Chapter 2

# Sustainability: the issues

This chapter addresses some of the central concepts, concerns and initiatives related to sustainable development:

- in Section 1, we look at the definition and evolution of the terms "sustainable" and "sustainability";
- in Section 2, we outline the United Nations' drive to put sustainability on the agenda of national governments, in particular through the Sustainable Development Goals (SDGs);
- section 3 explores Europe's record on sustainability, and successes and failures in contributing to the future sustainability of the planet.

## WHAT IS SUSTAINABILITY?

Perhaps we should begin with what it means to be "sustainable". The dictionary defines this as being "able to be maintained at a certain rate or level" (Oxford Dictionaries, https://en.oxforddictionaries.com. Clearly the current pace of human activity cannot be "maintained" at the same level: carbon emissions are leading to climate breakdown, industrial farming methods and the demand for minerals and raw materials are leading to depletion of the earth's resources, to degradation of the soil, to pollution of air, sea and water, to mass extinctions among the animal and insect worlds – among numerous other problems.

The earth cannot tolerate this, nor can humanity. In this sense, our current habits are not sustainable.

This consideration, which has become increasingly evident in recent years, has led to a secondary dictionary meaning for the word "sustainable": "conserving an ecological balance by avoiding depletion of natural resources" (Oxford Dictionaries, https://en.oxforddictionaries.com. Among "natural resources" are included not only those we can see, hear or touch – such as oil and gas, gold, diamonds and uranium – but also less tangible resources, such as the pH value of the sea, and therefore its ability to support the life of certain marine organisms; the amount of carbon dioxide in the atmosphere, which regulates the temperature of the planet; the fertility of the soil, and so on.

Sustainability is the state of being sustainable. It is the state where human beings and the natural world exist in harmony, without destroying each other (and themselves).

"Sustainable development" is the process of moving towards sustainability. Sustainable development aims to improve the quality of life of human beings, including future generations, by reconciling economic growth, social development and environmental protection.

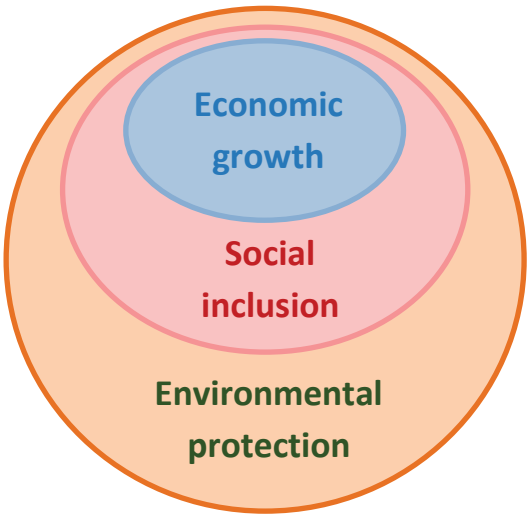
> "[Sustainable development is] development that meets the needs of the present without compromising the ability of future generations to meet their own needs." (United Nations 1992)

### More than being "green"…

Sustainability is not only about addressing environmental threats, it is also about ensuring that everyone is able to enjoy the full set of human rights, in a way which does not jeopardise the rights of human beings in the future. These rights should include social and economic, civil and political, cultural and environmental rights. In other words, sustainability demands a quality of life for all which not only meets physical needs, but also meets social and cultural needs, and which is distributed equitably.

For this reason, it is now accepted that sustainable development demands action across at least three different dimensions: environmental protection, social inclusion and economic development. The relation between these three dimensions can be illustrated by the Venn diagram in Figure 1: actions in the economic realm must satisfy the needs of social inclusion, and our social demands must satisfy environmental possibilities.

**Figure 1. Dimensions of sustainable development**




A sustainable world is one where economic growth and social inclusion are contained within the environmental limits that will allow the model to continue into the future:

- the dimension of environmental protection includes questions relating to stewardship of the planet's natural resources, e.g. water, air, minerals, carbon deposits, flora and fauna. This dimension also includes the impact on the environment of housing, agriculture, emissions and waste, etc.;
- the social dimension refers to issues such as equality, democracy, human rights, social justice, community resilience and adaptation to environmental challenges;
- the economic dimension refers to practices associated with production, the use and management of resources, and also to issues such as consumption, technology, labour and wealth distribution.

A fourth dimension is sometimes added to these three, that of cultural sustainability. The cultural dimension relates to cultural identity, diversity, creativity, the role of art, memory, heritage, spirituality and community planning.

> "Sustainable human development will occur when all humans can have fulfilling lives without degrading the planet." (Global Footprint Network 2003)

## SUSTAINABLE DEVELOPMENT GOALS

In 2015, to build on the success of the Millennium Development Goals, the member states of the United Nations adopted a set of 17 new goals, known as the Sustainable Development Goals (SDGs, see Figure 2). The programme incorporating these goals is known as the 2030 Agenda for Sustainable Development, as the goals are meant to be achieved by 2030. Unlike the Millennium Development Goals, the SDGs apply not only to developing nations, but to all nations around the world.

**Figure 2. Sustainable Development Goals**


*Source: United Nations*

The overall aims of Agenda 2030 are to put an end to poverty, protect the planet and ensure prosperity for all. In this way, the SDGs reflect current thinking about the three (or four) dimensions of sustainability. A brief glance at the range of goals and the issues to be addressed confirms the broad notion of sustainability which has been adopted, extending far beyond mere environmental protection.

Each of the goals contains a number of specific targets to be achieved by 2030. For example:

Goal 7: Affordable and Clean Energy includes the following targets, among others:

- to ensure universal access to affordable, reliable and modern energy services;
- to increase substantially the share of renewable energy in the global energy mix;
- to double the global rate of improvement in energy efficiency;

Goal 4: Quality Education includes the following targets, among others:

- to ensure that all girls and boys complete free, equitable and quality primary and secondary education;
- to ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university;
- to substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship;
- to 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.

Further information can be found at www.un.org/sustainabledevelopment.

## EUROPE AND SUSTAINABILITY

Europe has mixed results when it comes to sustainability. In many respects, it is among the worst regions of the world, both in terms of the damage it is causing to the planet and human existence today, and in terms of historical damage caused. However, a few positive improvements have been observed in recent years across the region as a whole. Of course, the results in different countries across the region display considerable diversity.

## Europe's ecological deficit

An "ecological footprint" is a measure of the area of biologically productive land and water an individual, population or activity requires to produce all the resources it consumes and to sequester its waste.

"Biocapacity" or "Biological capacity" represents a region's biologically productive land and sea area available to provide ecosystem services for human use. These services include providing food and timber, hosting human infrastructure, and absorbing waste such as carbon dioxide emissions from fossil fuel.

An "ecological deficit" or "reserve" is the difference between the ecological footprint and the biocapacity of a region or country. An ecological deficit occurs when the footprint of a population exceeds the biocapacity of the area available to that population. An ecological reserve occurs when the available biocapacity of an area exceeds the footprint of that area's population.

(Global Footprint Network, www.footprintnetwork.org/resources/glossary/, accessed 21 February 2018)

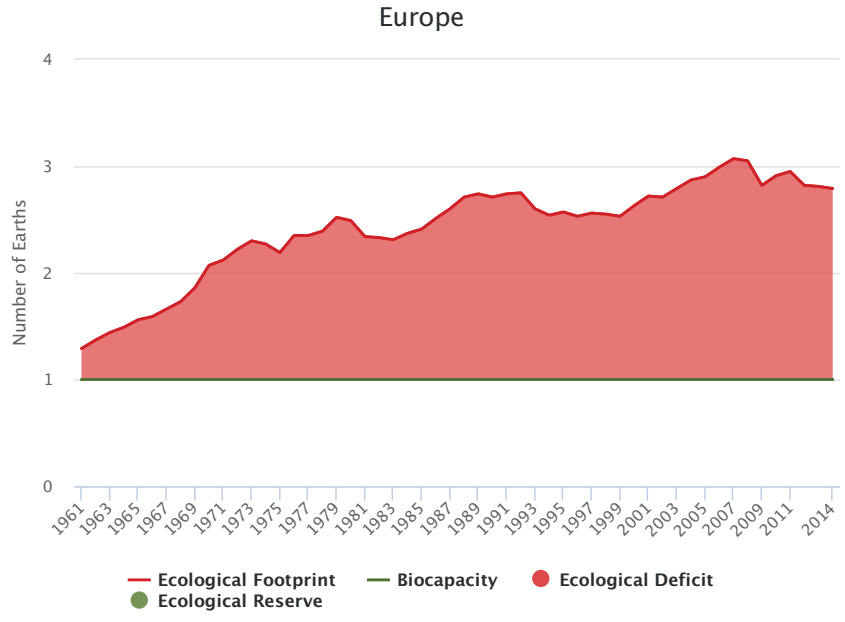
Europe's ecological footprint has seen rapid growth and now greatly exceeds the region's biocapacity. For the 28 states of the European Union (EU) and the 33 states of the European Economic Area, the ecological footprint is almost three times the size of the corresponding region's biocapacity. This means that if everyone on the planet had the same ecological footprint as the average resident of either of these areas, nearly three earths would be needed to support the demands on nature.

Figure 3 shows that Europe's lifestyle demands have become increasingly problematic and unsustainable, rising from an average footprint of just over one "earth" in the 1960s to an average of nearly three "earths" today.

As a comparison, Figure 4 shows the ecological footprints in "number of earths" for Europe, for the world as a whole, and for Africa. Africa, as can be seen, still has an average ecological footprint which does not exceed one "earth".

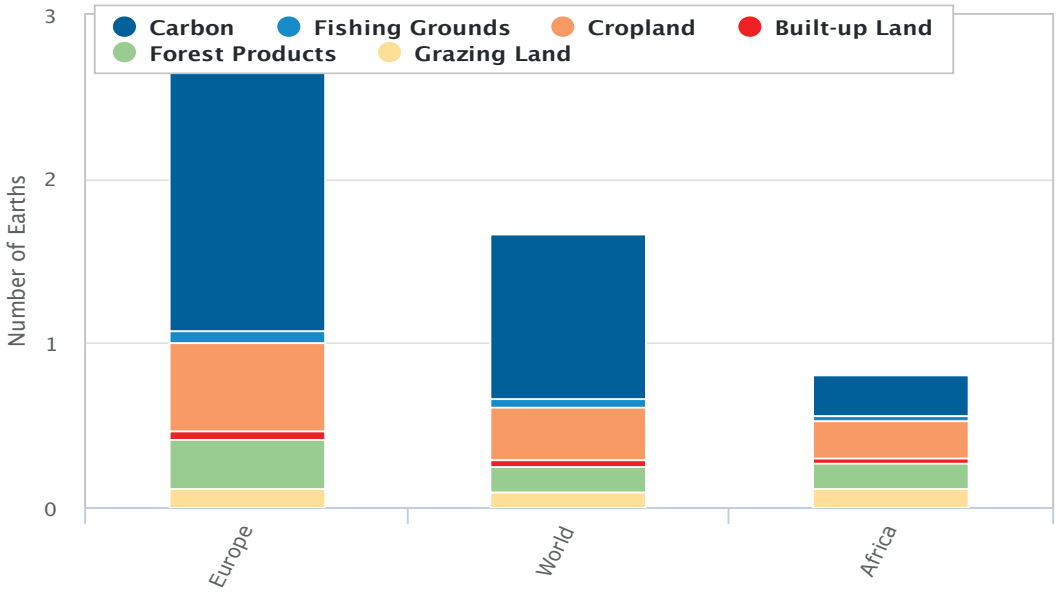
Figure 5 illustrates the variation across the globe in ecological deficits or reserves. The red shaded areas represent countries in deficit, and those shaded green represent countries whose ecological footprint is smaller than the biocapacity of the country. It can be seen that even within Europe, there is wide variation in the demands which different countries are making on the earth's resources. It should be noted that these demands are a function not only of the way the population lives, but also of the size of the population relative to the country area concerned. Russia, for example, shows up as a "biocapacity creditor" mainly because the area of land it covers is so immense and its population is relatively sparse.

### Figure 3. Historical increase in ecological deficit (Europe)



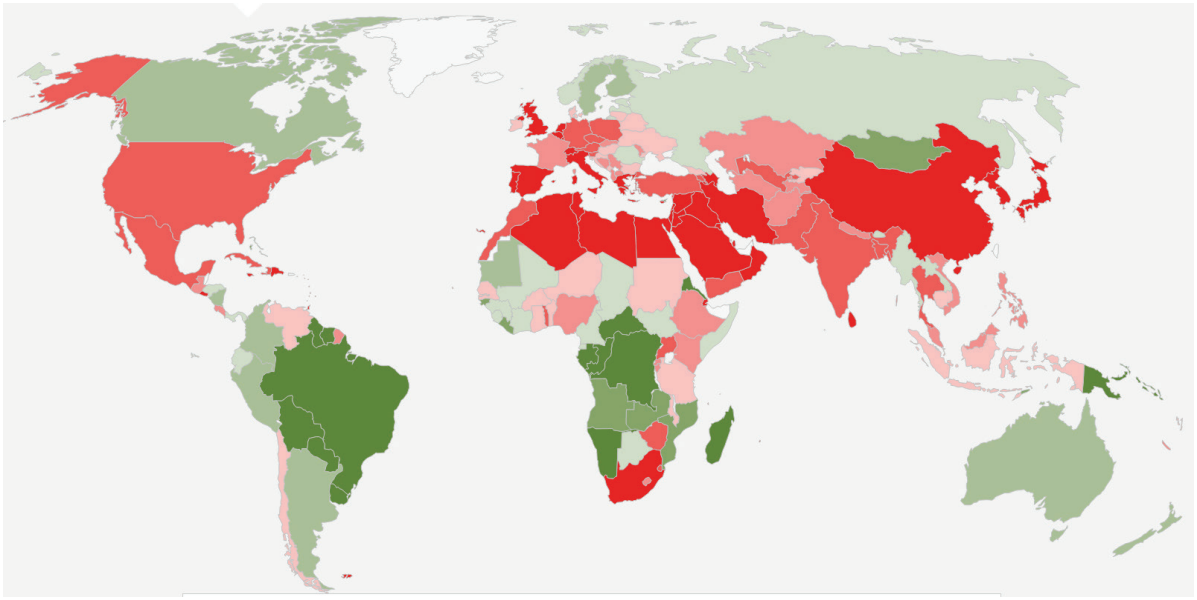

*Source: Global Footprint Network (2017)*

## Figure 4. Ecological footprint comparison (2013)



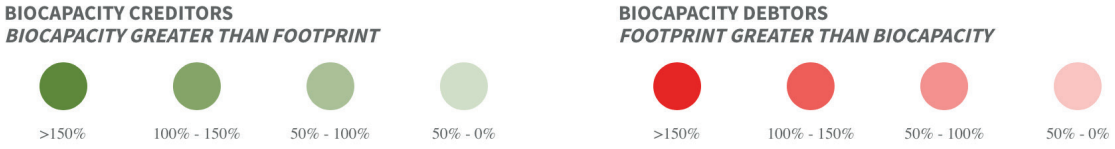

*Source: Global Footprint Network (2017), 2017 National Footprint Accounts*

## Figure 5. Countries in ecological deficit/reserve



**ECOLOGICAL DEFICIT/RESERVE**

An ecological deficit occurs when the ecological footprint of a population exceeds the biocapacity of the area available to that population. A national ecological deficit means that the nation is importing biocapacity through trade, liquidating national ecological assets or emitting carbon dioxide waste into the atmosphere. An ecological reserve exists when the biocapacity of a region exceeds its population's ecological footprint.




*Source: Global Footprint Network (2017)*

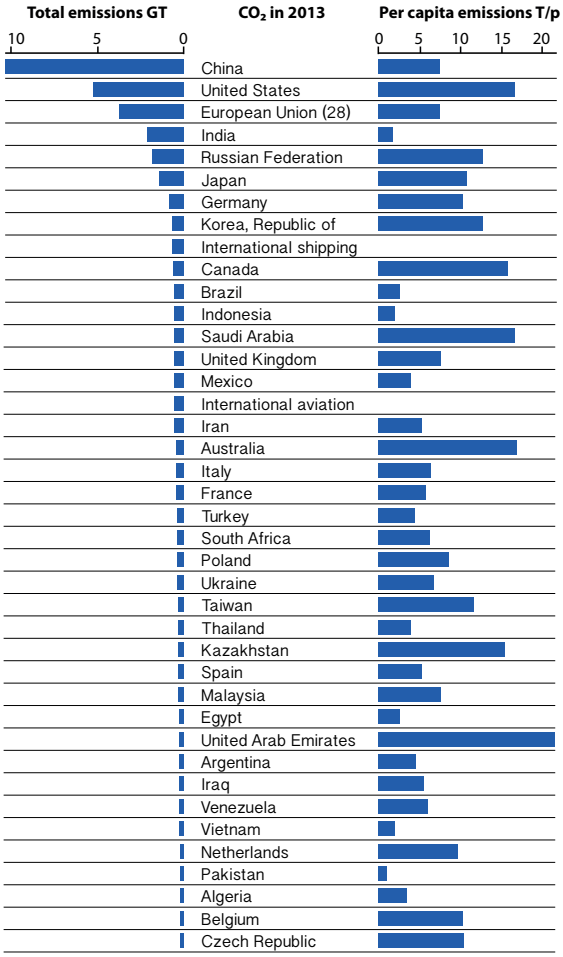
## Carbon emissions

Figure 4 also tells us that the largest single component of overshoot in Europe when it comes to sustainability is our consumption of carbon. In fact, the EU is the third biggest emitter of carbon dioxide in the world, after China and the United States, and these three regions together contribute more than half of total global emissions (Figure 6). The bottom 100 countries only account for 3.5%.

If per capita emissions are considered, Europe's ranking improves, but it still manages to emit twice as much as Asia, and almost eight times more than Africa.

However, today's emissions are only part of the story. Europe's industry and resource-heavy lifestyle has in fact done far more damage to the planet than its position in today's rankings might suggest. Europe was the birthplace of modern industry, and the historical emissions produced by countries in this region are responsible for a large proportion of the greenhouse gases currently accumulated in the atmosphere. These historical accumulations lie behind the unsustainable levels of $CO_2$ in the atmosphere, and are therefore partly, if not mainly responsible for today's crisis. Many developing nations see it as unfair that in international negotiations about carbon emissions they are required to make similar sacrifices to developed nations, although their contribution to the problem has been negligible. Furthermore, it was industrialisation fuelled by sources of carbon such as oil and coal which allowed the richer nations to achieve the levels of economic development that raised standards of living and levels of health and well-being for their populations. Developing nations, which are more likely to suffer from the effects of climate change, justifiably feel that their world has been spoiled, but not by them.

### Figure 6. Carbon dioxide emissions for the top 40 countries by emissions in 2013 (totals and per capita, GT – giga tonnes, T/p – tonnes/capita)




*Data from EU Edgar database*
*Source: Wikimedia, available at* https://bit.ly/2ATsLoq*, accessed 10 February 2018*

### The EU Emissions Trading System (EU ETS)

EU ETS was established in 2005 to allow industry to buy and sell "emission allowances", with the aim of reducing overall carbon emissions. In 2010, the European Commission claimed that the scheme had led to reductions of more than 8% (European Commission 2011). However, environmental groups have disputed this and have been heavily critical of a scheme which is solely market-based and susceptible to fraud and gaming (Corporate Europe Observatory 2015). It also appears likely that much of the reduction in emissions which has been achieved in recent years is a result of an increasing share of energy being provided by renewable sources in Europe. This, at least, is a very positive development but it is mostly a consequence of other factors, rather than the ETS.

## The role of business

Europe's approach, and in particular the EU's approach towards improving sustainability, has often been market oriented and has given priority to corporate interests. For example, human rights groups have criticised the EU for the lack of coherence between its trade practice and its pledge to eradicate global poverty. The Common Agricultural Policy has an adverse impact on food sovereignty, while access to affordable and life-saving medicines in developing countries is undermined by Europe's trade agreements.

For some, the planetary ecological crisis has created opportunities to make money. Fresh water scarcity, for example, has often been used as an opening for privatisation and investment, and banks have increasingly tried to buy up water rights in strategic areas around the world. Profits can be made by increasing the price of water and making it inaccessible for the most vulnerable people.

To add insult to injury, the privatisation of water and other natural resources is defended on the grounds that it offers the best way of protecting a scarce resource. Those profiting from the policy proudly display their "sustainability certificates", and turn up at international conferences for water conservation.

Other companies have been known to create sustainable arms of their industry to mask – or greenwash – some of the damage done by their primary business. For example, oil companies – some of the biggest contributors to climate change – are now entering the renewable energy market, and often publicise this to draw attention away from other more polluting activities. Chemical companies, with long records of toxic pollution, are moving into the water and air purification businesses while continuing to pollute with the rest of their industrial output. Companies can even profit from their own polluting activities, by bidding to clean it up and earning social credit in addition to making a financial profit. Young people need to learn to look beyond the headlines, and beyond corporate marketing, to see the real impact on the globe of commercial practices – and often, the real impact of their own consumption.

## Positive initiatives

There are of course numerous inspiring initiatives which aim to address the challenges to sustainability. These initiatives range from the individual or local to changes in legislation or political initiatives, at national, regional or even international level. Some examples of grass-roots initiatives are provided in Chapter 5, "Making a difference", including a number of activities in which young people could become involved. The examples below have been taken from regional or international level, but it should be noted that when change happens at the political level, this has nearly always been preceded by continuous campaigning and lobbying, often involving thousands or tens of thousands of individuals and organisations working together over a period of many years.

### Cutting e-waste

The European Commission reached an agreement with major phone manufacturers to produce the same type of charger for all mobile phones sold in the EU. One of the reasons for this initiative was to cut the amount of electronic waste, so that a new charger would not be needed every time a new phone was bought. It is estimated that discarded phone chargers produce 51 000 tonnes of e-waste per year in the EU. This voluntary agreement to reduce unnecessary production has been followed by a binding resolution obliging all manufacturers to provide a common battery charger.

### Cycling in Europe

The Copenhagenize Index records the "best" cities for urban cycling according to 14 parameters. In 2017, 18 of the 20 most cycle-friendly cities in the world were in Europe. An increasing number of people are choosing cycling as their preferred way to commute and a cycling culture has become mainstream in numerous

countries. Many environmentally and socially motivated cyclists are trying to transform our cities from being car-centric to becoming bicycle and pedestrian friendly. Governments and local governments are following or sometimes leading the trend by investing in cycle share schemes and creating cycle lanes.

## The Aarhus Convention

When it comes to the right to participate in decision making, the most important instrument in environmental matters is the Aarhus Convention. This treaty has been ratified by the great majority of European states and by the EU. It has been hugely influential in granting the public the right to receive environmental information, participate in environmental decision making and challenge public decisions when these fail to respect environmental law.

## The Basel Ban

The Basel Convention was adopted in 1989 and was designed to control the disposal of hazardous waste. However, many countries and organisations felt it did not go far enough, and campaigned for a total ban on sending hazardous waste to less developed countries. In 1995, such a ban was included in an amendment to the Basel Convention. It was known as the Basel Ban. This amendment has been accepted by 86 countries and by the EU, and will enter into force when agreed to by three quarters of the member states to the Basel Convention.