A guide to promote climate education with **UNDP Climate Box**

United Nations Development Program
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Outline

WELCOME TO THE CLIMATE BOX GUIDELINES

Climate change is one of the most defining issues of our time. However, awareness and understanding of the drivers behind climate change, its impacts, or mitigation and adaptation options are still insufficiently understood by the general public.

Climate education is key for empowering the youth – future decision makers – for climate action. Innovative educational approaches help to attract the attention of the young generation to climate change and sustainability issues through what they feel is an interactive, innovative and exciting learning process.

With this in mind, United Nations Development Program (UNDP), together with the Global Environmental Fund (GEF), the "Coca-Cola" company and the financial support of the Russian Federation, has developed and promoted **"Climate Box"**, an integrated climate education program that raises awareness of climate change, encourages school students to lead environmentally-friendly lives, and inspires youth to spread the word to their family, friends, and local communities.

The main component of a Climate Box program is **a toolkit** that contains interactive learning materials for school students on climate change and empowers teachers to incorporate these materials into their curriculum. However, the impact of Climate Box goes beyond the classroom as it has inspired schoolchildren to act and develop projects on topics such as energy efficiency, waste recycling, and sustainable water management in their schools and communities.

Moreover, the Climate Box program offers a wide range of **activities for its participants, including** training modules and workshops for teachers, international knowledge exchange conferences for educational experts, youth contests and festivals, engagement with the national ministries of education and ministerial dialogues on climate education and awareness.

Who is this guide for?

This guide outlines a **step-wise approach** (see Figure 1 below) on **how to use Climate Box for climate education**. It can be useful for anyone eager to disseminate knowledge and raise awareness on climate change. Whether you work in a governmental agency at a national, regional or municipal level, or you are a motivated teacher, school principal or civil society organization member, we want you to access Climate Box materials and program activities easily. These guidelines serve as a stepping stone and contain concrete recommendations, tips, success stories and examples concerning the application of Climate Box from countries of Eastern Europe and Central Asia that have already been engaged in the program between 2015 and 2021. It also summarizes feedback collected from program participants over the course of the last five years.

We are confident that this guide and its practical advice will be helpful for program managers, decision makers, principals, teachers, educational experts and others who **consider joining** or **are already engaged** in the Climate Box program.

How to use the guidelines?

For those who are still new to the program, it may be useful to go through all the suggested steps outlined in this guide (Figure 1). For more experienced Climate Box participants, the guide may provide additional insights or inspire to implement new activities.

We welcome your inputs!

To continue with the development of the materials and to provide the best possible quality, we welcome your feedback in terms of critical comments, helpful suggestions, or insightful stories from using Climate Box. Your feedback will be valuable for us to enhance and provide the next version of this guide and the toolkit. Feel free to send your suggestions via the **online feedback form** or by **email:** learn-more@climate-box.com

"Climate change is one of the most important global challenges for the humanity, as climate change is felt in all countries. We are all responsible - our common task is to reduce the pressure on the climate by reducing our carbon footprint. Children are our future, so we need to nurture a culture of environmental and climate responsibility from a young age." Maya Batyrova (geography and economics teacher in Turkmenistan).

"Think outside of the box!"

About the "Climate Box" program

The "Climate Box" program was launched in 2015 for Russian schools. Already in the first year, the Climate Boxes were successfully piloted in 157 Russian secondary schools. Over 11,300 school children have already been using these toolkits and around 500 teachers were trained and have been engaged into a new, innovative, and exciting learning process.

Initial success of the Climate Box in Russia, appreciation by climate change experts and teachers, and numerous inquiries from other countries brought up an ambition to make it a truly international educational kit uniting children and teachers across borders. As a result, the "Climate Box" was translated into English in 2015.

In 2016-2017, three new countries - Kazakhstan, Kyrgyzstan and Tajikistan – developed their localized toolkits. In 2017, four more countries joined the project – Armenia, Moldova, Uzbekistan and Turkmenistan. As of August 2019, the toolkit had reached over 50,000 students in all eight participating countries across Eastern Europe and Central Asia.

The project directly contributes to the Sustainable Development Goal (SDG) 13 on Climate Action, and specifically sub-target 13.3 "Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning". The project also contributes to SDG 4 on Quality Education.

TEN STEPS FOR THE CLIMATE BOX PROGRAM IMPLEMENTATION

Below, you find ten recommended steps (Figure 1) and components vital for a successful implementation of the Climate Box program. Each step is further elaborated in the following sections for greater understanding. Note that some of the steps and activities do not follow a strict sequential order but can be implemented in parallel (e.g. Step 4 “Adapt” and Step 5 “Train” can occur simultaneously).

Figure 1. Recommended steps for the Climate Box program implementation

STEP 1 - UNDERSTAND

At this first step you will get acquainted with the Climate Box program and receive initial support for the program's future implementation from the UNDP program team.

Climate Box program components

In general, the Climate Box program includes the following **main components** described in this guide:

- Climate Box interactive learning toolkit (Step 1) and its adaptation to the local context (Step 4).
- Engagement with ministries, departments of education, academic community and civil society organizations (Steps 2, 3, 8 and 9).
- Training and engagement of teachers and educational experts (Steps 5 and 6).
- Monitoring and evaluation of impacts (Step 7).
- Youth contests and activities (Step 8).
- International conferences, networking, and knowledge exchange workshops (Step 10).
- Support and oversight during piloting phase by UNDP (across all Steps).

Climate Box toolkit

An interactive toolkit on climate change is the key component of this climate education program. It is a physical box with illustrated materials for students and teachers, containing:

1. **an illustrated textbook** consisting of four sections. The first three sections provide information on climate change science, climate change impacts, as well as solutions, best practices and case studies from different parts of the world on how to reduce your personal carbon footprint and adapt to inevitable impacts. These three main sections are color-coded for easier navigation and, in fact, have a similar focus as the three volumes of the Climate Change report of the Intergovernmental Panel on Climate Change (IPCC). Each section has interactive materials such as quizzes and tasks on climate change. The last section provides **methodological recommendations for teachers** on implementing the toolkit in the school curriculum or using it for youth activities.
2. the **"Climate Quiz"** – a set of 100 game cards with questions and four possible answers with similar color-coding as the main sections of the textbook.
3. **a map** illustrating future climate change impacts.
4. **a poster** with recommendations on how to reduce the personal carbon footprint.
5. **a flash drive** or **CD disk** with all materials in electronic format.

Climate Box toolkit materials can also be accessed online, via Climate Box website at www.climate-box.com.

Figure 2. What is inside the box

The toolkit was developed by a multidisciplinary group of authors, consisting of climate experts, geographers, biologists, economists, educators and professional children's book authors. Climate Box materials can be used both individually and in a group by schoolchildren of different ages. The materials are also appealing for a more mature audience such as university students, young professionals or anyone willing to learn more about climate change.

The toolkits are already available in Arabic, Armenian, Belarussian, English, French, Kazakh, Kyrgyz, Romanian, Russian, Spanish, Tajik, Turkmen and Uzbek languages and could be downloaded from the Climate Box web portal.

The main **target groups** of the toolkit are presented in a box below.

Main target groups
1. School children and youth aged 7-16 years 2. Civil society organizations and their members including: • Schools: teachers, educators and principals; • Educational, art, and cultural organizations (e.g. libraries, museums, or cultural centers for youth); • Youth organizations; • Non-governmental organizations (NGOs) focusing on related topics such as environmental protection, nature conservation, climate change, energy efficiency, renewable energy, sustainable development. 3. Parents and general public who can benefit from the program directly (using the toolkit, participating in program activities, students' projects) and indirectly (through creating positive climate impacts and awareness created by the youth).

How to get the toolkit and receive initial guidance

To launch the program in a new country, region, city or school, you can send an official request via **online feedback form** or send an **email** to learn-more@climate-box.com. Afterwards, an assigned program manager will get you a hard copy of the toolkit in English, Russian, or other available languages, or send you a link to an electronic version.

We can also arrange an inception conference call, through which you will receive:

- information on supporting program activities that complement the toolkit,
- initial guidance on the program implementation, a recommended work plan, activities and general tips based on experience from other countries,
- recommendations and support for the first implementation steps.

Reach out to us, and our team will endeavour to provide you with the best possible support.

STEP 2 - TEAM UP

This step gives recommendations for setting up a competent and ambitious team for the successful implementation of the Climate Box program in your country.

To begin with the actual implementation, a good team is crucial. Based on our experience, a functioning Climate Box program team must include the following positions:

- **The Climate Box program manager**. This could be a representative of the national UNDP country office, a local department of education, an NGO, or an academic institution that is willing to lead program execution at the national or sub-national level. In case program implementation is delegated to a sub-contracted organization or individual, the UNDP country office can play the role of an overseer.
- **The educational expert** who manages how Climate Box can be applied to the existing national educational program, individual school subjects, and extracurricular activities. He or she is instrumental in engaging the ministry of education, schools, teachers, trainers, and international experts. This expert could be a representative of the ministry of education (like in Turkmenistan), a local educational center or a NGO (in Kyrgyzstan, Moldova, Russia), a proactive teacher or even a school principal (in Kazakhstan). Typically, such an expert creates a team of teachers to support his/her work on methodological recommendations for the localized Climate Box.
- **The Climate expert** develops climate-related content for the localized toolkit (texts, questions, visual materials) and presents it to teachers at training events. This is typically a representative of a local NGO or an academic institution (or this can be also a team of subject experts).
- **Supportive consultants/firms for specific tasks**: translation, language proofreading, communication, design and printing.

Upon request, UNDP ECIS can provide examples of Terms of Reference for these positions.

"In my view, one of the main reasons for the Climate Box success is a professional and passionate team implementing the program. Authors and educational experts who developed the original Climate Box for Russia, have been helping project teams in new countries. We all work closely together and occasionally meet each other at international Climate Box events using this opportunity to exchange experiences and brainstorm about new approaches to the program implementation. And we are always glad to welcome new teams from new countries joining our Climate Box family", Yulia Dobrolyubova (Lead Author and International Technical Advisor of the Climate Box program).

STEP 3 - ENGAGE

Step three highlights the importance of engaging key stakeholders and suggests an approach to get the attention of relevant ministries.

Interest and support from government authorities are key to successful and upscaled integration of climate education in schools. The most important stakeholders are typically the **Ministry of Education** and the **national ministry responsible for climate change** (e.g. Ministry of Environment). Engagement of at least the former or both, will provide the necessary political support for the program, including:

- endorsement of program activities such as adaptation, publication and application of the toolkit in schools, organization of training workshops, conferences and competitions;
- nomination of pilot schools and instructing them to take part in the program;
- assignment of educational and climate experts for Climate Box adaptation and other activities;
- provision of venues for events (e.g. at state educational centers).

In some cases, national ministries can allocate additional funding for Climate Box, if it matches their national priorities and ongoing or planned state programs.

In **Tajikistan**, for example, Climate Box was included in the umbrella program implemented by the government under the International Decade for Action on Water for Sustainable Development, 2018-2028 – the topic that is of high priority for Tajikistan. Linking climate change and water topics helped to gain interest and official endorsement for the Climate Box initiative from the Ministry of Education and Science of Tajikistan.

The Climate Box program in **Uzbekistan** has been linked to another UNDP project: "Developing climate resilience of farming communities in the drought-prone parts of Uzbekistan", which has been executed by the Hydrometeorological Service of the Republic of Uzbekistan (Uzhydromet) – a national climate change focal point. Due to this, Uzhydromet authorities not only endorsed Climate Box, but were actively participating in adaptation of the toolkit to the local conditions and co-led training activities for teachers.

How to engage national/local governments?

A proven approach to engage ministries responsible for education and climate change is to have an expert in your team with connections to the desired governmental authorities.

The UNDP office in your country can also help in securing political support, as there may be already ongoing projects implemented by UNDP together with these ministries.

The introductory training serves as a good opportunity to get ministries engaged. We recommend inviting governmental authorities to take part in such events, so that they can get a better understanding of the Climate Box toolkit and program's benefits. Possibly, through these activities, you could attract their attention, inspire them and receive highly-desired political support.

For instance, **Moldova** was able to receive a much needed approval for the Climate Box activities in the country from the national authorities after a representative of the Ministry of Education, Culture and Research took part in the international teachers conference organized under the Climate Box program and was able to hear inspiring success stories from other countries.

"The Climate Box is a very accessible and well-prepared educational material on climate change that can be periodically updated to reflect new scientific developments. It is also open to additions and changes related to the national climate context. The toolkit can therefore be recommended for use by all countries", Natalia Agaltseva (Head of Project Preparation and Monitoring Department, Hydrometeorological Service Center of the Republic of Uzbekistan – a UNFCCC Focal Point in Uzbekistan).

STEP 4 - ADAPT

By giving recommendations to adapt the toolkit to local context, step four gives you guidance on how to make the study materials more relatable.

The toolkit, which was first made available in English and Russian, and has since been extended to multiple other languages is quite generic and includes cases and examples from across the globe. However, **you can adapt the toolkit to the local context** of your country/region/city. Thus, it will contain more interesting and relatable examples for kids and more meaningful recommendations for teachers to adapt them into the national school curriculum.

There are many ways to create a locally adapted toolkit. Basic recommendations are provided at the program inception, based on the experience of eight countries with localized versions. Typically, **localized toolkits have the following elements adapted**:

- A cover that better presents the country or region and its main climate-related challenges;
- A globe mascot that has certain national elements in its appearance, like wearing a traditional hat or holding a national flag;
- An Introductory section presenting local climate issues, why climate education is particularly important in this context, and local partners of the project;
- Additional texts, examples and visual materials in the textbook, particularly in Sections 2 and 3, highlighting local impacts of climate change and measures that are being taken to improve resilience and mitigate greenhouse gas (GHG) emissions;
- Some questions in the climate quiz that are country-specific;
- Methodological recommendations for teachers in Section 4 of the textbook that are based on the national curriculum. This section can be also extended or become a separate Guidebook for teachers inside the toolkit;
- Translation of the text into national language.

Figure 3. Examples of different Climate Box cover designs from (left to right): Kazakhstan, Kyrgyzstan and Tajikistan

We decided to keep the localization approach flexible to better meet local needs and to inspire creativity (see case studies below). However, each local program team can define the depth of localization by themselves, depending on available resources and local needs.

In general, the adaptation process could look as follows:

- Receive a list with recommendations on where and how the content of the toolkit can be adapted to local context and a shortlist of usual updates (e.g. more recent climate-related data) during the program inception in Step 1;
- Receive hints, best practices, original design files, and terms of references for the local adaptation experts;
- Discuss with your project team about the desired depth of localization. Consult with your climate expert (e.g. a research institute or local NGO) about the unique climate characteristics of your country/region/city that you would like to focus on.

Examples of localization approaches

In the simplest way, you can only edit a cover and add several boxes with specific local examples of relevant climate impacts or of climate mitigation/adaptation actions in the textbook, leaving other content untouched. In this case, the adaptation process does not take much time and effort. This is what Yamal-Nenets and Moscow regions of Russia decided to do.

A deeper adaptation level envisages more boxes with local content across all main sections of the textbook, more illustrations, as well as complete rewriting of the methodological Section 4, and translation to the national language. This is what Tajikistan did, for example.

You can also go further in adaptation, providing additional write-ups in the main text explaining in more detail how climate change affects different sectors, communities and ecosystems in the country, adapt questions and quizzes, and even edit a poster and a map. Kyrgyzstan, for instance, added about 25% of new content all across the textbook. In addition, Kyrgyzstan was the first country that developed its localized Climate Box, therefore many adaptation ideas that were picked up by other countries – like putting a “hat” on a globe or a new cover – belong to the creative Kyrgyz team.

Furthermore, several teams decided to supplement the standard toolkit with additional materials. For example, Armenia and Kazakhstan added examples of standard classroom activities for teachers. Uzbekistan developed more detailed guidelines for teachers on how to apply Climate Box with various examples of classes and extracurricular activities, and a larger group of educators. Kazakh team invented three additional games.

What we usually ask to keep unchanged is the overall format of the toolkit, its brand design with a globe logo and the main structure and narrative of the textbook.

All available localized Climate Boxes can be shared for your reference on demand.

STEP 5 - TRAIN

Step five introduces a training program for teachers in order to empower them to apply climate education in school and outside the classroom.

One of the key components of Climate Box is a training program for teachers on climate education. Through hands-on training sessions, participants can learn about climate change and how this topic can be integrated into various school subjects and after-school activities using the Climate Box toolkit.

The training program was initially developed by a group of educational and climate experts from Russia and afterwards successfully realized in eight countries of Eastern Europe and Central Asia. In total, over 700 teachers have participated in training sessions.

Figure 4. Teachers at trainings in Moldova (left) and Uzbekistan (right)

"Teachers are the ones to teach our future leaders: today's children. That's why training teachers is important. Comparing teachers between their first and second training sessions, I noticed that most of them already started to understand the climate change problem much deeper, but there is still more to be done. Systematic education and training, based on Climate Box, should be introduced to educate teachers about climate change," Elena Malts (International trainer of the Climate Box program).

In each new country/region/city that joins Climate Box program, a team of experienced trainers conducts at least two trainings:

1. **First introductory training** to introduce the climate change topic and Climate Box program to the pre-selected small (up to 30-40 people) group of participants that will be engaged in the program piloting (see Step 6). During this training, participants are able to get acquainted and work with the Climate Box toolkit (international version), understand its contents and learn to apply the materials through interactive exercises. This coaching helps to motivate selected local teachers, educational experts, representatives of ministries (as well as academia and NGOs if invited) to get actively engaged in the program and test international versions before a localized toolkit becomes available.

   Furthermore, during this first training, the program implementation team has a chance to get first-hand information from the trainers on success stories and lessons on program realization in other countries, ask questions and brainstorm on the best approaches.

It is recommended to organize the first introductory training after the main implementation partners for the piloting phase are engaged (Step 2), and it can be done in parallel with Step 4.

2. **Second in-depth training** to present an already developed localized version of the Climate Box toolkit to a wider group of teachers and other participants. This training provides deeper information on climate change science, local climate impacts (including gender and social aspects of the problem) and mitigation and adaptation actions being taken.

   During the second training, the participants learn how to develop typical classroom and extra-curricular activities on climate change using Climate Box. It can also serve as a platform to discuss results of the piloting phase (see Step 6 below).

Teachers and educational experts who take part in these training sessions can then become trainers themselves – coaching colleagues who are still new to the climate education topic – both in their countries and abroad.

Besides the training modules, the next phase of the Climate Box program aims to introduce refresher courses for teachers, and organize contests and knowledge exchange activities to encourage teachers and students to engage more actively in climate education.

STEP 6 - PILOT

Equipped with a motivated project team (Step 2), engaged stakeholders (Step 3), a customized toolkit (Step 4), and empowered teachers (Step 5), it is now time to start piloting Climate Box in your country/region/city.

Adapting and piloting the Climate Box is a mutual process and changes should be made along the way. In general, the piloting process contains the following steps:

- **Selecting a target group for piloting** (e.g. the region or the number of schools)
- **Piloting Climate Box** - an overview of possible approaches:
    - **Applying Climate Box in schools** (how to apply or implement climate education in the school curriculum)
    - **Act and play** - applying Climate Box outside the classroom (get parents, the local community, and civil society involved)
- **Sharing results** (e.g. through the second training under Step 5) and adjusting approaches

Select schools and teachers for piloting

First, you need to select educational institutions – such as schools, educational and environmental centers, libraries, etc. – that will spearhead the Climate Box program at the local level. Their teachers and educators will be the first to apply the Climate Box materials in your country in practice. They will participate in trainings and workshops, eventually becoming trainers themselves and will provide valuable feedback for further improvements along the way.

The number of schools selected for the Climate Box program piloting typically varies from 10 to 30, whereas each school receives a set of toolkits.

Some countries (e.g. **Armenia, Tajikistan, Russia**) selected only schools in 1-2 core cities/regions for piloting. Other countries (**Kyrgyzstan, Moldova**) tried to cover all main regions of the country and identified pilot educational institutions in each of them. **Kazakhstan** partnered up with a network of progressive Nazarbayev Intellectual Schools and conducted pilot activities using their resources and reached out to their satellite schools.

Piloting Climate box - an overview of possible approaches

After selection, pilot schools and educational institutions themselves decide how to integrate climate education in their educational programs. Below, we provide a non-extensive list of possible approaches on how this can be done with the help of our toolkit. These approaches are introduced and explained at the training sessions (Step 5).

Table 1. Overview of possible approaches how to use Climate Box in climate education

Forms of education Climate Box can be used for	Ideas of possible approaches
Formal education *(applying Climate Box and its materials in school)*	• Introduce a new comprehensive climate change curriculum • Develop individual climate classes or activities using examples from toolkit • Include climate change components into existing classes or activities • Team up with colleagues from other subjects to develop interdisciplinary classes (e.g. biology and geography)
Extracurricular activities *(move outside the classroom)*	• Organize study tours and excursions, for instance, to low carbon project sites or unique natural sights • Plan a subject week • Plan activities for a summer/winter camp • Organize quizzes and contests
Projects on climate change *(act on climate change mitigation or adaptation in communities, schools, or households)*	• Launch a project competition • Inspire and encourage students to act on climate change outside of the classroom (kids learn more when they are actively engaged) • Organize community engagement activities explaining the benefits of climate action (e.g. lower electricity bills, contributing to a better planet)

Figure 5. Engaging activities (left) and out-of-classroom actions (right) in Kazakhstan.

Applying Climate Box in schools

Schools play a critical role in climate education as they equip young people with scientifically based common knowledge. Yet, climate change is not prioritized in most schools' curriculum, and Climate Box aims to fill this void.

Climate Box was designed as a comprehensive climate education program for formal education that can be used either as a **stand-alone curriculum on climate change** or can be easily **integrated in different school subjects** – from geography and biology to mathematics, language studies and even physical exercise.

The Climate Box curriculum is flexible and addresses group activities, projects, experiments, as well as materials for individual use. **Teachers can adapt the Climate Box materials for their classroom context** considering their students' needs, interests, and capabilities. This flexibility of the program inspires new creative ideas that are beneficial for teachers, their students, and society as a whole.

Climate Box provides general recommendations for teachers on how to link climate change topics to the school curriculum – different lessons for different age groups, which can be found in **Section 4 of the textbook**. In localized versions, these recommendations are always adapted to the national school program.
Besides general methodological recommendations on how to use Climate Box in different classes, a Teacher's Guide and supplementary materials containing several lesson plans and examples of activities from other countries are available.

SECONDARY EDUCATION						
Section in the Climate Box textbook	**Natural Science**	**Geography**	**Biology**	**Chemistry**	**Physics**	**Environment, Health and Safety**
Part 1. The problem of climate change						
1.1. Climate and weather	**Class 5** • Theme: Weather (main features of weather). Climate	**Class 6** • Theme: The heating of air and air temperature • Theme: The dependence of temperature on latitude • Theme: Moisture in the atmosphere. Water vapour and humidity • Theme: Precipitation • Theme: Atmospheric pressure. Measuring atmospheric pressure • Theme: Weather. Components of weather. Air masses • Theme: Climate. Climate maps	–	–	**Class 7** • Theme: Atmospheric ressure	–
1.2 Climate types and climate zones	–	**Class 7** • Theme: The Earth's atmosphere and the climate • Theme: Climate zones and typical weather for each continent: Africa, Australia, South America, North America, Antarctica, Eurasia **Class8** • Theme: Climate and climate resources	–	–	–	–
1.3. How and why the climate changed in the past	–	**Class 6** • Theme: Sea currents. Their causes and impact on the natural world. Interaction with atmosphere and land • Theme: The stone shell of Earth • Theme: Movement of lithospheric plates **Class7** • Theme: The oceans **Class 8** • Theme: Geological structure	**Class 9** • Theme: How life appeared and developed in ancient epochs	–	**Class 11** • Theme: Elements of astronomy	–

Figure 6. Fragment of a typical table in Section 4 of the Climate Box textbook providing methodological guidance on how climate change topics can be integrated in the already existing national formal education program. This table is always adapted to the national curriculum in localized toolkits.

"Climate Box presents a wonderful set of visual aids and useful information that we can use in the classroom. Some topics and posters, such as "reducing your carbon footprint," can be used with younger students - this encourages students from an early age to think about saving resources and energy. The older students are very interested in the scientific information presented by Climate Box", says Maya Batyrova who uses Climate Box to teach geography and economics at the Secondary School No.27 in Ashgabat, Turkmenistan.

Act and play – applying Climate Box outside the classroom

While education on climate change is undoubtedly important, it can't stop here. To trigger real change, we must step from talking to real action. Climate education, therefore, must move beyond school walls and has to turn into action outside the classroom to inspire local communities to act on climate change. Moreover, once it turns into intrinsic motivation and project developments, students obtain a battery of helpful skills along the way. That is why we want to encourage every Climate Box practitioner to not forget about this equally important component and to encourage and inspire youth to take their future in their own hands.

Climate Box has already stepped outside the classroom and inspired subject weeks, competitions and quizzes, outdoor activities, study tours and excursions, as well as practical climate projects and environmental awareness activities that are beneficial to communities. (see also Table 1 "Overview of possible approaches").

Climate Box toolkit and training sessions provide methodological recommendations for extracurricular applications of the climate education program. During hands-on trainings, the participants learn how educators, children and their parents can develop collaborative climate projects or activities that could make significant contributions to reducing greenhouse gas emissions and improving resilience to climate change.

Below is a non-extensive list of successful out-of-classroom activities already implemented by the youth, thanks to the Climate Box:

- In **Armenia**, Climate Box has inspired the development of biogas reactors based on waste from a rabbit farm;
- In **Kazakhstan**, students grew herbs and composted food waste directly on school grounds;
- In **Kyrgyzstan**, a project reused battery cells which reduced the demand and thus the emissions associated with battery waste management;
- In **Moldova**, school students found similarities between the chemical formula of a specific type of plastic and honeybee wax that can be used as a natural substitute;
- In **Tajikistan**, a project improved waste management and thereby reduced emissions ;
- In **Uzbekistan**, youth introduced drip irrigation to complement the country's desalination projects.

The implementation of such projects is one of Climate Box's greatest achievements since projects on a grassroot level are essential to combat climate change in the long run.

"Each country sticks out in my memory for a special and unique climate project, motivated by students, science, and my work as a consultant for Climate Box. These projects, led by teachers, are, in my opinion, the most essential legacy of Climate Box. I am convinced that, over time, implementation of these projects will play a significant role in the fight against global climate change", Danila Sorokin (International trainer and coordinator on the international youth contest under the Climate Box program).

STEP 7 - MONITOR & EVALUATE

The following step introduces the Climate Box Monitoring and Evaluation system to offer an approach for assessing the program's implementation and achieved impacts.

Climate Box program suggests its participants a convenient system and accompanying tools to monitor and evaluate achieved results of the program's activities. The **Climate Box Monitoring and Evaluation (M&E) system** tracks the effectiveness of the project implementation in terms of trained children and teachers on the one hand, and actual impacts on climate change mitigation and adaptation in terms of **a) reduced GHG emissions and b) improved resilience/knowledge of climate risks** at schools and at household level (see Figure 7) on the other hand.

	1. The effectiveness of the program	2. Positive effect on the climate
Target	**Target 1:** Integration of the "Climate Box" in the educational process, implementation of pilot activities and increased capacity of teachers	**Target 2:** The Climate Box program contributes to global efforts to tackle climate change through disseminating knowledge and inspiring climate actions at household, school, community levels.
Expected result	At least X,XXX children received new knowledge on the climate change topic and at least XXX teachers were trained how to use climate change topic and "Climate Box" toolkit in their work	1. Reduced emissions and increased absorption of greenhouse gases through energy and resources conservation, creation of green areas, etc. (climate mitigation) 2. Reduced vulnerability of communities to climate risks (climate adaptation)

Figure 7. Main targets of the Climate Box program to monitor and evaluate

The tables below suggest how to monitor and assess the achievement of these two targets.

Table 2. Approaches to monitoring and evaluation of the program's targets

Target 1: How to assess overall program effectiveness?				
Result	**Indicator**	**Target**	**Evaluation method**	**Information collection method**
At least XXX children received new knowledge on the climate change topic	Number of children who received knowledge	Defined by the country	Quantitative	Teachers' reports on conducted lessons / activities
	Improved level of knowledge	Above average (determined by the country)	Qualitative	Tests and surveys for children and summary results in teachers' reports
	The quantity and quality of children's projects		Quantitative Qualitative	
At least XXX teachers were trained on how to use climate change topic and "Climate Box" toolkit in their work	Number of teachers	Defined by the country	Quantitative	Events registration lists
	Improved level of knowledge	Above average	Qualitative	Feedback forms at the end of the event
	Number of lessons and other events	Each teacher determines	Quantitative	Teachers' reports on conducted lessons / activities
	Format and content of lessons		Qualitative	

Target 2: How to assess impacts on climate?				
Result	**Indicator**	**Unit**	**Evaluation method**	**Information collection method**
Greenhouse gas emission reductions or increase in their absorption (mitigation)	The impact of the youth projects on energy and resource efficiency improvement	Energy savings, kW*h/year	Quantitative	Calculations performed by students with teachers Questionnaires for children and parents Teachers' summary reports
	The impact of energy conservation measures at home, school, in the community	Emission reductions or increase in their absorption, CO_2e / year from baseline		
Reducing the vulnerability of communities (especially rural) to climate risks (adaptation)	The effect of the implemented project works of students on adaptation	Number of people with knowledge on adaptation measures	Quantitative	Questionnaires for the target audience through youth projects Questionnaires for children and parents Teachers' summary Reports
	The effect of measures in the home, school, community	Number of people taken adaptation measures thanks to the project		

The M&E system enables collection of data and information from project participants at different levels to be eventually consolidated at the country and international program level. The main levels of the M&E system, as well as information and data processes are explained in Figure 8 and Figure 9, respectively.

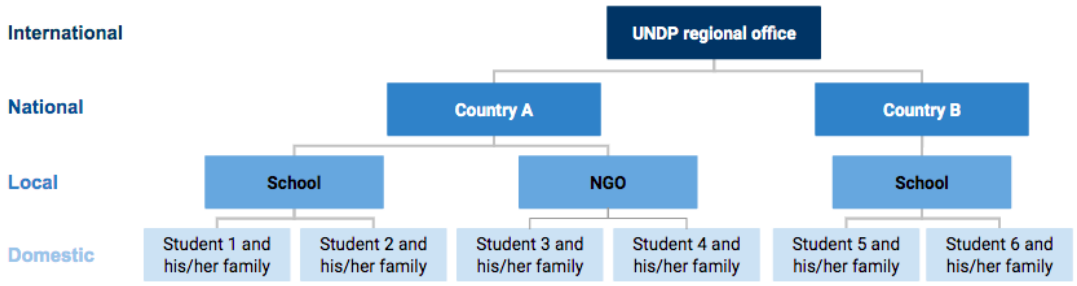

Figure 8. Levels of monitoring and evaluation system

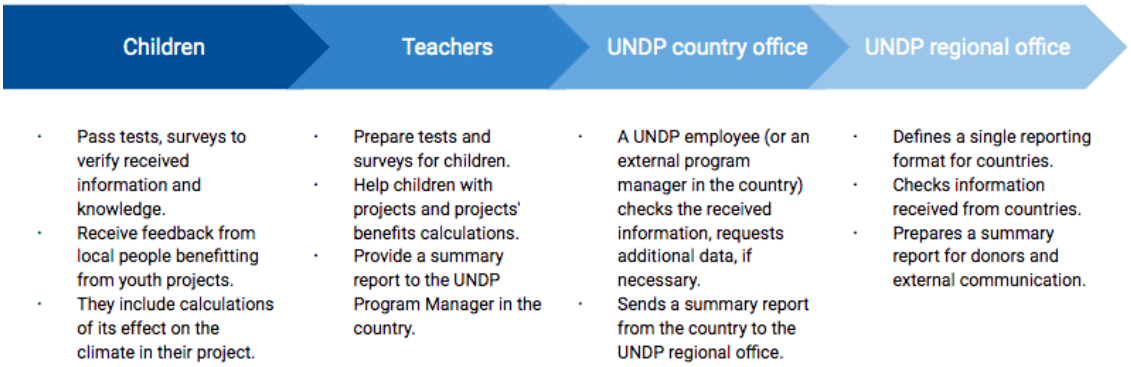

Figure 9. Information and data flow

To help the participants to understand their roles within the M&E system, we provide:

- **the main guidance document** and **presentation in PowerPoint** explaining the objectives, main tasks, components and levels of the M&E process, roles and responsibilities of different actors (e.g. program managers, teachers, school students and their parents), periodicity of reporting and data that needs to be reported;
- **standardized tools** and **templates** to collect and report data at each level, which can be easily adapted to specific local needs;
- **learning session/webinar opportunities** with the UNDP staff to learn how to use the M&E system.

The M&E system was developed through interactive discussions and working sessions with the program's participants from various countries: representatives of ministries, school principals and teachers, parents, NGOs, and program managers at the national and international levels. It therefore contains practical recommendations from various stakeholders' viewpoints and has been piloted in the first countries that joined the program.

STEP 8 - SHARE AND PARTNER

In order to share experiences and results from Climate Box, step eight offers recommendations for reaching out and communication.

Share

Once the piloting phase is over, it is a good time to give the program participants an opportunity to share their experiences and impressions. **Knowledge sharing activities that you can organize** with the support of the Climate Box program include, but are not limited to:

- conferences, workshops and round tables for teachers and educational experts;
- youth conferences;
- competitions among teachers and students;
- communication and awareness activities (see subsection below).

Do not forget that you can also **share the results of your work through the M&E system** explained in the previous Step 7 and via our email learn-more@climate-box.com . Thus, your achievements will become visible at the international level.

Partner

Schools, civil society organizations such as NGOs, environmental or educational clubs play an essential role in non-formal education. They are fast in responding to society's needs and can organize outdoor activities that are more attractive and appealing to school students compared to in-classroom lessons. Furthermore, they usually have resources and networks to support communication and awareness campaigns, helping to "spread the word" about Climate Box and engaging the wider public in the program's activities. Thanks to our supporting NGOs, young people in the participating countries have become more proactive on climate actions and have developed exciting projects on energy efficiency, waste recycling, and sustainable water management for their local communities.

This is why partnering with civil society organizations is important, and is initially recommended at the piloting step.

"The role of civil society is essential for informal education. Our NGO, for example, will use Climate Box materials to develop new education and awareness initiatives – together with other local partners – that will further encourage young people to engage in climate change actions, particularly practical projects that help communities to adapt to or to mitigate climate change", says Iuliana Cantaragiu (National Environmental Center in Moldova).

Outreach and communication

To get involved with as many people as possible, you can use several communication channels to deliver your key message, to promote the Climate Box in your country or region, or to disseminate knowledge on climate education. Instead of a one-way communication, we suggest maximizing interactive activities with target groups (particularly with students and teachers), which will increase the likelihood of active involvement.

The following Table 3 presents possible key channels for communication and outreach.

Table 3. Possible communication and outreach channels

Key Channels	Possible Actions
Presentations and meetings *(face-to-face meetings and participation in events)*	To spread the word, piloting teachers or UNDP representatives can present Climate Box at: ● Conferences/workshops including relevant stakeholders (teachers, educators, NGOs, research institutes etc.); ● Regional intergovernmental environment and climate change events.
Contest, campaigns, festivals for youth *(move outside the classroom)*	Be aware of national and regional competitions for school students (e.g. best projects, photos, painting, essays) related to environmental topics; Join campaigns or festivals concerning clean energy, biodiversity, environmental protection, among others.
PR events *(increase outreach)*	Either to launch Climate Box as an outreach event or you could team up with national or regional authorities and link the event to one of the below-listed international environmental dates (or check for key local environmental dates). ● 3 March: World Wildlife Day ● 22 March: World Water Day ● 22 April: International Mother Earth Day ● 22 May: World Biodiversity Day ● 5 June: World Environment Day
(Mass) media *(increase outreach II)*	● Contact press, TV, radio – and online platforms that are focused on education, science, or youth; ● Text your UNDP country office to find out if they can help with detailed communication/media plans.
Social media *(outreach III and interaction)*	Social media platforms are cost-effective tools to communicate to the general public and youth. Most importantly, they allow us to interact with users. ● Share infographics, events, and stories and encourage your followers to comment; ● Use polling-tools to receive feedback; ● Launch social media competitions to interact with your community.
Websites *(outreach IV and information)*	● Use websites of partner organizations and educational platforms to promote "Climate Box" (e.g. climate-box.com website, websites of UNDP, UN CC:Learn and others). ● Consider launching your own national/regional website.

Here it is also relevant to present the general principles of communication strategies[1]:

- Make messages personal and relevant;
- Always be upfront and honest;
- Give the initiative a 'face': tell stories, appeal to emotions and aspirations (students and teachers should be inspired to use the "Climate Box" and stakeholders to support dissemination);
- Encourage consistent messaging across the communication program;
- Communicate early, often, massively, intensely, repetitively, and persistently;
- Focus on the positive and give immediate reinforcement, broadly share praise and rewards.

[1] Hints derived from the United Nations Development Group (UNDG).

STEP 9 - SCALE-UP

After the piloting phase of the project is over, the key questions are **how to ensure sustainability of the program** and **how to scale up climate education** across the entire country or region so that more schools and students get access to relevant knowledge? This chapter provides advice on how to build new partnerships and opportunities to expand the Climate Box project.

We have summarized a few recommendations for scaling-up the project. Some of them have already been mentioned under the previous steps:

- **engage the national ministries of education** that will provide the necessary political support and can help in making Climate Box and climate education part of the national education program (and other targeted programs) (see also Step 3);
- **engage sub-national (e.g. municipal or city) authorities** to disseminate Climate Box toolkits and information about the program locally;

> The local governments of Moscow and Yamal-Nenets regions of **Russia** are great examples of how the national Climate Box initiative has been then taken up by local authorities, who not only supported localization of the original toolkit for their local needs, but also hosted teachers' conferences, youth contests and supported other climate education activities in their respective regions.

- **partner with civil society organizations** that are interested in promoting climate (or broader, sustainability) awareness and education and may have additional funds for it (see also Step 8);
- **link climate education to other ongoing or planned donor programs** in your country/region, which often have capacity building or awareness components;
- **submit proposals to national (and international) public or philanthropic funds** supporting climate and educational activities. UNDP team in your country may help you in preparing joint funding proposal;
- **find sponsors among private companies** in your country that will be willing to provide finance for the program's scaling up.

> Note that the original version of the toolkit for Russia was developed with the support from the Coca-Cola company under its "Every Drop Matters" initiative. Another example is Wintershall Holding GmbH from Germany that provided funding for localized toolkits for the Arctic regions of Russia.

- **organize contests** and **give various awards for proactive teachers** and educational practitioners who prepare best climate classes, activities, whose students develop best youth projects, etc.

"I like that the project is constantly developing, with new participants joining from different countries that provide different national context. New materials are being developed for teachers and children, and international events are taking place. Climate Box participants are planning to expand the project to bring climate change education to all people in their countries, helping to create a new worldview for everyone", Elena Malts (International trainer of the Climate Box program).

STEP 10 - CONNECT

The final Climate Box application step is about connecting to other institutes, schools, teachers, and students to unite global efforts on global action.

An important – but also joyful and rewarding – exercise is connecting to other climate activists within the Climate Box program and beyond. In this last section, we present previous events that brought people together and united the world-wide effort on combating climate change. Since climate change has no borders – and climate education shouldn't have either – we want to encourage you to reach out to other schools, NGOs, teachers, school students, and other climate warriors across the globe. Perhaps you learn from each other and get inspired in a fight that is affecting every individual on planet earth. In the following, we first present exciting Climate Box activities and then advise how to increase outreach and connect to other institutions.

Figure 10. School students from different countries at a climate-themed summer camp in Russia

Climate Box has already united **over 50,000 students** and **2,300 teachers** from **8 countries** and counting. Soon, the program will step outside its "home region" of Eastern Europe and Central Asia with new regions and countries joining, and adapted toolkits in different UN languages coming up.

"During the summer camp in "Orlyenok", Russia, where I participated thanks to the Climate Box program, I have learnt a lot, studied interesting aspects about energy saving, and met with very interesting people. And I'm extremely glad that I will be able to use this knowledge in the future," Serdar Chariyev (16, from Turkmenistan, and a participant in the climate-themed international summer camp in Russia 2019.

What international activities Climate Box can offer?

- **International conferences and workshops on climate education and awareness for teachers and educators.** They provide a great platform to meet colleagues from other countries, to exchange experiences, as well as successful and innovative methodological approaches, and to learn about the most recent science behind climate change from leading experts.
- **International competitions among teachers** to showcase the best educational methods.
- **International contests for students** to demonstrate the most interesting and successful examples of climate action in practice.
- **Thematic youth camps.** One prominent example is a climate-themed international summer camp held in Russia's Krasnodar Region in June 2019, where around 100 students from nine countries across Eastern Europe and Central Asia gathered for three weeks to exchange ideas and develop action plans on climate change.
- **Video-bridges** with schools from other countries to learn more what your peers are doing for the climate in their region.
- **Participation in regional and global climate change events,** such as United Nations conferences to join the global movement for climate action.
- **International knowledge sharing platforms for teachers and youth** to connect, learn from each other, and get inspired (under development).

How to get connected?

For teachers, schools and educational centers:

- Reach out to your local UNDP country office to join the program.
- Share success stories and examples of undertaken lessons or activities and results achieved with the program manager in your country using standard reporting forms (see Step 6 "Monitor").
- Participate in competitions and other activities announced by the Climate Box program – for best lessons, extracurricular activities, youth projects, etc.

For students:

- Develop innovative climate projects together with your teacher and participate in contests organized by the Climate Box program.
- Connect to our social media pages on Facebook and subscribe to our YouTube channel to get the most up-to-date information on the project.

Empowered lives.
Resilient nations.