

of years. This time is different. It is humans who are causing it, and the change is happening in decades.

Climate debt

For every year that greenhouse gas emissions increase, the burden of reducing them gets heavier on the future generations. Looking back to the start of the Industrial Revolution in the 18th century, it was the highly developed nations who emitted the most. If a glass bowl had been put over the UK, it would already have 4°C warming today. In this sense, the strongest economies of today have a debt to the developing ones.

Climate displacement

Climate displacement refers specifically to displacement caused by environmental or climate factors, and is an increasingly important phenomenon as human-caused climate change drives more people from their homes around the world. Climate displacement can be caused by short-term events, such as flooding, or longer-term processes, such as desertification, biodiversity loss, or sea-level rise.

Climate emergency

If a person has a fever of 2°C, they feel really bad and can't do much. If they have a temperature of 4°C it is a medical emergency, and without effective treatment the patient will die in 24 hours. The planet, like the human body, is a biological system. It has evolved over millions of years to function at a certain temperature. You can't mess around with this temperature. 1.5°C is already not funny. We cannot afford to go over 2°C warming.

Climate Justice

As we see in this course, the issues of environmental change overlap with other political, social, and economic issues – such as poverty or gender. Climate justice is a theory used to examine this overlap, by focusing on human rights and the human impacts of climate change, and acknowledging that different communities contribute to and suffer from the issues of environmental and climate change unequally. In seeking to achieve climate justice, different organisations and

activists are trying to address this issue, and to ensure the equitable and fair sharing of the consequences of climate change and the responsibility for dealing with it.

Climate migrants

Climate migrants are people who leave their homes largely because of climate stressors. Climate stressors include short-term events, such as flooding, and longer-term processes, such as changing rainfall and sea level rise, which put pressure on people to leave their homes and livelihoods behind.

Climate negotiations

Following the 1992 Earth Summit, the nations of the world established three Rio Conventions to combat what were seen as the most pressing environmental issues. These were the UN Convention on Biological Diversity, the UN Convention to Combat Desertification, and the UN Framework Convention on Climate Change. These frameworks seek to protect the environment through international cooperation and agreements. Representatives of the countries of the world meet in the Conference of the Parties, or COP, of each Convention, to commit to changes which will protect the environment. The most famous of these was COP21 in Paris, in 2015. This is because an international treaty was signed that promised to limit global warming to “well below 2°C, with efforts to stay close to 1.5°C”. At each COP meeting, all the nations of the world negotiate who will do what to bring down our emissions.

Climate resilience

Climate resilience is the ability of individuals, communities, or countries to anticipate, prepare for, and respond to hazardous events, trends, or disturbances related to climate.

CO₂

Carbon Dioxide is a greenhouse gas which traps heat inside the atmosphere. Scientists can measure the number of CO₂ molecules above our heads to an accuracy of one part per million. The latest readings are over 400 parts per million (ppm), these are levels not seen for about 4million years.

Consumerism

Consumerism is a preoccupation with and inclination to the purchase of consumer goods. In consumerism, the purchase of goods and services is seen as desirable, and is the principal driver of economic growth.

Consumption

Consumption is the action of using up a resource.

Decarbonisation

Decarbonisation is the removal or reduction of carbon dioxide (CO₂) output into the atmosphere, for example through the use of low carbon power sources such as renewable energies.

Development

The process by which someone or something grows and/or changes. The level of development of a certain place or country is often used to measure its level of infrastructure, industrialisation, or prosperity. However, the measurement of 'development' in this way is sometimes difficult, as countries are often measured in terms of how 'advanced' they are by a Western standard. For example, if a country is similar to Western countries like the U.K. in terms of government, economics, or infrastructure, it could often be considered 'developed'. However, places are also considered 'under' or 'un-developed' if they differ from these Western examples, even though there might be a different philosophy or context involved, and a different measure of 'progress' might be more suitable.

Dilemma

A situation in which a difficult choice has to be made between two or more alternatives, especially ones that are equally undesirable.

Displacement

Human Displacement refers to the forced movement of people from their home, or country of origin. Displacement can be caused by a number of factors, including war, conflict, or violence, natural disasters like earthquakes or floods, famines, economic crisis and shortages, and many others.

Dispossession

The action of depriving someone of their land, property, or other possessions. This is often used to refer to the large-scale removal of land from communities, for example for development projects or through processes of colonisation, which removed many native peoples from their lands and homes.

Ecological Diplomacy

The practice of advancing ecological protection by conducting diplomacy that leverages examples of conserving natural resources, sustainable operations, and effective environmental stewardship.

Ecological footprint

Your ecological footprint is the impact that your individual life has on the planet. This includes how many carbon emissions your lifestyle causes, how many raw materials are needed to make the things you consume and many other things such as bio-diversity destruction and water use. It is important to minimise your individual footprint, but also be aware that the biggest changes that need to happen will come from big government and corporate decisions.

Emigration

Emigration is the act of leaving one's own country to settle permanently in another country.

Empathy

The ability to be sensitive to, understand, and share the feelings of another person or group of people.

Energy transition

The Energy transition is the idea that we move from fossil fuels to renewable energies. The problem with this phrase is that people believe it has been happening for decades and it hasn't. We have just been doing energy *addition*. Every solar panel you see has only ever been useful for some of our *extra* energy demands. Fossil fuel use has *always* increased, year on year.

Environmental change

Environmental change is a change or disturbance of the environment most often caused by human influences and natural ecological processes. Environmental changes include various factors, such as natural disasters, human interferences, or animal interaction. We are currently in the anthropocene, the geological era in which humanity is seen as the most influential force on the earth, and as such human influence is becoming more and more important in driving environmental change, through global warming, destruction of biodiversity, and other processes.

Extractivism

Extractivism refers to the process of removing large quantities of raw or natural materials, particularly for export. In particular, it refers to the attitude towards the environment by which humans see the natural world as a resource for exploitation and the extraction of profit.

Food insecurity

Food insecurity is the state of being without reliable access to a sufficient quantity of affordable, nutritious food.

Forced migration

Forced migration is the movement of people where an element of coercion exists – such as war, persecution, or famine, for example. However, it is often hard to determine the exact reasons why people migrate, and many people who are considered to be ‘voluntary migrants’ are in fact forced from their homes – for example those who leave a country in economic catastrophe due to a complete lack of employment opportunities.

Fossil fuel energies

Coal, Gas and Oil are known as fossil fuels. They provide an amazing source of energy in a very usable form – which is why they have become so embedded in our economies. The only problem with them is that when they are burnt, they produce greenhouse gases.

Gender-Based Violence

The United Nations defines gender-based violence as any act of violence against a person based on their gender. Gender-based violence (or GBV) overwhelmingly affects women, girls, and LGBTQ people, and increases during displacement and times of crisis. Domestic violence, sexual harassment and violence, rape, and forced marriage are all considered forms of GBV. Female genital mutilation and so-called “honour” crimes are also commonly defined as gendered violence.

Global warming

We have known that CO₂ warms the atmosphere since the work of the French Physicist J. Fourier in 1827. Many people now prefer the term ‘global heating’ because it communicates the intensity of the average rise in temperature. Some parts of the globe are heating much faster than others – the most rapid rises have been measured in the arctic circle.

Green Growth

Green growth means fostering economic growth and development, whilst ensuring that natural assets are protected and continue to provide the resources and environmental services on which our well-being relies

Greenhouse gases

There are many different greenhouse gases (GHG). The primary ones are water vapour (H₂O), Carbon Dioxide (CO₂), Methane (CH₄), Nitrous Oxide (N₂O) and Ozone (O₃). They all make the atmosphere hotter, but at different intensities. For example, Nitrous Oxide is about 200 times more heating power than CO₂, but it only lasts an average of 121 years in the atmosphere, compared to the thousands of years that CO₂ stays up.

Holocene

The Holocene is the name given to the last slice of geological time (the past 11,700 years). There are many eons, eras, periods, and epochs in the Earth's deep past – the most famous one is probably the Jurassic Period. Human civilisation grew up in the Holocene, helped by the fact that this epoch provided us with a very (unusually) stable atmosphere.

Human mobility

“Human mobility” is **an umbrella term that refers to all aspects of the movement of people**: human mobility is understood to encompass involuntary internal and cross-border displacement of populations, voluntary internal and cross-border migration and planned and consented relocation.

Human rights

Human rights are rights inherent to all human beings, regardless of race, sex, nationality, ethnicity, language, religion, or any other status. Human rights include the right to life and liberty, freedom from slavery and torture, freedom of opinion and expression, the right to work and education, and many more. International Human Rights Law lays down the obligations of Governments to act in certain ways or

to refrain from certain acts, in order to promote and protect human rights and fundamental freedoms of individuals or groups. The foundations of this body of law are the Charter of the United Nations and the Universal Declaration of Human Rights, adopted by the General Assembly in 1945 and 1948, respectively. Since then, the United Nations has gradually expanded human rights law to encompass specific standards for women, children, persons with disabilities, minorities and other vulnerable groups, who now possess rights that protect them from discrimination that had long been common in many societies.

Hydrometeorological disasters

These are the disasters which climate change makes more frequent and more intense: tropical cyclones (typhoons and hurricanes), thunderstorms, hailstorms, tornados, blizzards, heavy snowfall, avalanches, coastal storm surges, floods including flash floods, drought, heatwaves and cold spells.

Immigration

Immigration is the act of coming to live permanently in a foreign country.

Indigenous Consultation

Indigenous peoples have the right to prior consultation on the use of resources in their territories. Consultation is an ancestral practice used by indigenous peoples when indigenous territory will be used or a project will take place there. The countries that have ratified *Convention No. 169 of the International Labour Organization on Indigenous and Tribal Peoples* should create the necessary 28 mechanisms to guarantee this right.

Indigenous People

Although sometimes difficult to define, Indigenous peoples, also referred to as First peoples, First nations, Aboriginal peoples, Native peoples, Indigenous natives, or Autochthonous peoples are culturally distinct ethnic groups whose members are directly descended from the earliest known inhabitants of a particular geographic region and, to some extent, maintain the language and culture of those original peoples. Indigenous peoples' homelands have historically been colonized

by larger ethnic groups, who justified colonization with beliefs of racial and religious superiority, land use or economic opportunity.

Internal Displacement

Internal displacement refers to the displacement of people from their homes, when those people do not cross an international border, but rather remain in their own country. Internal displacement is one of the largest humanitarian crises on earth, and at the end of 2021 there were 59.1 million Internally-Displaced People (IDPs).

International treaties

Treaties (also called covenants, protocols, acquis, conventions, pacts or charters) are international agreements between states and/or international organizations. Treaties are primary sources of international law. One notable, successful International Environmental Treaty was the Montreal Protocol, signed in 1987. It was signed by every nation in the world and was enforced to stop the emissions of CFCs into the atmosphere that were creating the hole in the ozone layer. It is hoped that the Paris Agreement will follow this success eventually.

Just transition

The idea of a Just Transition is a vision-led, unifying and place-based set of principles, processes, and practices that build economic and political power to shift from an extractive economy to a regenerative economy.

Loss of territory due to rising sea level

16,000 years ago, the sea was 120 meters lower. You could easily walk from France to the UK. After a major ice melt, due to natural climate change, the sea levels rose to where they are today. It is with these sea levels that we built all of our cities. It is therefore not a good idea to change them. A 3°C rise in temperature would cause massive migration, as the following cities would be flooded, Shanghai (17.5m), Hong Kong (8.4m), Osaka (5.2m), Rio (1.8m), Miami (2.7m), Amsterdam (1.1m)....

Manufacture

Manufacturing is the making of goods by hand or by machine that upon completion the business sells to a customer. Items used in manufacture may be raw materials or component parts of a larger product. The manufacturing usually happens on a large-scale production line of machinery and skilled labor.

Migrant

A migrant is a person who has moved from their usual place of residence temporarily or permanently. Although the term 'migrant' is not defined under international law, it is often used to mean someone who moves for better living conditions or for work, but does not have access to international protection as a refugee. However, as we have seen, the reasons that people migrate are often complex and hard to identify, and many people who are displaced from their homes are often categorised as 'migrants' because international law is not comprehensive or updated enough to protect them. This could include those fleeing famine or economic catastrophe, or even those fleeing the effects of climate change, such as prolonged drought. As such, we should think carefully about the categories of 'refugee' and 'migrant', considering that the lines between the two are hard to define.

Migration

Migration is the movement of an organism from one place to another. In the case of animals, this term is used to refer to seasonal movement – such as birds who move South and North according to the seasons. For humans, migration can either be temporary (such as movement for seasonal work), or permanent.

Psychic numbing

When we hear about the suffering of millions of people it can fuse out our minds, simply because it is too big to imagine or feel. This is known as Psychic numbing.

Refugee

The definition of a 'refugee' is not straightforward. In International Law, refugees are defined and protected by the 1951 Refugee Convention as "someone who is unable or unwilling to return to their country of origin owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social group, or political opinion." According to this Convention, refugees have the right to seek asylum in any country because of this fear of persecution. However, this legal framework was developed in the aftermath of the Second World War, and sought to protect people from the kind of persecution and violence experienced by Jewish people, socialists, and other groups in Nazi Germany. It did not, for example, foresee that millions of people would be displaced from their homes due to climate change.

The Convention of the Organization of African Unity expanded this definition to those fleeing internal disturbances and conflict, and many people and organisations argue that the definition of refugee (and accompanying international protection) should be expanded to other people who are forced to leave their homes, through famine, natural disasters, climate change, deprivation and economic circumstances, or other factors. As such, while the legal definition of refugee is quite narrow, this definition was formulated in a specific time, with a specific type of person in mind, and does not cover many people who could be considered refugees – such as those forced from their homes by climate change.

It is worth noting that the evolution of the legal definition of 'refugee' is rooted in history: in the 17th, 18th, and 19th Centuries, and before, 'refugees' who sought asylum in foreign countries were few in number and were often wealthy, high-class elites, fleeing persecution in their own states. They were most frequently political opponents or dissidents, intellectuals, or members of religious minorities. As such, the early definitions of 'refugee' did not usually refer to the majority of lower-ranking, 'normal' people who are displaced by war, disaster, or other events, and most of these people did not have the resources to leave their countries after they were forced from their homes. This is part of the reason why the legal definition of 'refugee' is limited to those suffering particular persecution – because it was initially designed in a specific context, for elite people fleeing their countries. In this sense, the legal definition of refugee could be said to be obsolete – but it has evolved since then to protect more people, especially after World War II. However, it still does not cover people who were forced from their homes by famine, poverty, or environmental change, and we could argue that this is because the original, wealthy 'refugees' would not have been worried by these issues.

Relocation

The process of moving things or people to a different place. In the context of environmental migration, this is often a planned process, implemented by governments or other bodies, to move communities away from disaster-affected or disaster-prone areas to protect them. For example, coastal communities in the Pacific are being relocated to reduce the effects of sea-level rise.

Renewable energies

Renewable energy is energy derived from natural sources that are replenished at a higher rate than they are consumed. Sunlight and wind, for example, are such sources that are constantly being replenished, and can be exploited for energy through the use of wind turbines or solar panels.

Resources

A source of supply or support. When we speak of natural resources, we talk about the (often limited) stocks of the natural world, for example of minerals or fossil fuels.

Sacrifice Zone

A sacrifice zone or sacrifice area (also a national sacrifice zone or national sacrifice area) is a geographic area that has been permanently impaired by environmental damage or economic disinvestment.

Science

Science is the word used to describe all the practice and the knowledge that we have built up – through a process of observation, speculation, and reason. The conclusions reached by scientists have to go through a long process of checks to be accepted. This is known as “peer review”.

Slow development disasters

A slow-onset or slow development disaster is defined as one that does not emerge from a single, distinct event but one that emerges gradually over time, often based on a confluence of different events.

Solar energy

In one hour, the Sun provides enough energy to satisfy the global demand for energy for a year. The problem is catching it, and storing it. Solar Energy is an important part of our future green energy infrastructure plans, but it requires a lot of limited raw materials to manufacture a solar panel.

Tipping points

A tipping point is critical moment in a situation or system beyond which a major, often unstoppable change takes place. The further we take global warming beyond 2°C, the further we walk into a minefield of tipping points. The Amazon Rainforest will likely collapse at 3°C warming, which would lead to a dramatic increase in warming and devastating knock-on effects.

Traditional fishing

Traditional fishing is any kind of small scale, commercial or subsistence fishing practices using traditional techniques such as rod and tackle, arrows and harpoons, throw nets and drag nets, etc.

Value(s)

Values can be defined as the principles or rules that facilitate harmony and coexistence in society. They form the set of virtues of a person to interact and relate to their environment. Human values correspond to ethical, moral or social values, since they indicate the difference between what is correct and what is not.

Voluntary immobility

Voluntary immobility refers to those people who choose to stay – for one reason or another – in the face of pressures which might or do cause others to migrate. For example, we could point to communities in the Pacific which refuse to relocate in the face of rising sea levels.

Way of life/Lifestyle

The typical way in which a person or group of people live. This could include elements such as their livelihoods, their culture, or their private or home lives.

Wind energy

Wind turbines are a renewable and low carbon source of energy. They are an important piece of the jigsaw in building a carbon neutral infrastructure. However, we have to be careful how much energy we demand, as wind turbines require metals (which are a limited resource) to be manufactured.