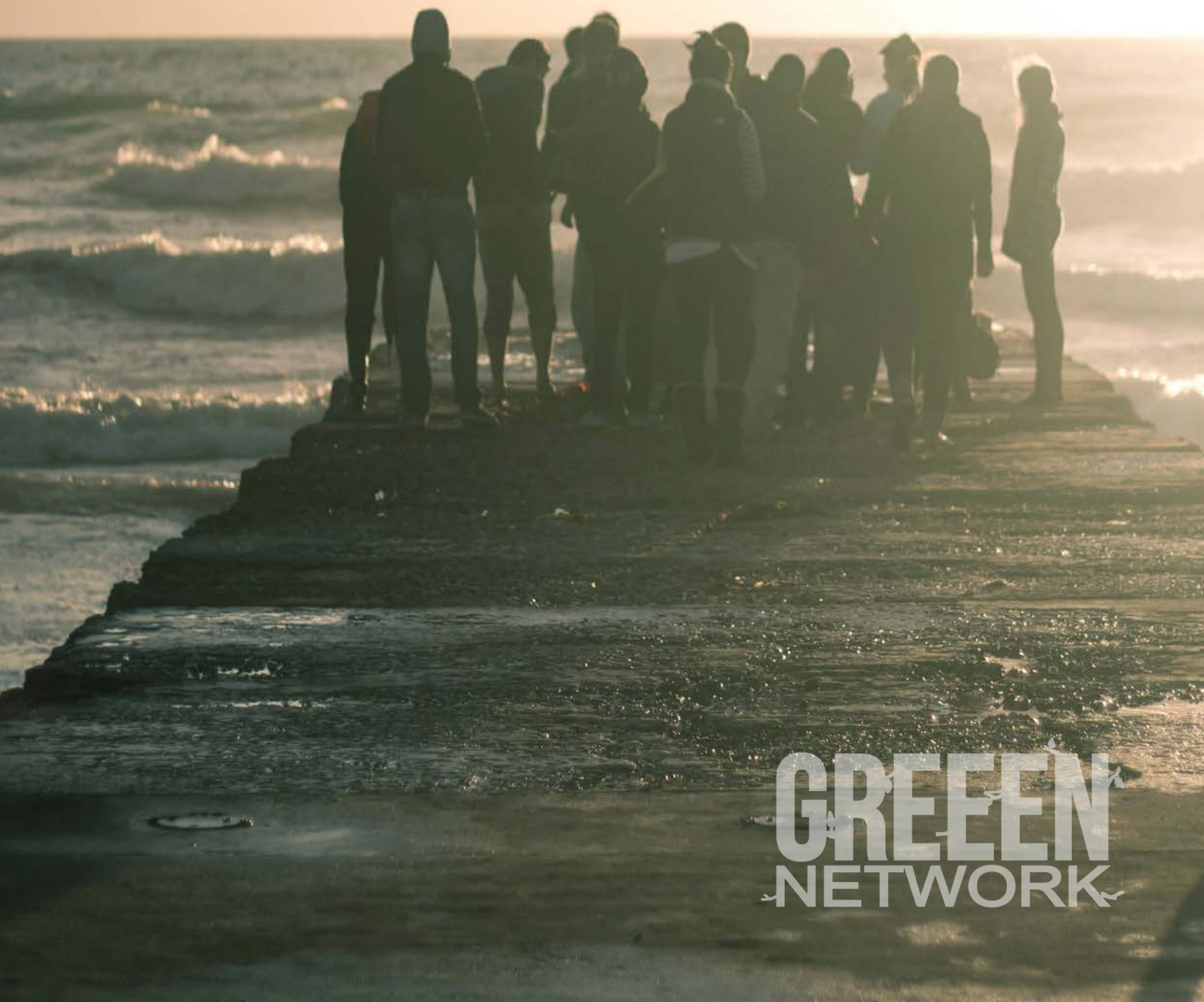
Part III offers examples of networking activities and presents the various offerings provided by the GREEEN Network.

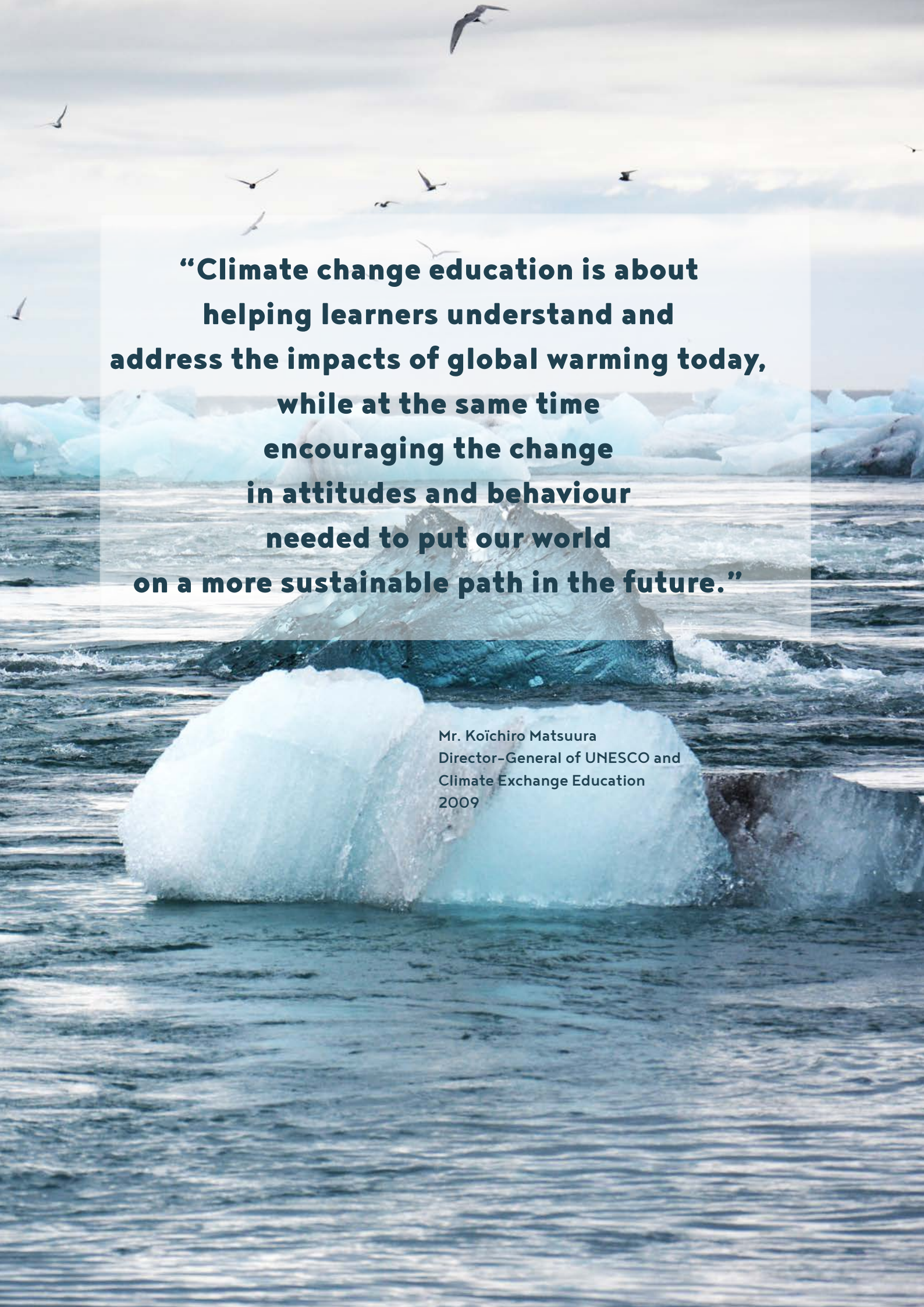


This GREEEN guide is not a manual on how to deal with climate change, nor does it provide examples that are fully applicable in all schools and contexts. This is a document that should be used as inspiration, hopefully leading to the modification and adaptation of activities in your local context. It also aims to promote networking among schools, teachers and students that are interested in learning more about climate change, sustainability questions, and in taking action on a local level.

The guide is directing people interested in learning how to integrate climate change in both formal and informal education programmes at primary and secondary level. The target groups are:

- Teachers, trainers and school managers/administrators;
- Curriculum developers and education planners;
- Teacher training institutions;
- Non-governmental organisations (NGOs) involved in the development and implementation of non-formal education programmes;
- Researchers working on education issues related to climate change;
- Interested citizens/youths/students.





“Climate change education is about helping learners understand and address the impacts of global warming today, while at the same time encouraging the change in attitudes and behaviour needed to put our world on a more sustainable path in the future.”

Mr. Koïchiro Matsuura
Director-General of UNESCO and
Climate Exchange Education
2009

1

WHY IS IT IMPORTANT TO TEACH CLIMATE CHANGE?

Today's teenagers are more likely to experience the effects of climate change than adults today. They will be forced to address the issue and need to learn to live sustainably in order to counteract climate change and subsequent environmental problems. Schools in general, and European schools in particular, being part of the developed and industrialised world, have great responsibilities in preparing future generations for a world facing challenges. Education systems today therefor need to provide young people with knowledge and competences to help them understand climate change and take action against it as early as possible. Schools play a key role in developing young people's attitudes towards making more sustainable choices in their everyday lives, regarding consumerism, travelling, recycling, food choice, and so forth. Apart from this, students begin planning for future careers, and need counselling regarding which businesses face development, and which might dwindle.

What students need to learn include sustainable development in general as well as mitigation and adaptation to climate change. However, it is not easy to implement great change in schools due to curricula and documents regulating schools in ensuring national standards and the quality of the education.

In the next section you will find what GREEEN considers to be what teachers and students need to know on a basic level regarding climate change, as well as competences that they need to develop in order to become conscious regarding the current situation in climate change and sustainable development.

WHAT DO TEACHERS AND STUDENTS NEED TO KNOW?

TEACHERS

To be able to educate students of today about climate change and sustainable living, teachers need to have a basic knowledge about theoretical facts, such as greenhouse gas emission, how these affect the climate, and how a warmer climate affects living conditions on Earth. To get this basic knowledge, please read the IPCC (International Panel on Climate Change) reports[1], or UNESCO's material on teaching and learning for a sustainable future[2].

GREEEN also believes that there are some additional theoretical knowledge of importance, such as planetary boundaries, system thinking and circular economy; and competences, such as networking, and working with multidisciplinary projects, that teachers need to possess.

Teaching climate change is not the responsibility of science teachers only, all subjects should to some extent be involved in covering these topics, not least within social science and economy. This is because climate change affects many aspects of nature and human life, all of which are interconnected, therefor students need to see climate change and sustainability from multiple angles.

1 https://www.ipcc.ch/report/ar5/
2 http://www.unesco.org/education/tlsf/mods/theme_c/mod19.html

Teachers need to consider the issues below while teaching causes and consequences of climate change (Mochizuki & Bryan, 2015):

1. Understanding the multidimensional and interconnected nature of causes and consequences:

Teach climate change via an interdisciplinary and systems thinking approach because it is important for students to see different social and scientific angles on the issue. Engage the students by making them reflect on how their lifestyles affect the social, economic, and environmental aspects of the world, for instance their consumption choices and travel habits. Address how people's actions, both individually and collectively, have ecological, economic, political, ethical, and social consequences worldwide.

2. Knowledge of climate science:

Teach the basic principles regarding the earth's climate system, for instance the greenhouse effect, deforestation, habitat loss, water cycle, pollution, energy consumption, etc. Make the students aware of how economic, technical, social, political, scientific, and ecological aspects correlate in changing the climate, and give a historical background to the situation today. Students also need to learn how to assess scientifically credible information, and how to make informed decisions.

3. Knowledge of mitigation and sustainable consumption and production:

Students need to think about the way they live and consume. Give them knowledge about energy consumption, renewable energy sources, environmental conservation, re-forestation, re-greening, economic systems, cultural patterns, value systems, and lifestyle expectations. Students need to develop values, knowledge, and skills to consider their consumption practices, and learn to minimize their ecological footprint regarding waste, the use of natural resources, and pollution. In this way, they can contribute to a more sustainable future.

4. Knowledge of climate change adaptation:

Students need to be made aware of how to adapt to a changing climate, by making necessary adjustment to social, ecological and economical systems. Knowledge about local environmental conditions are also important in terms of making students familiar with endemic species, annual flood cycles, agricultural practices, polluted areas, and soil, waste and forest management strategies.

5. Managing information and thinking critically about climate:

Students need to be made aware of how to adapt to a changing climate, by making necessary adjustment to social, ecological and economical systems. Knowledge about local environmental conditions are also important in terms of making students familiar with endemic species, annual flood cycles, agricultural practices, polluted areas, and soil, waste and forest management strategies.

a) critical thinking, systems thinking and problem solving skills (reasoning, recognizing and questioning patterns);

b) dealing with rapid change and uncertainties;

c) analysing, synthesizing and evaluating information;

d) planning and management skills;

e) life-long learning skills (learning how to learn, to adapt knowledge to new contexts, and to engage in self-directed learning);

f) information, media and technology skills.

STUDENTS

When students leave school, they should not only have knowledge about the theory of climate change and how it affects the planet, but also have developed competences regarding source criticism, working in projects, and being able to communicate in their first language and English. In the GREEEN Good Practices you will find projects that develop all of these skills. Please see Part II on Good Practices.

Climate Change Education in Practice

In this section we propose a short didactical framework for teaching climate change. In short they are i) analysing the main causes of climate change, ii) evaluating the effects on a global scale, and iii) teaching strategies for mitigation and adaptation to climate change on a local to a global level.

A first point to face climate change teaching is **analysing the main causes:** variations in solar energy reaching Earth; changes in the reflectivity of Earth's atmosphere and surface; and changes in the greenhouse effect, which affects the amount of heat retained by Earth's atmosphere.

A second point to consider is **evaluating the effects** of climate change on global scale. These consequences can be summarised into: increased temperatures; glacier and ice melting; sea level rising; salinisation of soil and fresh-water; decreased amounts of drinking water; loss of biodiversity; spreading of diseases; possibility of increased numbers of natural catastrophes; problems in food production.

Thirdly, teaching **strategies** for mitigation and adaptation to climate change on a local to a global level. Strategies for intervening climate change have traditionally been organised around two main types: those with a focus on reducing emissions of greenhouse gases (mitigation), and those aimed at reducing the risks of, and improving society's resilience to, increased climate variability and long-term climatic changes (adaptation).

Mitigation: based on energy efficiency and renewable energy options, mostly photovoltaic (solar) panels, wind and solar thermal systems, facilitating a transition towards low carbon societies.

Adaptation: based on the use of environmental management as an effective tool for disaster risk reduction, integrating environmental considerations in planning for, as well as managing activities (e.g. relief and recovery operations), for societal and ecosystem resilience.

In order to truly address the issue of climate change, schools play a very important role in forming the young people of today into conscious citizens who make sustainable choices in their everyday lives. Therefore it may not enough to do school drives for turning off the lights, or having a school garden. In order to reach the level of implementation instead of "knowing about", we in GREEEN believe that teaching climate change from a multidisciplinary and systems thinking approach is the way to go. Being made aware of your daily actions' effects on a global scale can be transformative enough to bring about real change. The young people of today are tomorrow's businessmen, politicians and consumers, let's make sure they approach their futures in a sustainable manner.

2 GOOD PRACTICE EXAMPLES AND RESOURCES

GREEEN has gathered examples of good practice on how to implement climate change education into curricular and extracurricular school activities. The good practice examples are produced, tried, and tested by the GREEEN partner schools.
You can find them clustered into five categories in the section below; the categories are

i) climate change knowledge,
ii) research and field studies,
iii) local mitigation,
iv) creative approach, and
v) interdisciplinary approach.

The examples are put into the category that represents their main character even though some might fall into more than one category. You can find more examples in our GREEENHOUSE, here you can also search for different good practices based on subject, topic, project length, didactics or method, and keywords.

CLIMATE CHANGE KNOWLEDGE

In these good practices, students develop their knowledge for climate change, and its effect on the planet.

EXE 2015

Experiments to compare fossil and renewable energy to each other to show the relevance of CO2 and proof the importance of climate change education. (http://mahara.vita-eu.org/view/view.php?id=2527)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Chemistry, Biology, English, Physics, Science	Climate Change, Ecology - Biodiversity	Middle School, Secondary School, Upper Secondary School	1-2 weeks, Theme day	Argumentation (written), Excursion, Student Empowerment, Teamwork, Project, Interdisciplinary	Fossil Energy, Renewable Energy, CO2, Chemical Equations

Future workshop: Our climate in 100 years

Students develop a utopia on the topic "my country in 100 years". (http://mahara.vita-eu.org/view/view.php?id=2404)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology	Climate Change	Middle School (ages 15-16)	2 lessons per week, for 6 weeks	Indoor, Teamwork	Life in the future, Utopia, Climate Change, Climate Protection

Global project on Climate Change

Students learn about the connection between geography and climate change as well as the economic aspects of climate change. (http://mahara.vita-eu.org/view/view.php?id=2542)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology, Economy, English, Geography, Science, Social science	Sustainable Development, Climate Change	Upper Secondary School	4-6 weeks	Oral Debate, Research, Lecture, Role play, Teamwork, Project, Interdisciplinary	Sustainable Development, Climate Change

Mycorrhizae

Students investigate the effects of the use of the sustainable agricultural cultivating method 'mychorrization' both in field and greenhouse tomatoes. (http://mahara.vita-eu.org/view/view.php?id=2500)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Agrarian Ecology, Applied Ecology	Biodiversity Ecology Sustainable Development	Upper Secondary School (18/19 years old)	1 semester	Research, Project, Interdisciplin-ary, Teamwork, Field work, Students Empowerment, ITC	Sustainable Agriculture, Climate Change, Natural Environment

The Climate Change

Raising awareness amongst students on environment issues and climate change (http://mahara.vita-eu.org/view/view.php?id=2494)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Art, Economy, Social Science, Physics, Biology	Climate Change	Upper Secondary School (16/17 years old)	4-6 weeks	Teamwork, Project method Expert involve-ment (NGO/ University), Students em-powerment, ICT	Greenhouse effect, Acid rain, Ozone holes, Pollution

Water sources through centuries

Students explore the historical development of various water sources like rivers and lakes by using materials from museum's archives. (http://mahara.vita-eu.org/view/view.php?id=2571)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
History, Biology	Sustainable Development, Ecology – Biodiversity	Secondary, Middle School	1-2 lessons	Teamwork, Research	Historical development of water sources, Human behaviour, Sustainable Development

RESEARCH AND FIELD STUDIES ON CLIMATE CHANGE EDUCATION

You will find a variety of research and field study examples from partner schools carried out by students at different grade levels under the supervision of their teachers. Through these projects, students develop their inquiry skills as well as a real understanding of climate change issues and concepts.

Bat Project

Sensitise students for the needs of endangered species. Indoor lessons about Bats to give the students an idea about the special needs and behaviour of bats and to prepare them for the real contact. Then there will be an evening walk with bat-detectors to really see them.
(http://mahara.vita-eu.org/view/view.php?id=2402)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology	Ecology - Biodiversity	Middle school (11-16 years old)	6 weeks	Indoor and outdoor	Living and habitat conditions of bats, Biodiversity

Biodiversity Field Study

Students explore a forest ecosystem by collecting plant and invertebrate samples and identify these samples as well as the environment that they live in. Then they discuss the biotic and abiotic factors that affect the life of these organisms including habitat destruction and other human influences. (http://mahara.vita-eu.org/view/view.php?id=2449)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology	Climate Change, Ecology - Biodiversity	Upper secondary school	1 week	Field study, Expert involvement (NGO/ university)	Biodiversity, Excursion, Expert involvement, International networking

Experiment on Ocean Water Level

Students are modelling how climate change affects the melting of glaciers and the world's ocean water level by using simple materials like modelling clay, ice, water and paper. (http://mahara.vita-eu.org/view/view.php?id=2498)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Science	Climate Change	Primary, Middle School	1-2 lessons	Teamwork	Experiments, Climate Change effects, Ocean water levels

Green Classroom

Every student grows a plant in a pot in the classroom. Students are responsible for picking the plant they want to grow and for watering the plant. The seeds are planted in around April so that plants grow up until summer holidays June 1. (http://mahara.vita-eu.org/view/view.php?id=3025)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Extracurricular	Sustainable Development	Primary School	1-2 semester	Extracurricular	Classroom gardening, Acquaintance with the world

The students as oceanographers

Students get prepared to study the Saronic Gulf in a global and overall continual process. (http://mahara.vita-eu.org/view/view.php?id=2493)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology, Art, Chemistry, Economy, Science, Physics	Sustainable Development	Upper Secondary School	1-2 semesters	Teamwork, Project method	Environmental issues in non-formal curriculum, Global science process, Holistic methodology

LOCAL MITIGATION TO CLIMATE CHANGE

Good practices under this heading include examples of initiatives to change the immediate environment such as creating a green campus, green corner, etc. These examples provide insights into different approaches to change and redesign our immediate environment in line with green principles. In these examples, students take active role in developing projects and ideas to establish more climate friendly tools, contexts and workplaces.

Green Campus Initiative

This project aims at creating a process through which students and staff can work together on analysis, development and implementation of sustainable solutions on campus for energy management, recycling, reduction of the use of resources, and facilitating the use of renewable energy sources. (http://mahara.vita-eu.org/view/view.php?id=2502)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Interdisciplinary	Campus life	University	Continuous	Seminars, Workshops, Hands-on practices, Yearly assessment meetings	University, Green Campus, Climate friendly environment, Green ideas

Green Corner

Creating a small garden anywhere in an easy, economical and amusing way by following a step-by-step guide.
(http://mahara.vita-eu.org/view/view.php?id=2954)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Art, Biology, Chemistry, Math, Environmental studies	Sustainable Development, Climate Change, Ecology-Biodiversity	Primary School, Middle School, Secondary School, Upper Secondary School, University	1-2 weeks	Extracurricular Teamwork Interdisciplinary	Student Empowerment, Teamwork, Reuse

Green Week

Organizing a project week at the school with the topics environment protection and climate change education. On the first day, a conference with the participation of local and neighbouring teachers and students takes place. External lecturers can be invited. After the conference students get the chance to participate in various programmes and activities.
(http://mahara.vita-eu.org/view/view.php?id=2406)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Science	Sustainable Development	Secondary School	1 week	Extracurricular	Conference, Workshops, Expert involvement

CREATIVE APPROACH

These good practice examples from partner schools demonstrate the use of art and technology in developing strategies to mitigate climate change and tools for raising awareness in relation to climate change and its implications for our world. They all provide strong messages and visuals to reflect different approaches and processes to climate change issues and mitigation.

Climate Change in Comics

Students create artworks connected to climate change and develop critical thinking and creativity in the process.
(http://mahara.vita-eu.org/view/view.php?id=2570)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Art	Climate Change	Secondary School	1-2 lessons	Research, Critical thinking	Climate Change, Artworks, Exhibition

Creating a brochure on Climate Change

Students create paintings on topics like climate change, greenhouse effect and acid rain and prepare an illustrated brochure on these topics. (http://mahara.vita-eu.org/view/view.php?id=2495)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology, Art, English, Chemistry, ICT	Climate Change	Secondary School	1-2 lessons	ICT, Research, Teamwork	Dissemination

Mahlzeit – the story of men and meat

Screening of a film produced by the Austrian NGO GLOBAL 2000 illustrating correlations between food and climate change. (http://mahara.vita-eu.org/view/view.php?id=2526)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology, Chemistry, Science, Economy, English, Physics	Climate Change, Ecology, Biodiversity	Secondary School, Upper Secondary School	1-2 lessons	Expert involvement, Lecture	Movie screening, Food and climate change, Expert involvement

PET Bottle Art

Students create pavement mosaics using colourful PET bottle caps.
(http://mahara.vita-eu.org/view/view.php?id=2405)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Art	Sustainable Development	Middle School, Secondary School	4-6 weeks	Extracurricular, Project	Art project, Recycling

Paper Movie Project

Students research on climate change, its causes and effects, and possible ways to mitigate it and then create a paper movie that illustrates all the aspects of climate change.
(http://mahara.vita-eu.org/view/view.php?id=2480)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology	Climate Change	Upper Secondary School	3-4 weeks	Indoor and outdoor	ICT, Art project, International awareness rising

Photo Evaluation

An innovative and amusing way to evaluate any kind of project by creating a booklet/photo album representing relevant project phases. (http://mahara.vita-eu.org/view/view.php?id=3028)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Extracurricular, any Project based subject	Ecology, Biodiversity, Climate Change, Sustainable development	Primary School Middle School Secondary School Upper Secondary School University	1-2 lessons	Debate (oral), Extracurricular, ICT, Student Empowerment, Teamwork, Project Brainstorming	Evaluation Feedback

3D-Cell Model Project

Students prepare a 3D model of a typical animal cell by using recycling materials. (http://mahara.vita-eu.org/view/view.php?id=2481)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology	Sustainable Development	Upper Secondary School	2-3 weeks	Indoor	Art project, Recycling, Exhibition

INTERDISCIPLINARY APPROACH

An interdisciplinary approach can be very effective to approach climate change problems in a holistic and meaningful way. Good practices in this category illustrate the potential of an interdisciplinary approach to tackle climate change issues and produce solutions.

Ambientinsieme 1

Students plan and carry out a survey of bio indicator organisms living in a stream and topographical surveys while on a two day excursion to the countryside.
(http://mahara.vita-eu.org/view/view.php?id=2499)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Science, Topography, Physical Education	Ecology - Biodiversity	Upper Secondary School (15-16 years)	1 semester	Interdisciplin-ary, Cooperative learning, Problem solving, Excursion, Expert involvement, Student Em-powerment, ITC	Biodiversity, Natural Environment, Challenged Student Integration

Both hotel and house

Students develop the idea of an Italian model of responsible tourism, the Albergo Diffuso (scattered hotel), as an integration among tourism, agricultural and handcrafted activities. (http://mahara.vita-eu.org/view/view.php?id=2482)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Economy, Language classes, Science, Geography, Law	Zero Environmental Impact	Upper Secondary School	4 weeks	Interdisciplinary, Excursion, Expert involvement, Students' empowerment, Video making	Sustainable tourism, Link to the world outside school

CLIMES – climate-friendly management in European Schools

This project offers a systematic approach to introduce the topic of climate change and climate adaptation in European schools by implementing a climate-friendly management system based on the Deming circle (Plan-Do-Check-Act). (http://mahara.vita-eu.org/view/view.php?id=3073)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology, Chemistry, Science, Economy, English, Physics	Climate Change, Ecology, Biodiversity	Secondary School, Upper Secondary School	1-2 lessons	Expert involvement, Lecture	Movie screening, Food and climate change, Expert involvement

Debate on Climate Change

Students participate in a debate tournament on a topic related to climate change. In this example the preposition was "dealing with climate change (in developing countries) is the responsibility of developed countries"? (http://mahara.vita-eu.org/view/view.php?id=2479)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Biology, Geography, Social Sciences	Climate Change	Upper Secondary School	2-3 weeks	Indoor	Debate tournament, Student empowerment

JEM – Joint Environmental Management in European Schools

This project offers a systematic approach to encourage a whole school community to act in an environmentally friendly way by implementing an environmental management system. (http://mahara.vita-eu.org/view/view.php?id=3074)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Interdisciplinary	Ecology, Biodiversity, Sustainable Development	Secondary School, Upper Secondary School, Higher Education	1-2 semester	Excursion, Debates, Expert involvement, Extracurricular, Teamwork, Project method, Research	International Networking, Student Empowerment, Professional Management System

THREE C – Creating Competences for a Circular Economy

Introduction of innovative didactical concept to teach circular economy which was in various European schools. The 9-step teaching programme is based on a competence oriented learning and validation approach. (http://mahara.vita-eu.org/view/view.php?id=3075)

SUBJECT	MAIN TOPIC	AGE GROUP	TIME FRAME	DIDACTICS METHOD	KEYWORDS
Extracurricular, any Project based subject	Ecology, Biodiversity, Climate Change, Sustainable development	Primary School Middle School Secondary School Upper Secondary School University	1-2 lessons	Debate (oral), Extracurricular, ICT, Student Empowerment, Teamwork, Project Brainstorming	Evaluation Feedback

These and more examples are also available in our GREEENHOUSE – the think tank and exchange forum for all interested people. Please see part III – Networking activities and offers provided by the GREEEN Network of this guide for further information on how to become part of this network.

3

NETWORKING ACTIVITIES AND OFFERS PROVIDED BY THE GREEEN NETWORK

The GREEEN Network has implemented a number of networking activities aimed to create opportunities for joint reflection and cooperation such as researching activities, discussion forums, workshops, training activities, science events, and developed innovative tools like the GREEENHOUSE. The GREEENHOUSE has been the central exchange and communication forum for the network members.

If you want to network, contribute, contact or simply inspire yourself, you can join the GREEENHOUSE! Create your very own e-portfolio and get in contact with the members of the GREEEN network.

JOIN THE NETWORK

Just fill the registration form, make sure to choose "GREEENHOUSE" from the drop-down list of institutions and name your registration reason, so we can tell you apart from spam-bots.

Registration is possible on http://mahara.vita-eu.org/register.php

Learn more about the possibilities of joining the GREEEN network by reading about the practical experiences of our Turkish partners participating in the network.

METU Development Foundation School (Turkey) - Observations on Green Environment Activities and Networking among Schools
http://mahara.vita-eu.org/view/view.php?id=3377

Example of networking activities and experiences between a Latvian and German School. http://mahara.vita-eu.org/view/view.php?id=3378

International project for communicating ecology and nature preservation using ICT - Schools located in different biomes cooperate, using modern technology, to further their ICT skills and knowledge in ecology and European nature conservation strategies:
http://mahara.vita-eu.org/view/view.php?id=3395

4

RESOURCE

Here you can find links to relevant sources for further information on the latest news in climate change.

www.ipcc.com – The Intergovernmental Panel on Climate Change. Read everything there is to know about climate change and its impact on the world. The IPCC assess science related material to provide decision makers with rigorous and balanced scientific information.

Resource Guide for Advanced Learning on Integrating Climate Change in Education at Primary and Secondary Level. UN CC: Learn 2013 – A guide provided by the UN on how to address climate change education in the classroom.

THE GREEEN PARTNERSHIP