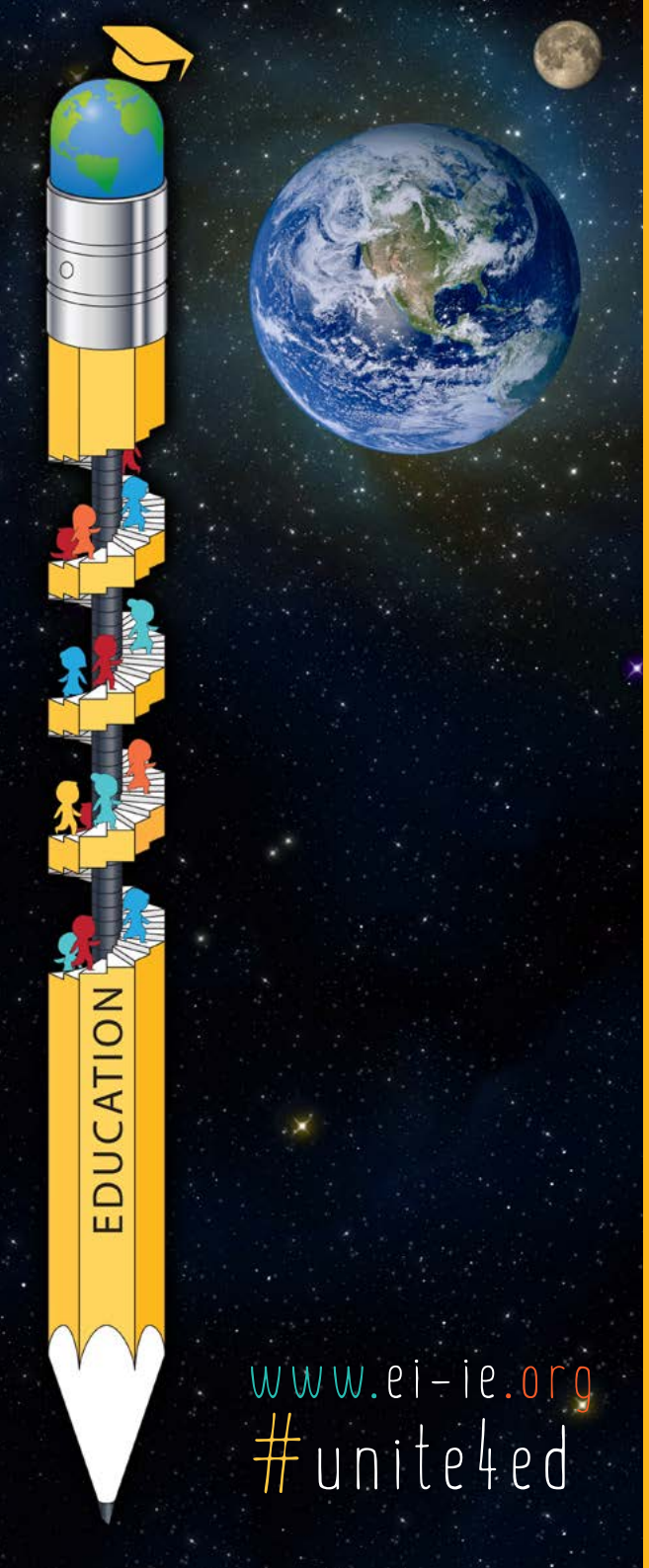



# EDUCATION

## A POWERFUL TOOL FOR COMBATTING CLIMATE CHANGE

A Guide For Education Unions And Educators

Education International
Internationale de l'Education
Internacional de la Educación


# What is the reason for this guide?

Climate change is shaking up the political agenda. While the Intergovernmental Panel on Climate Change (IPCC) regularly sounds the alarm, international processes aimed at containing global warming have failed to make any headway. Some governments, such as the United Kingdom and Canada, have recently declared a climate emergency, but so far they have failed to take any action.

Students around the world, meanwhile, are walking out of classes and taking to the streets to demand climate action and justice. Movements such as Extinction Rebellion have resorted to civil disobedience, demanding political change by blocking bridges and roads. So what is actually happening?

The seriousness of the situation can be summed up in simple facts: 18 of the past 19 years have been the hottest on record worldwide. According to experts, the sixth mass extinction is well underway, and the danger of runaway climate change can no longer be discounted.

Faced with this enormous and unprecedented challenge, humanity has no other choice but to radically change its development model to bring about a low-carbon transition. To that end, some solutions are known, while others still need to be developed. But one thing is certain: the collective effort needed in this situation requires nothing less than a revolution of the heart, of the mind – and urgent action.

Consequently, rethinking education must be part of the solution too. The ability of education to inspire, engage and empower people as well as inform people of the climate emergency, including its causes and impacts, are clearly acknowledged in international climate agreements.

However, this recognition must be translated into action plans and policies: we must ensure that climate change education is incorporated into school curricula, teaching and learning materials, and teacher training.

Teachers are change agents and can be at the forefront of the fight against climate change but they have to have the means to do so. This guide aims to provide EI member organisations with a tool for exploring the principal questions, issues and challenges arising from the climate crisis and how unions can respond.


# 1. Climate change: the basics

***"No challenge poses a greater threat to future generations than climate change"***

**Barack Obama**

Not a month goes by without an extreme weather event: Increasingly frequent and intense cyclones, storms, droughts, heatwaves and floods demonstrate that a large-scale disruption is occurring before our very eyes. According to the IPCC, the planet's average temperature was 1.0° C higher in 2018 than it was in 1880, the year records began.

It is now clear that the industrial era has profoundly altered our planet's climate. Whether it is the increase in air temperature on the ground and in the lower atmospheric layer, the ocean heat content and the warming of the sea surface, the reduction in snow and ice cover, or the rise in sea levels worldwide, all of these indicators point in the same direction: ongoing and accelerated climate change.

In climatology, a concept known as "radiative forcing" allows us to measure this change. According to the IPCC, this term describes the balance between the incoming solar rays and the outgoing infrared rays in the Earth-atmosphere system. A positive radiative forcing means that the Earth receives more energy in the form of heat than it emits. This is the situation that we have found ourselves in for several decades now.

Importantly, not all of the world's regions and countries are affected in the same way. There are significant disparities – and these often reflect the current unequal sharing of resources: many low-income countries are paying the highest price for a characteristic of these changes. Moreover, the globe's polar regions have seen their temperature increase by 2-4°, while in other latitudes, the rise has appeared more moderate, at least until now. The consequences are no less serious, however, as we will see later.

## What is the IPCC?

The Intergovernmental Panel on Climate Change (IPCC) was established in 1988 by the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP).

The IPCC's mission is to assess and in a methodical, clear and objective manner, present the scientific, technical and socioeconomic information about risks related to human-induced climate change. It studies the possible consequences and considers adaptation strategies for climate change and the mitigation of greenhouse gas emissions. It bases its assessment mainly on published and peer reviewed scientific technical literature.

Source: https://www.glossaire-international.com


# Human-induced causes

While there may no longer be much doubt about global warming, the understanding of the causes is often limited. In the 4.5 billion years that have passed since the formation of our planet, it has experienced several periods of warming and freezing.

A number of natural causes brought about these changes: volcanic as well as solar activity, meteorites, changes to the rotational axis of the Earth and the position of the continents, atmospheric flows and ocean currents.[1]

This time, however, the diagnosis is different. While several natural factors continue to exert influence, there is scientific consensus that human activity is responsible for the current disruptions to our climate. And the guilty party is undoubtedly the greenhouse effect.

The greenhouse effect is a natural mechanism that turns our atmosphere into a protective screen that is essential to our survival. The gases in question are well-known: oxygen ($O_2$), carbon dioxide ($CO_2$), water vapour ($H_2O$) and methane ($CH_4$). By trapping the right amount of warmth from the sun, they act like a cocoon that maintains the Earth's average temperature at 150 C. Without the greenhouse effect, there would be no life on Earth!

But as a result of human activity ever-larger quantities of greenhouse gases (GHGs) are emitted – in particular carbon dioxide, methane and nitrous oxide.

Consequently, the concentration of $CO_2$ in the atmosphere, measured in parts per million, has risen from 280 in 1850 to 400 today – an increase of approximately 40%! Carbon, petrol, diesel, fuel oil and natural gas are all fossil fuels that, once burnt, exacerbate the greenhouse effect and, by extension, global warming.

As climate research has made progress over the past few decades, scientists now have at their disposal tools that can prove that natural causes have only slightly contributed to the warming observed throughout the last century.

This development can be observed in the assessments of the IPCC too. Evaluating the role of human activity in relation to climate change, the IPCC was very prudent in its second Report (1995), but described it as "likely" in 2001 (a 2 out of 3 chance), "very likely" in 2007 (90 out of 100 chance) and "extremely likely" today (higher than a 99 out of 100 chance).

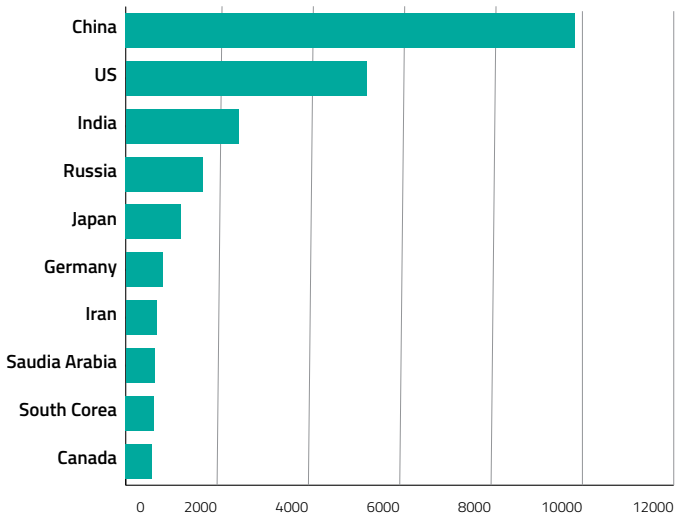
Among the plethora of research carried out on the topic, a recent study in the reputed magazine *Science* – undertaken using satellite data gathered between 1979 and 2016 – confirmed the human influence on global warming.[2]

Of the 37 megatons of $CO_2$ released into the atmosphere (2017 data), 66% of the emissions originate from just 10 countries. China, the United States, India, Russia and Japan make up the top five. The gap between China and the other countries can largely be explained by the relocation of industrial activity to Asia.

Although our fossil fuel-based development model is largely responsible for the warming observed since the middle of the 20th century, other human activities such as farming and land use also play a significant role. The graph below illustrates the variety of human activities implicated.

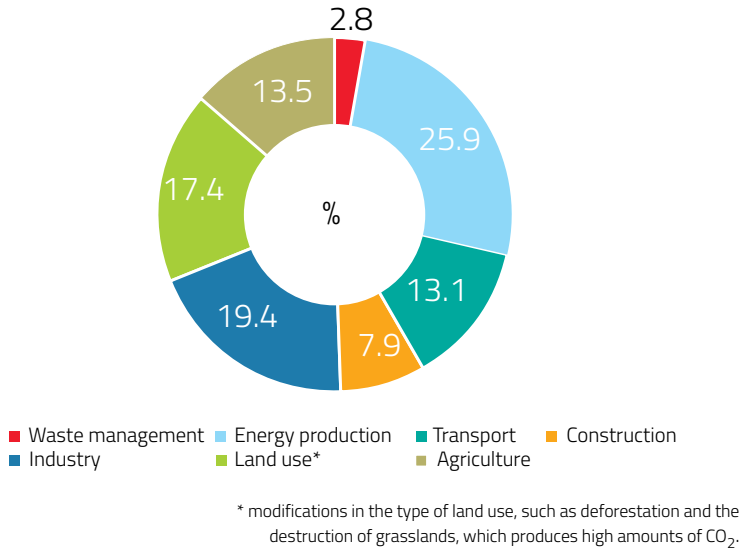
The situation is so worrying that some argue that we have entered a new geological age known as the Anthropocene Era. The Anthropocene is defined as the epoch in which human beings exert an influence over the planet that is so great that it is altering the planet's own processes and systems. Nobel Prize-winning chemist Paul J. Crutzen has linked the beginning of the Anthropocene with industrialisation.

### *$CO_2$ Emissions in megatons (2017)*




Source: Data from Global Carbon Atlas

***Human origin of greenhouse gases: a variety of activities***




* modifications in the type of land use, such as deforestation and the destruction of grasslands, which produces high amounts of $CO_2$.

Source: www.climatechallenge.be

## Increasingly catastrophic impact

The effects of climate change are increasing and are not expected to slow down any time soon. Suffocating heatwaves, more intense and destructive hurricanes and storms, the mass extinction of plant and animal species, severe droughts, torrential rain, rising sea levels: the examples of catastrophes due to global warming are countless.

In the run-up to the 2015 United Nations Climate Change Conference (COP21), the Governor of the Bank of England, Mark Carney, gave a well-received speech to a gathering of finance industry figures, during which he pointed out that insurance companies were not wrong about climate change.[3] Their reaction is understandable, as insurance claims due to bad weather have increased fivefold since the 1980s. The fact that disasters have become more frequent, unpredictable and costly compelled Carney to say that we were witnessing "the tragedy of the horizon". Whereas forecasts related to developments in business or politics are short-term and medium-term, those pertaining to climate change must be analysed from a long-term perspective. This collective short-sightedness is manifested in the limited political and economic decision-making. The banker, who was clearly in alert mode, predicted that a serious threat to global financial stability was just around the corner.

***"We're in a giant car heading towards a brick wall and everyone's arguing over where they're going to sit."***

**David Suzuki, a leading advocate for sustainable development**

From an economic point of view, a study carried out recently revealed that global warming has likely exacerbated economic inequality worldwide

by around 25% over the past 50 years.[4] This is a direct consequence of the impact that climate change has on economic growth: economic growth is weaker in poorer and hotter countries and stronger in colder, richer countries. It is likely, therefore, that climate change caused by fossil fuel use has exacerbated economic inequality linked to historic disparities in energy consumption.

The World Bank, meanwhile, has stated that climate change will, in the near future, become the primary threat to global food security: the increasing incidence of drought and floods will greatly affect harvests and agricultural output.[5]

Climate change is such a significant factor in population displacement that the term "climate-induced migration" has been introduced. In a 2017 report entitled "Uprooted by Climate Change", Oxfam estimated that several million people had already been forced to leave their land and homes due to climate change, and that ultra-powerful storms, more intense and longer droughts, rising seas and other climate change effects would elevate the level of risk in the future.

As far as Oxfam is concerned, while climate change affects us all, the risk of displacement is substantially higher in developing countries and

## Climate out of control

**"In 2016, a year after Cyclone Pam brought destruction to Vanuatu, Cyclone Winston displaced more than 55,000 people in Fiji and caused loss and damage worth around one-fifth of the country's GDP. In 2017, the Caribbean and south-eastern USA experienced a truly devastating hurricane season. In the wake of Hurricane Harvey, Hurricane Irma caused catastrophic damage across several Caribbean islands, including Barbuda, Saint Martin and Anguilla before making landfall in Florida. Two weeks later, Hurricane Maria – another near-record hurricane – tore through the Caribbean, bringing destruction to Dominica and Puerto Rico. In August 2017, extreme monsoonal floods affected more than 43 million people in Bangladesh, Nepal and India. More than 1,200 people were killed and millions displaced."**

**Extract from the summary of the Oxfam report, "Uprooted by climate change: Responding to the growing risk of displacement", November 2017.**


among people living in poverty. People in low-income and lower middle-income countries are apparently five times more likely to be displaced due to extreme and sudden climate-related disasters than inhabitants of high-income countries. However, they have no historical responsibility for greenhouse gas emissions. In addition, women, children, indigenous peoples and other vulnerable groups are affected in a disproportionate manner.

In the face of these unequal human costs, it is difficult not to cry foul at the injustice of climate change. Populations that hold the least responsibility for climate change are the primary victims of it. A new dynamic has consequently taken shape. The disproportionate incidence and impact of climate-induced displacement are at the core of the vicious circle of inequality: they are both consequences and exacerbating factors.[6]

We only have to take a small step from there – which some have already taken – to begin talking about climate change refugees. In fact, in Tuvalu, the small archipelago in the South Pacific is in danger of being completely submerged by 2050, the first national climate exiles have fled their country. Entire families have begun to depart for New Zealand, claiming the special status of climate change refugees. Authorities in New Zealand have even been floating the idea of creating a climate change refugee visa.

Looking to the future, the World Bank is not exactly optimistic, suggesting that we should prepare ourselves for mass climate-induced migrations. By 2050, if we do not change the way in which we produce and consume, there will be 143 million internal climate migrants in sub-Saharan Africa, South Asia and Latin America.[7]

There are signs of hope, however, and by acting right now, we could collectively reduce climate-induced displacement by 80%. Considering the incredible slowness of climate-related negotiations and the application of important policies, we are within our rights to wonder if, at the end of the day, we will run out of time to make the urgent shift in direction required.

# What science and the IPCC tell us

At the time of writing, we are on a trajectory towards an increase in global warming of over 3° C by the end of the century, and that is only if states respect the commitments they made as part of the Paris Agreement in 2015. As a reminder, the Agreement aimed to limit the increase to 2° by 2100, but at the current pace, we should reach 1.5° around 2030, after which the rise is likely to continue.

1.5 or 2 degrees may seem like a negligible amount. But we know better than that. At the Paris Climate Conference (COP21), at the request of several states that had already suffered the consequences of climate change and that considered the objective of 2 degrees to be insufficient, the IPCC was invited to assess the impact of global warming of 1.5° C.

In a 400-page Special Report, of which the "Summary for policymakers" [8] was published a short time before the COP24 in Poland, the IPCC contrasted the repercussions of global warming of 1.5° with those of 2.0°.

In the 1.5° scenario, it was estimated that sea level rises would be 10 cm lower than expected with a temperature increase of 2.0°. All other predicted consequences, such as heatwaves, torrential rain, the destruction of ecosystems and the extinction of certain species would still occur, but at a slower rate and with less intensity. This would give the most exposed populations – often the most vulnerable – greater leeway to adapt.

The IPCC has studied solutions likely to limit warming to 1.5°. The good news is that these solutions exist. They would, however, require fast, major changes in all sorts of areas – land-use planning, energy, industry, construction, transport, town planning – because we need to reduce our $CO_2$ emissions by 45% by the year 2030. As for carbon neutrality, that must be reached by 2050 at the latest. Undoubtedly, we are talking about a radical shift, a quasi-revolution that must take place within an extremely short timeframe.

If, for whatever reason, and there are many, humanity failed in its attempts to reduce greenhouse gases and the emission levels continued to rise, we could then anticipate a 5.5° C temperature increase by 2100. The consequences of such a scenario would be catastrophic and irreversible.

The IPCC believes that the coming years will be nothing short of the most important period in human history.


# Down with climate change sceptics!

In this era of fake news, where thousands of tall tales infest social media networks, should we worry about the impact of climate change sceptics on the evolution of the public debate?

Let us first clear up one thing. If we limit ourselves to the scientific domain, the existence of human-induced climate change enjoys a broad consensus within the research community. Of course, there will always be some who choose to disagree, but up until now, no serious argument has been put forward that calls into question something that is the fruit of a multitude of observations, studies and research carried out over the past few decades by hundreds of scientists recognised as experts in their field.

In this regard, a piece published in *Environmental Research Letters* reviewed, via a reading panel, nearly 12,000 articles on human-induced climate change in scientific publications over a 20-year period (1991-2011). The result? 97.1% considered the phenomenon as an established scientific fact. Only 0.7% of researchers rejected the idea, while the remainder appeared undecided.[9]

In the public arena, however, interested lobbyists, libertarians, religious fundamentalists, conspiracy theorists, and overwhelmed citizens have all joined the ranks of climate change sceptics.[10] Some believe there is no such thing as global warming, while others think that the sun is to blame, CO2 has nothing to do with it, and that the warming tendency is beneficial to humans. There are even those who claim that all the arguments out there are the same, and that the entire debate is simply an example of ideological posturing!

More than ever, people will pay more heed to foolish nonsense repeated a thousand times than to a well-documented fact. When beliefs gain the upper hand over knowledge, the public debate is likely to degenerate quickly.

The frequent conflation – made knowingly or not – of climate and weather is definitely at the origin of several blunders read or heard in the media and on social media.

Unfortunately, deniers have their audience, and when their messages and their actions help put a spanner in the works of the fight against climate change, we must pay attention to them.

The decision by the United States Government to pull out of the Paris Agreement has slowed the momentum by sending a negative signal to other political leaders who might be tempted to follow in the country's footsteps. The abrupt about-turn by Brazil at the COP24 summit, unfortunately, confirmed this perception. The Brazilian Government cancelled the next climate conference, the COP25,

which was set to be held in Brazil in December 2019.

This compelled Mary Robinson, the former United Nations High Commissioner and Special Envoy for Climate Change, to state that the denial of climate change is not just about ignorance. It was, she said, "malign and evil", because it denied the rights of the most vulnerable people on the planet.[11]

Faced with such a rise in the influence of climate change scepticism, the move by the BBC, which recently admitted that its coverage of the issue was too often wrong, must be applauded. It consequently asked its staff to stop giving airtime to deniers of climate change just to "balance the debate".

## Organised scepticism

**The Global Climate Coalition (1989–2001) was an international lobbyist group of businesses that opposed action to reduce greenhouse gas emissions and publicly challenged the science behind global warming. The GCC was the largest industry group active in climate policy and the most prominent industry advocate in international climate negotiations. The GCC was involved in opposition to the Kyoto Protocol, and played a role in blocking ratification by the United States. The coalition knew it could not deny the scientific consensus, but it sought to sow doubt over the scientific consensus on climate change and create manufactured controversy. The GCC dissolved in 2001 after membership declined in the face of improved understanding of the role of greenhouse gases in climate change and of public criticism.**

Source: Wikipedia


# 2. The international community comes together

***"We're at war with nature. If we win it, we're lost."* - Hubert Reeves, astrophysicist and ecologist**

## Rio Summit: a key moment of international action against climate change

Although the greenhouse effect was recognised as a natural phenomenon from the beginning of the 19th century, it took a long time before anyone suspected that human beings were influencing the climate. It was towards the end of the same century that some scientists started to measure $CO_2$ concentrations in the atmosphere and the effects of industrial combustion, especially coal, on the average global temperature.

In the middle of the 20th century, $CO_2$ concentrations in the atmosphere were systematically monitored, but it took another 20 years or so, until 1979, for the first World Climate Conference to be held. A global climate research programme was then launched, which led to the creation, in 1988, of the IPCC that we know today.[12]

Subsequently, international discussions on climate intensified, fuelled in large part by the first IPCC Report (1990), which confirmed the impact of human activities on climate change. The previous year, the second World Climate Conference had already paved the way for an international convention on climate change

The Earth Summit, held in Rio de Janeiro in 1992, was a major step in bringing together the international community to face the climate emergency. Involving a hundred or so Heads of State and Government, the summit remains, to this day, the largest gathering of world leaders ever seen. Over 1,500 NGOs were also present. The event got the ball rolling on efforts to sign the United Nations Framework Convention on Climate Change (UNFCCC), which was ratified in Berlin in 1995 by 195 countries at the first United Nations Climate Change Conference, the COP1.

Since then, the signatory countries have met every year at a new "Conference of the Parties" or COP, to take stock and continue climate negotiations. Other stakeholders from civil society, NGOs, trade unions, cities and local authorities, and the private sector are also admitted with observer status.

The UNFCCC is the first real attempt by the international community to combat climate change. Ultimately, the aim of this agreement, which celebrates its 25th anniversary in 2019, is to stabilise greenhouse gas concentrations in the atmosphere at a level that prevents any dangerous human interference with the climate system. In a major step forward, governments adopted the principle of Greenhouse gases (GHG) emissions allowances and even committed to setting GHG reduction targets the following year. Moreover, governments agreed that while all countries are responsible for combatting climate change, their capacity to do so depends on their context. *The principle of common but differentiated responsibilities* recognises that historically the level of industrialisation of a country has determined its contribution to climate change, and consequently industrialised countries should – and is able to – carry more of the burden.

As the COPs went by, disagreements broke out between, on the one hand, the industrialised nations, which had already benefitted and grown from their use of fossil fuels, and, on the other hand, developing and emerging countries, which aspired to continue their growth. Major differences also emerged between the United States and Europe as regards methods to counter climate change.

## The Common But Differentiated Responsibilities Principle

**At the Earth Summit, states acknowledged the disparity in economic development between developed and developing countries. Industrialization proceeded in developed countries much earlier than it did in developing countries. The Common But Differentiated Responsibilities (CBDR) principle acknowledges that developed countries contributed more to environmental degradation than developing countries and should have greater responsibility in resolving it. The CBDR principle could therefore be said to be based on the "polluter-pays" principle where historical contribution to climate change and respective ability become measures of responsibility for environmental protection.**

Source: Wikipedia


# Adoption of the Kyoto Protocol: another important step

In 1997, in Japan, the international community arrived at another important milestone in the fight against climate change: the Kyoto Protocol. This extension to the Convention committed signatories to an average GHG reduction of 5.2% by 2020, taking 1990 as the base year. This delighted those pushing for stricter regulation, who finally had the agreement with specific figures they had been waiting for.

But almost as soon as it was adopted, the agreement encountered problems. Intense negotiations on its implementation dragged on till 2005, and the withdrawal of the United States in 2001 made matters worse. In a series of highly technical negotiations, everything that needed to be implemented was put under great scrutiny, from the accounting methodology and emissions markets to clean fund mechanisms and observation and governance systems.

Initially, the Protocol involved just 37 industrialised countries. In fact, by virtue of the 1992 UNFCCC and its principle of "common but differentiated responsibilities", developed countries had to be at the forefront of the fight against climate change. As for developing countries, which included Brazil, China, India and Indonesia, they were also parties to the Protocol, but were not concerned by the commitment to reduce GHG emissions.[13]

And so, despite being signed in 1997, it was not until 2005 that the agreement was ratified by a majority of countries, excluding the United States. As a result, barely one third of global GHG emissions were actually covered by the Protocol.

In the opinion of many experts, the significant reductions in emissions observed in the post-Kyoto period were more attributable to the collapse of Eastern Bloc economies and the 2008 financial crisis than the effectiveness of the Protocol. Already in 2007, some were calling for its renunciation, judging it to be inadequate for a new economic reality that has seen China and India join the group of countries with high emissions.[14]

The non-binding agreement therefore fizzled out rather quickly. And the sharp division between rich countries and developing countries has only intensified with every post-Kyoto conference.

This led many to the conclusion that Kyoto was a failure and should be replaced with another, more ambitious agreement. After a failed attempt in 2009 at the COP15 in Copenhagen, the climate emergency gradually pushed the international community back up against the wall. Consequently, the process to negotiate a new agreement was relaunched in 2011 in Durban at the COP17. In 2015, the stage was set for the Paris Conference, the COP21, upon which significant hopes lay.

# The Paris Agreement: necessary but insufficient

On 12 December 2015, when the French Minister for Foreign Affairs, Laurent Fabius, knocked his (green!) hammer on the table to signify the adoption of the Paris Agreement, the world let out a sigh of relief. After tough negotiations, the first universal climate agreement was finally signed by the 195 countries participating in the Conference.

Its entry into force was subject to ratification by 55 countries responsible for at least 55% of GHG emissions. This was achieved less than a year later, on 4 November 2016.

Planned as an additional protocol to the Framework Convention (UNFCCC), the Agreement specifies, as early as in Article 2, that its objective is to keep the increase in global average temperature to well below 2° C above pre-industrial levels. Consequently, it requires parties to limit the rise to 1.5° C, a wish expressed by the most vulnerable countries, many of which are small island developing states.

Unlike the Kyoto Protocol, and despite estimates by the IPCC that a GHG emissions reduction of 40% to 70% is necessary by 2050, the Paris Agreement does not include compulsory targets.

Instead, each country is invited to commit to so-called "determined contributions", which is the reduction of GHGs that the country is committing to make over a five-year period. The first global evaluation of progress will be carried out in 2023.

A financial mechanism was established, through which developed countries must provide at least $100 billion to assist low-income countries. There were also to be periodic increases in financial contributions to meet needs that might increase over time.

There are no sanctions in the event of non-compliance by a state, which makes it difficult to talk about a legally binding tool. This agreement is an ambitious general pathway and a framework for action rather than a set of strict guidelines. Assuming the good faith of the parties to maximise their voluntary contributions, the goal is to create a virtuous circle.[15]

Today, nearly four years after the adoption of the Paris Agreement, there is a gap between the requirements and prospects as regards GHGs: global emissions are rising, while the national commitments to address climate change are insufficient.[16] The key sections of the 2018 Global Emissions Gap report, published by the United Nations Environment Programme (UNEP), mirror several other pieces of scientific research carried out recently, indicate that the window for supressing the threat that climate change poses is quickly closing. In addition, UNEP concludes that:

» **It is still possible to keep global warming below 2°C, but the technical feasibility of reducing the gap**


**between the requirements and prospects and attaining a 1.5°C scenario is shrinking**

» **Global $CO_2$ emissions increased in 2017, after having been stable for three years**

» **If the aforementioned emissions reduction gap is not bridged by 2030, it is extremely unlikely that the aim of maintaining the temperature rise below 2°C could still be achieved**

More recently, in December 2018 in Katowice, the COP24 made it clear that the commitments of several states as regards GHG reduction are at best vague and at worst decidedly insufficient. However, even if the promises made in the 2015 Paris Agreement were to be realised, global warming would doubtless reach 3°C, which would have catastrophic consequences for human life on Earth.

Experts have stated it clearly: the only way of avoiding a worst-case scenario is to move away from extractivism and leave 80% of fossil fuel reserves (oil, gas, coal) in the ground.

## Reconciling the fight against climate change with private interests: mission impossible?

At a time when the economic system is practically at war with the planet, to paraphrase Naomi Klein,[17] a structural and radical change to the economic paradigm appears imperative if we are to stave off the predicted disaster.

Since the majority of solutions to climate change are already known, why then are our political leaders so slow to adopt them? This seemingly innocuous question helps us better grasp how the necessary measures that need to be implemented are incompatible with unbridled capitalism.

To say that multinational companies are allergic to regulation would be a euphemism. It is in their DNA. Globalisation, the liberalisation of trade, and the growth-at-any-cost notion on which their development model is based – since the beginning of the 1980s – means that they will always call for less regulation.

The major oil companies, to use them as a pertinent example, demonstrate behaviour similar to that long exhibited by large tobacco firms. Economist Paul Krugman[18] compares the current climate denial trend with the denial of cancer that was, at one time, cigarette companies' line of attack, spreading confusion among the general public about the dangers of tobacco. At the origin of these denials are, of course, colossal financial interests, but also political interests. Krugman refers to those who do not hesitate to put civilisation at risk – in order to protect their own economic or political interests – as "depraved".

What is worse, despite the incalculable damage inflicted on the planet in the name of the sacrosanct free market, the fossil fuel industry remains heavily subsidised by our governments. In a recent joint report, the OECD, UNEP and the World Bank lamented the fact that governments worldwide still subsidise coal, oil and gas producers by up to $500 billion per year.[19]

This budgetary dependence on the part of governments with regard to fossil fuel revenue has obviously contributed to delaying the necessary decarbonising of our economies.

The OECD estimates that $6.9 trillion will need to be spent each year until 2030 to meet climate and development objectives. Energy, transport and water infrastructure, as well as buildings, account for over 60% of global greenhouse gas emissions. An unprecedented transformation of this infrastructure is therefore required to get closer to the global climate and sustainable development agenda.

Achieving the objectives of the Paris Agreement and the Sustainable Development Goals by 2030 requires financial flows to be aligned with resilient and low-emission development pathways. New technologies and business models, as well as financial innovations have to be harnessed.

The OECD, UNEP and World Bank report proposes an action plan for a low-emission, resilient future. It aims to support societies around the globe in taking systemic action that such a transformation will require. It highlights six transformative areas: planning, innovation, public budgets, financial systems, development finance and cities.

While this may seem attractive, upon closer inspection, few of the measures featured in this action plan could be applied or would be effective within the framework of neoliberal capitalism. Going back to Naomi Klein's analysis, it is clear that policymakers have failed to reduce emissions because the very nature of these types of actions collide head-on with deregulated capitalism.

The climate crisis would therefore be an ideal opportunity to put 40 years of neoliberalism behind us and to develop an economic alternative that is concerned with the common good. This is the basis for the call for a "Green New Deal", able to meet everyone's basic material needs while acting as a catalyst for a swift transition towards a decarbonised economy.[20] We are talking about a massive programme of investment in clean energy and infrastructure to transform not only the energy sector but the economy as a whole. Humanity must quickly change its mindset before we run out of time...


# 3. Civil society at the heart of the action

***"In the year 2078, I will celebrate my 75th birthday. If I have children or grandchildren, maybe they will spend that day with me. Maybe they will ask me about you. Maybe they will ask why you didn't do anything while there still was time to act. You say you love your children above all else, and yet you are stealing their future in front of their very eyes."***

**Greta Thunberg's speech to COP24 delegates**

## A cluster of highly mobilised NGOs

There are countless non-governmental organisations (NGOs)and other civil society organisations whose primary mission is to fight against climate change. Networks and coalitions of organisations emerge all over the world. Examples include the Réseau Action Climat in France, the Climate Coalition in the United Kingdom, the Climate Action Network in Australia, the Climate Chance Association in Africa and the Asia Climate Change Consortium, to name but a few.

Some organisations work hand-in-hand with governments or work to influence international climate negotiations by taking part in the UNFCCC process. Others take a more radical approach and take to the streets to express their concern or manifest their opposition. The Extinction Rebellion initiative launched in Great Britain in October 2018 is part of this movement, and resorts to civil disobedience in an effort to be heard.[21]

Groups of young people, women, scientists, artists, educators and students are forming and engaging in battle. Prominent personalities, such as Al Gore, Leonardo DiCaprio, Mary Robinson and Valérie Masson are using their popularity to alert decision-makers and the general public.

Rarely has a cause brought together such a diverse variety of actors all around the world, illustrating the unique nature of the issue of climate change.

Meanwhile, the climate negotiation process has stalled, taken hostage by reluctant governments who put a spanner in the works, and by economic lobbyists who often dictate the agenda.

## Climate negotiations: a severely criticised process

There has been significant criticism of the climate negotiation process, but some critics are more virulent than others, attacking the approach itself.

One such critic, Pablo Solón, the former chief climate change negotiator for Bolivia, has not hesitated to talk about "the madness of the COPs", the series of UN conferences on climate change, which are heading, in his opinion, down a road to disaster.[22] In a high-impact article published on the eve of the COP21, Solón even quoted Einstein to remind readers that "insanity is doing the same thing over and over and expecting different results!"

According to Solón, the negotiations are characterised by a lack of logic – instead of setting specific emissions reduction targets they leave it up to voluntary decisions by the countries involved, which almost always lead to mediocre results. He calls this "laissez-faire methodology".

Nowhere in climate agreements is it written that we have to extricate ourselves from the extractivist model. And yet, all the experts continuously remind us that 80% of known fossil fuel reserves must stay in the ground if we want to avoid the worst-case global warming scenario.

In addition, continues Solón, by focusing on GHG emissions produced in countries, climate agreements completely neglect the emissions that are consumed through imports of goods manufactured in other countries. The GHG emissions end up being shifted around rather than reduced.

The former negotiator attacks a process that, in his view, does not really address the structural causes of climate change. Rather, it focuses on managing predicted negative effects.

But his criticism goes further when he argues that climate agreements are designed to accommodate big business in that they impose no obstacles to free commerce or the extraction of fossil fuels.

Other observers have pointed out that this tendency to favour commercial law over environmental law goes back a long way and has developed over the course of international treaties.[23] Indeed, from its adoption in 1995, the Framework Convention on Climate Change stated, in Article 3.5, that

*"measures taken to combat climate change [...] should not "constitute a means of arbitrary*

*or unjustifiable discrimination or a disguised restriction on international trade."*

From this point of view, the sanctification of trade and investment liberalisation weakens environmental standards and hinders the transition towards low-carbon economies.

Such criticisms align with the vision of Naomi Klein and other activist thinkers, for whom the resolution of the climate crisis can only be achieved through a challenge to the neoliberal economic order.

## The trade union movement and the struggle for a just transition

Trade unions, for their part, have also been critical of climate agreements but they nevertheless participate in the UNFCCC conferences. Their advocacy work aims to ensure that the rights and interests of workers are taken into account during negotiations.

The slogan "There are no jobs on a dead planet" succinctly sums up the views of the International Trade Union Confederation (ITUC). It stresses the importance of climate justice and industrial transformation towards a low-carbon global economy.

The first climate-related statement from the international trade union movement dates back to 2006, the ITUC's date of foundation. Subsequently, it refined its positions and structured its participation in special assemblies, trade union congresses and COPs. This participation reached its peak at the COP21 in Paris, which was attended by 400 trade union leaders from all around the world.

But what is meant by a "just transition"? According to the ITUC, it is a:

"*...comprehensive strategy presented by the global trade union movement to protect people whose jobs, incomes and livelihoods are compromised by climate policies.*" [24]

The transition to a sustainable economy involves, according to the ITUC, supporting workers and communities affected by the climate crisis. Decent work as well as education and training are key in this regard

Ain addition to advancing social justice, the potential economic advantages of such a transition are increasingly well documented. Referring to the *New Climate Economy Report*, the ITUC predicts $26 trillion in potential economic gains

by 2030, which would lead to the creation of 65 million low-carbon jobs.

Of course, at national level, the success of such policies relies on a process of continuous social dialogue between governments, employers and trade unions. The establishment by the ITUC – and the European Trade Union Confederation (ETUC) – of the Just Transition Centre in Brussels, Belgium addresses this concern. The Centre brings together stakeholders with the aim of planning the transition process.

It should be noted that, within the international community, the need for a just transition has gained recognition since the Paris Agreement. The relentless advocacy work carried out by the union movement is already bearing fruit. The Silesia Declaration on Solidarity and Just Transition, a trade union initiative that was supported by the Polish government at the COP24, has received the backing of 53 countries, which is quite remarkable.

But much remains to be done, starting with convincing the other countries to sign the Declaration. In addition, the disappointing results the COP24 in Katowice have done nothing to allay the sense of urgency.

On the one hand, states still do not agree on increasing their level of ambition, which would make it possible to target the internationally accepted 1.5o objective. On the other hand, the issue of necessary financing earmarked for the climate is still proving to be a stumbling block. The promise made by governments to put up $100 billion per year to support the most vulnerable countries must be kept. An ability to meet the glaring needs of the southern hemisphere is a rite of passage for any effective climate policy.

In this regard, the decision of the UN Secretary-General to hold a climate summit in September 2019 should be welcomed. The union movement will once again ensure that a just transition is a top priority at the gathering.

# Greta Thunberg and students for climate: a lesson in global citizenship

*Skolstrejk för klimatet* ("School strike for the climate"). That was the short text written on the poster held by Greta Thunberg, the now-famous Swedish teenage climate protester, who decided to sit outside the Swedish parliament one sunny Friday in August 2018. While her initial protest put a smile on the faces of a fair number of adults, who struggled to hide their paternalistic attitudes, what followed surprised quite a few of them.

And so began the Friday school strikes, which spread like wildfire all over the planet. Seven months later, on 15 March 2019, a million students took to the streets to protest the lack of action on climate change. There were 2,000 demonstrations in 125 countries, on every continent including the Antarctica!

In the meantime, Greta Thunberg quickly became the new face of climate activism. She was propelled into the international spotlight at the COP24 in Poland and at the World Economic Forum in Davos where she accused political and economic decision-makers of inaction.

The demands of the students are as simple as they are radical. This is a generation who see themselves as the first to actually suffer from changes to the climate, and who believe that they will be the last one in position to do something about it.

As far as these young people are concerned, changes must be immediate and far-reaching. The climate equation is impossible to solve without challenging the existing consumer society. In their opinion, talk of "green growth" is totally antithetical. They are therefore campaigning for:

- **A 100% transition towards clean energy**
- **An end to fossil fuel extraction**
- **The implementation of aid for climate change victims**

This ever-growing mobilisation is set to lead to a global general strike on 20-27 September 2019.

Commenting on this remarkable student movement, EI General Secretary David Edwards stated that:

*"The global student mobilisation on climate change is a source of great hope for democracy; democracy that will advance equality, social justice, and protection of the environment. Lower carbon emissions can mean the survival of humanity. But decent lives and justice for survivors must be part of that struggle. If this student movement can be sustained and expanded, and if it can be organised and structured in civil society, including in political parties, it can be a catalyst for a sweeping transformation for people and the planet."* [25]

to expressing solidarity with the student movement globally, EI and other Global Unions have supported and participated in student-led climate change demonstrations in Brussels, Belgium.


Many of the student movements have also called for changes to their education systems, asserting that quality education is crucial to understanding climate change and its impact. They have demanded the immediate inclusion of climate change education in curricula and explicitly called for an education that prepares them for and supports them in taking action for climate justice. Beyond climate change education, this requires more attention to behavioural and social and emotional learning, and the extent to which education systems foster critical thinking and active citizenship.


# 4. Education: A powerful tool for combatting climate change

***"It is not only about studying climate change, but also about understanding it. It is critical to include it in curricula, but it needs to be embedded in the DNA of today's very education concept. It is not just another course; it is about how everything else we study or do is affected by climate change. It is about understanding the transformation to be able to act on it."***

**Christiana Figueres, Executive Secretary of the UNFCCC**

## Should we change minds or the climate?

It has long been recognised by the international community that education must play a crucial role in the transition towards a low-carbon global economy. The climate emergency, as we have pointed out, requires a range of preventative measures that must be implemented within a sufficiently short timeframe to stem the warming. In fact, all these years of overexploitation of resources, overproduction and overconsumption, require nothing less than a veritable revolution of the mind!

This is why climate agreements also provide for adaptation, mitigation and capacity-building measures for states that are least equipped to cope with the foreseen difficulties.

As UNESCO points out,

***"Education and awareness-raising enable informed decision-making, play an essential role in increasing adaptation and mitigation capacities of communities, and empower women and men to adopt sustainable lifestyles."*** [26]

For a long time, UNESCO promoted so-called Environmental Education but in the 1980's the social dimension was strengthened and education for sustainable development was introduced. It has evolved over time, following criticism that it didn't sufficiently address climate change and indigenous knowledge, for example.

The Global Action Program (GAP) on Education for Sustainable Development, adopted by UNESCO member states and launched in 2014 in Aichi-Nagoya (Japan), is testament to this international recognition. It focuses on generating and scaling up ESD action at all levels, in all areas of education, and in all sustainable development sectors. [27] As a key component of the global response to climate change, Climate Change Education (CCE) is part of the Global Action Programme.

As a member of the Action Programme's partner network from the outset, EI supports this initiative, which aims to promote ESD action, particularly with regard to climate-related issues. In fact, CCE helps people to better understand climate change and better organise themselves in the face of the harmful effects of global warming. It increases climate knowledge among the younger generations, encourages a change in attitude and behaviour, and thereby fosters the emergence of a new culture.

By facilitating informed decision-making, education and awareness also play a key role in enhancing populations' capacity for mitigation and adaptation.

CCE therefore plays an equally important role at different stages of the climate crisis: ahead of time, as an important prevention factor, and later, by helping affected communities to adapt and mitigate the effects.

## When education joins the climate change debate

While the international community's speedy acknowledgement of the strategic role of education in tackling climate change is certainly to be welcomed, it will become clear later in this document that there is still a lot of work to do to ensure that this recognition translates into action.

In the wake of the Rio Summit, the Framework Convention on Climate Change (UNFCCC) acknowledged this importance as early as 1995 via the inclusion of Article 6 (see box). This persuaded governments to start and encourage the development of educational and awareness-raising activities and to cooperate at international level.

Already, there was a clear emphasis on the importance of preparing educational material and developing education and training programmes, without any specific reference to education personnel. The thorny issue of the resources required for the implementation of these proposals would be addressed later in work programmes designed to carry out the activities envisaged in Article 6 of the Convention.


## Article 6 of the United Nations Framework Convention on Climate Change Education, training and public awareness

a) Promote and facilitate at the national and, as appropriate, sub-regional and regional levels, and in accordance with national laws and regulations, and within their respective capacities:

(i) the development and implementation of educational and public awareness programmes on climate change and its effects;

(ii) public access to information on climate change and its effects;

(iii) public participation in addressing climate change and its effects and developing adequate responses; and

(iv) training of scientific, technical and managerial personnel;

(b) Cooperate in and promote, at the international level, and, where appropriate, using existing bodies:

(i) the development and exchange of educational and public awareness material on climate change and its effects; and

(ii) the development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries.

# From COP8 to COP21: strong commitments but little concrete action

Generally, a significant amount of time can pass between the signing of an international agreement involving dozens of countries to the implementation of said agreement. It is a complex, long and cumbersome process. Consequently, it was not until the COP8 in 2002 that the international community adopted the so-called New Delhi Work Programme, named after the city in which the Conference was held.[28]

This five-year programme (2002-07 covered six areas of intervention: education, training, public awareness, public participation, access to information and international awareness, but left the initiative to countries. Intergovernmental organisations and civil society were encouraged to take it into account when developing their own CCE activities. As far as funding was concerned, parties were invited to take advantage of the opportunities offered by the Global Environment Facility.

The programme was revamped following mixed if not negative periodic reviews, giving rise to the Doha Work Programme at the COP18 in 2012.[29] In this initiative, which runs till 2020 and is therefore still ongoing, the six areas were retained, but there was a greater emphasis on the insufficient financial resources available, particularly for low-income countries and small island states. As a result, urgent pressure was put on the Global Environment Facility to address the shortcomings. Parties were also asked to nominate national coordinators – known as focal points – for the implementation of education activities in their respective countries. Finally, there was an attempt to intensify the work pertaining to Article 6 by establishing an annual dialogue bringing together the parties, experts and representatives of civil society for the sharing and exchange of experiences, ideas and good practice.

While the inclusion of civil society in the process is welcome, it should be noted that any organisation wishing to take part is not automatically admitted but must apply for accreditation.

Be that as it may, the importance of education in climate negotiations has been reaffirmed on several occasions over the years. In addition, in 2014, at the COP20, a Ministerial Declaration on Education – the Lima Ministerial Declaration on Education and Awareness-raising[30]– was adopted. Finally, and for the first time, there was mention of the idea of including the issue of climate change in countries' national curricula.

The following year, at the COP21, Article 12 of the Paris Agreement, which followed in the footsteps of the Doha Programme, raised little debate. In truth, these four lines did not add much to Article 6 of the Convention. The decision was even taken to henceforth include an education-themed day in the programme at each annual Climate Change Conference. It would serve as a space of sharing information and discussion for the various actors involved in climate change education.


## Article 12 of the Paris Agreements

Parties shall cooperate in taking measures, as appropriate, to enhance climate change education, training, public awareness, public participation and public access to information, recognizing the importance of these steps with respect to enhancing actions under this Agreement.

## Important milestones for climate change education

| | |
|---|---|
| **1995** | COP1: Adoption of Article 6 of the UNFCCC |
| **2002** | COP8: Adoption of New Delhi Programme |
| **2012** | COP18: Adoption of Doha Programme establishing the Dialogues on Action for Climate Empowerment |
| **2014** | COP20: Lima Ministerial Declaration on Education |
| **2015** | COP21: Adoption of Article 12 of the Paris Agreement |
| **2016 to 2019** | Continuation of the Dialogues on Action for Climate Empowerment |

# More action needed!

It can certainly be concluded from the points raised above that the international community acknowledges the critical role of education in the fight against climate change. The time has now come to transform all those words into action and to ensure that governments' discussions and commitments lead to more concrete acts.

In this regard, much remains to be done, as UNESCO pointed out in one of its reports. In 2012, only one in three countries indicated that they were required to include ESD concepts in education programmes, while just one in four stated that climate change education in programmes was obligatory.

As for the inclusion of ESD in teacher training, only 7% of countries declared that it was obligatory. This reveals a major deficiency in teachers' capacity to deliver an ESD-integrated curriculum.

Additionally, in a synthesis report – published in 2016 by the UNFCCC Secretariat – on the progress made in implementing the Doha Work Programme, it was noted that:

***"Despite the progress made in climate change education, many challenges remain. Some Parties reported that climate change education is still relatively new in their countries, accounting for a general lack of awareness. They also identified the need for technical, financial and human resources to scale up climate change education at the regional, national and local levels. They further stressed the need for assistance to strengthen institutional and individual capacities to implement formal and non-formal education."***

According to the Secretariat, despite the progress made in climate change training, numerous countries emphasised the need to bolster international cooperation and financial support in order to strengthen existing training projects and create new ones.

Moreover, country representatives identified several high-priority training


targets, such as decision-makers, representatives of financial institutions, technology users and operators, journalists, teachers, young people, women, local communities and other relevant stakeholders.

Several obstacles to the implementation of Article 6 of the Convention were cited, including a lack of public awareness and knowledge, absence of institutional arrangements, inadequate funding, lack of human resources, and insufficient coordination and cooperation among a country's authorities.

The recommendations therefore included strengthening international cooperation, creating a dedicated CCE fund, and enhancing the role of the national focal points, observers, young people, and so on.

## As COP25 approaches, where are we now?

Action for Climate Empowerment (ACE) is the name now used by United Nations negotiators to address issues related to climate change education, training, public awareness, public participation, and public access to information. At the COP24, parties once again tried to refine and strengthen their response strategies in this area. They reaffirmed the close links between their actions and the Sustainable Development Goals (SDGs) adopted by the international community in 2015.

The aim is to encourage the integration of education and training into all mitigation and adaptation activities implemented in the wake of climate agreements. Then, as was originally planned, the Doha Work Programme will be thoroughly reviewed before its end date in 2020.

As far as EI is concerned, several positive elements have emerged from this decision, which nevertheless has major weaknesses. On the positive side of things, there is the acknowledgement of stakeholders such as international organisations, teachers, young people, women and indigenous peoples, who will be responsible for implementing Action for Climate Empowerment. Better coordination between the work done on Article 6 of the Convention and Article 12 of the Paris Agreement will certainly encourage more consistent action and help to avoid duplication.

On the other hand, the approach is weakened by its reliance on the goodwill of the parties, with articles in which they are "invited" or "encouraged" to undertake actions.

In addition, the decision does not clearly mention the inclusion of climate change education in national education programmes or curricula. Only by ensuring that climate change education is integrated across the

## Education and climate change in the Sustainable Development Goals

In 2015, all United Nations member states adopted the 2030 Agenda for Sustainable Development, which provides a blueprint for peace and prosperity for people and planet. Seventeen Sustainable Development Goals (SDGs) recognise that to create the future we want, economic and social development must go hand in hand with tackling climate change and protecting our natural environment.

SDG 4 commits to "ensure inclusive and equitable quality education and promote life-long learning opportunities for all", SDG 12 commits to "ensure sustainable consumption and production patterns" and SDG 13 commits to "take urgent action to combat climate change and its impacts".

Within these standalone goals, some specific targets recognise the interrelations between education and climate change:

Target 4.7: By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non violence, global citizenship and appreciation of cultural diversity and of culture's contribution to sustainable development.

Target 12.8: By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature.

Target 13.3: Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Governments' progress on implementing education for sustainable development will be monitored with a variety of indicators, including the:

- "Extent to which... education for sustainable development (including climate change education)... are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment" and the
- Number of countries that have integrated mitigation, adaptation, impact reduction and early warning into primary, secondary and tertiary curricula.


education system can we ensure that all students learn about climate change.

Finally, the issue of the financial resources needed to support national strategies in developing countries has been neglected. The adoption of a plan to implement measures encouraging CCE in Katowice must therefore be welcomed.

However, much more will be needed to place education at the core of national, regional and global efforts to combat climate change.

## Challenges to universal climate change education

Even though all United Nations member states have adopted the SDGs, there is no global mechanism to hold governments accountable and ensure action for climate empowerment.

With the mandate to monitor educational outcomes as part of the SDG agenda, there has been a global push for more standardised assessments, and a drive for all students to master the basics in "core" subjects. As a result, subjects such as numeracy and literacy are often given disproportionate attention, at the expense of critical issues like education for sustainable development (including climate change). Country rankings on international assessments such as the OECD´s Programme for International Student Assessment (PISA) - which tests 15-year-old students in reading, mathematics and science - and school rankings based on national assessment results within marketised public education systems encourage countries and schools to focus time and resources on examination subjects. This marginalises subjects that are not included in the assessments.

Politicisation of education also poses a challenge to implementing climate change education universally. Some politicians deny the scientific proof of human-caused climate change, often influenced by powerful oil and gas companies. As a result, climate change education remains under-prioritised and underfunded. Sometimes science teachers are even encouraged to allow students to debate the causes of climate change, fostering climate denial rather than providing students with scientific knowledge of the phenomena and the tools and awareness to take action to tackle it.

For climate change education to become universal, it must become a curricular priority in every jurisdiction and be included in teacher training at all levels of education. Teachers need the support, time and resources to be able to provide students with the knowledge, skills and attitudes to respond to climate crisis.

# Education and climate change: fresh initiatives


Fortunately, a number of international, national and local initiatives are springing up. One interesting example is the UN's CC: Learn, a partnership of more than 30 multilateral organisations that work to strengthen education related to climate change.[31] The programme supports knowledge sharing, emphasising the development of common educational materials on climate change, and coordinates training in cooperation with partners worldwide.

At the national level, UN CC: Learn encourages countries to develop and implement national educational strategies on climate change. It also participates in the application of Article 6 of the UNFCCC (on education, training and public awareness), and the Doha Programme. In addition, the programme includes a knowledge sharing platform, online courses on CC and a resource guide for advanced learning.

The goal is to integrate climate change into formal, nonformal and informal educational systems, particularly supporting the inclusion of climate in curricula by facilitating teacher training and contributing to the development of educational materials.

UNESCO is actively involved in CCE. Its online course, "Climate Change in the Classroom",[32] designed for secondary school teachers, represents an attempt to fill gaps in teacher training on climate change.

The course focuses on understanding the causes, processes and impacts of climate change, using a holistic approach. Educators are provided with a wide range of educational approaches that can be adapted to their individual teaching environments.

From a course design perspective, the role of education is threefold. First, it must build capacity and foster attitudes, values and a sense of urgency in relation to climate change . Second, it must develop the skills, abilities, and tools necessary for adapting to current or imminent climate change impacts. Third, it must continue to stimulate intellectual curiosity and strengthen the understanding of and openness to the realities of climate change.

We could continue at length with examples of CCE initiatives or projects undertaken by a host of actors from civil society: cities, NGOs, trade unions within the educational system, student associations, schools, universities, and so on. For those seeking more information, there is a wealth of material available on the internet.

Through awareness and building knowledge and skills, education must be seen as an essential component and catalyst for confronting climate change.


# For EI, education is part of the solution

As a result of the resolutions on Education for Sustainable Development (ESD) and climate change adopted during its world congresses, EI has addressed the issue of CCE through various channels to fulfil this commitment.

» **International advocacy at COP21, 22, 23 and 24:** EI first participated at the United Nations Conference on Climate Change in Paris, 2015 (COP21). EI supported broad trade union demands concerning a "just transition" and the respect of individual rights, supported by the ITUC. In addition, the EI delegation advocated for the inclusion of education and training in the Paris Agreement and held a roundtable on the power of education to change behaviour in confronting climate change. At subsequent COP conferences, EI has joined UNESCO in participating in CCE events during the COP "Education Day".

» **Advocacy for full integration of CCE in curricula and teacher training:** EI believes that all teachers must have access to the full support and training necessary to become involved and effective actors in combatting climate change, but so far this is not yet a reality. Therefore, EI pushes for decision-makers to fulfil their commitments as part of the Paris Agreement, the Doha Programme and the SDGs.

» **Advocacy to include an educational component in all strategies to combat climate change:** EI promotes education as a key tool in all efforts to fight climate change.

» **Supporting unions to advocate for climate change issues:** EI seeks to enable its members to have the knowledge, skills, values and attitudes necessary to contribute to sustainable development by producing resources such as this guide and providing capacity building workshops that include the topic.

» **Capacity building for teachers on climate change issues:** ESD and the climate change component are part of EI's "Quality Educators for All" professional development programmes for teachers and teacher trainers. At present, this programme has been implemented in Mali, Uganda, Niger and Tanzania.

» **Creation of an EI CCE network** – EI has created a professional teachers' online network about climate change education. The network provides a platform for EI member organisations to share information, experiences and strategies on how to better respond to the climate change emergency through education. If your union is interested in joining the online network, please, contact the EI Secretariat.

# What can your trade union do?

Several of our trade unions are already very involved in sustainable development education, including climate change education. We believe that this guide can be a useful tool helping you initiate and/or further develop your work to combat climate change.

In every country, the ability of governments and stakeholders, including political decision-makers, teachers, students, the media, and communities, must be developed via the training of educators and by publicising available scientific information on climate change.

**With your government**

Climate change education (CCE) is yet to be prioritised by governments around the world. Education trade unions must show leadership in addressing this shortcoming and put pressure on governments to make climate change education and a just transition priorities.

- Advocate for climate change education to be included in educational policies and curricula at all instructional levels, teacher training and continuous professional development, and teaching and learning materials.
- Identify the individual acting as the focal point for climate change negotiations in your government (see the list of national focal points on the following website).

https://unfccc.int/topics/education-and-outreach/focal-points-and-partnerships/ace-focal-points

If a focal point has been named, ask for a meeting with the person responsible to learn more about the actions taken or planned by your government to include climate change in educational policies. Also ask which measures are planned to support training for teachers to become involved and effective players in efforts to counter climate change.

If there is no focal point, request a meeting with your government representatives to ask that they designate, as soon as possible, a representative to act as the focal point on education in the context of climate negotiations. Use the information and arguments in this guide to assist in your advocacy efforts.

Explore the work of others: advocacy can often be conducted jointly with other trade unions, NGOs, and national and regional coalitions that are involved and active on CCE.

**With your members**

- Use your trade union meetings to address the issue of climate change and the role of education in the transition to a low carbon economy and sustainable development.
- Inform your members of international agreements and government obligations to address climate change through education, and discuss what demands your union has on your government and how you want to fight for them. Organise activities around relevant international or


national days such as World Environment Day (5 June).

- Inform your members of teaching resources about climate change that are often available for free. Discuss what support your members need and what support the union can provide. Consider setting up professional networks, teams and mentoring schemes for teachers who want to do more on climate change education.
- Hold workshops or informational seminars on the subject of climate change education. You do not need to be an expert on the issue. There is an extensive amount of material designed and developed for lay people to assist you in your efforts.
- Use national and international news on the subject of climate change to underscore the importance of education in confronting this social issue. Use your internal communication channels to send the message: trade union newsletters, bulletins and internal messages, blogs, social media, and so on. Use every means available!

**With the media and communities**

Consider the best advocacy moments: the political and events calendar is full of opportunities to highlight the role of education in climate change: educational events, international days, climate conferences, election campaigns and so on. Timing often makes the difference!

**... And if you are a teacher**

Your pupils or students are often the best ambassadors in the fight against climate change.

- Discuss the role of education and other measures to combat climate change.
- Identify together what you want to learn more about and the best way to do it – are there experts, academics or NGO's who could come and talk about their activities on climate change?
- Organise activities around relevant international or national days such as World Environment Day (5 June).
- Discuss different ways of taking action together as a school community. How can the school challenge its own consumption patterns, can the class take on a challenge for the coming month, or start composting the waste from the school canteen, for example?

# To find out more...

## Read....

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- Klein, N.: 2014, "This Changes Everything: Capitalism vs the Climate", *Simon and Shuster*.
- Kolbert, E.: 2014, "The 6th extinction", *Henry Holt and Company*.
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## ...and watch

- Global warming in ten minutes by Al Gore
  https://www.youtube.com/watch?v=Jxi-OlkmxZ4
- Greta Thunberg speech at the COP24
  https://www.youtube.com/watch?v=VFkQSGyeCWg
- The Apocalypse by Natalie Wynn, Contrapoints
  https://www.youtube.com/watch?v=S6GodWn4XMM&t=442s
- Eight documentaries that make you want to fight against climate change
  https://makesense.org/article/8-documentaires-qui-donnent-envie-de-lutter-contre-le-changement-climatique/
- UNFCCC: High-level Event: education key driver to scale-up climate action
  https://www.youtube.com/watch?v=XDBK31J6GnQ


# Abbreviations and acronyms

| | |
|---|---|
| **ACE** | Action for Climate Empowerment |
| **CC** | Climate Change |
| **CCE** | Climate Change Education |
| **COP** | Conference of Parties |
| **ESD** | Education for Sustainable Development |
| **ETUC** | European Trade Union Confederation |
| **GHG** | Greenhouse Gas |
| **IPCC** | Intergovernmental Panel on Climate Change |
| **ITUC** | International Trade Union Confederation |
| **NGO** | Non-Governmental Organisation |
| **OECD** | Organisation for Economic Co-operation and Development |
| S**DG** | Sustainable Development Goals |
| **UN** | United Nations |
| **UNEP** | United Nations Environment Programme |
| **UNESCO** | United Nations Educational, Scientific and Cultural Organization |
| **UNFCCC** | United Nations Framework Convention on Climate Change |

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4 Diffenbaugh, Noah S. et Burke, Marshall, "Global warming has increased global economic inequality", PNAS, 22 April 2019.

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6 Oxfam, "Uprooted by climate change: Responding to the growing risk of displacement", November 2017.

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8 IPCC, "Global warming of 1.5° C, an IPCC Special Report on the impacts of global warming of 1.5° C", Summary for Policymakers, 2018.

9 Included in Baillargeon, Normand, "Sceptiques et négationnistes", revue A Babord!, n°. 56, Oct. Nov. 2014.

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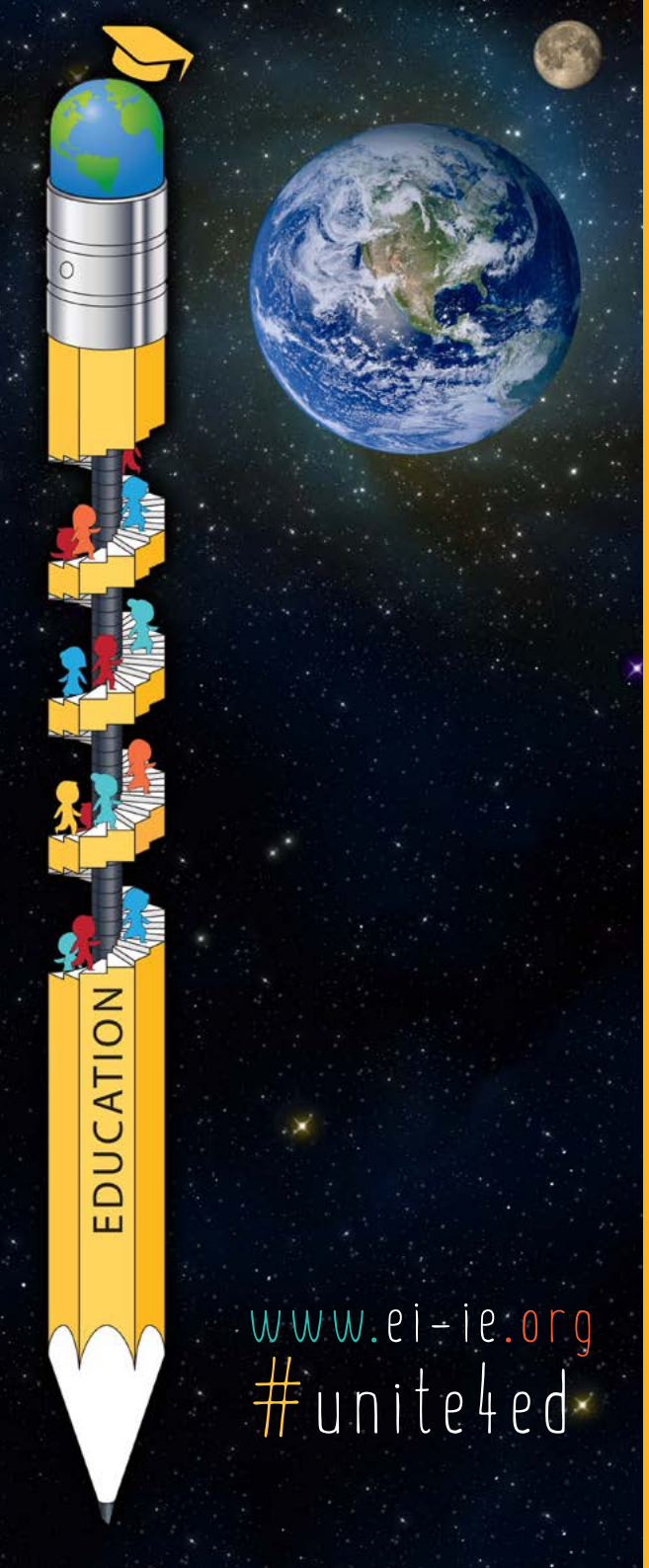


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