

# 24

# ENVIRONMENTAL POLICY

## Preview

Although environmental issues were a relative latecomer to the EU policy agenda (the earliest modest initiatives were taken in the late 1960s, but with little strategic thought), they have recently become one of the more important achievements of European integration. The focus of policymaking has shifted away from the member states as the EU has tried to take a more strategic approach to problems ranging from air pollution to water pollution, the production of waste, the protection of biodiversity and – without question its most important initiative – action on climate change.

The underlying logic has been twofold: different environmental standards stand as a barrier to the single market, and most environmental problems – particularly those relating to air pollution, water pollution and the disposal of waste – are better addressed by states working together rather than in isolation. EU policy has helped transform Europe from a region that was once a policy laggard to one that in many respects has set global standards for environmental management. Public opinion is clearly in support of a joint EU approach to resolving environmental problems, and the EU has become a global leader on a wide range of initiatives, including the management of chemicals, energy efficiency, the switch to renewable sources of energy, and efforts to reduce the emissions of the greenhouse gases involved in climate change. Even if it does not have a formal environmental policy to match the Common Agricultural Policy, its approach to environmental matters has become increasingly coordinated and productive.

## Key points

- The environment was a latecomer to the European policy agenda, drawing sustained political and public attention only from the late 1960s as 'quality of life' issues moved to the forefront of policy calculations.
- Even though the EU has made much progress on the environmental front, the record and level of achievement of individual EU member states has varied.
- EU policy is based on achieving sustainable development, which has become a part of EU policymaking more broadly.
- The EU has set itself ambitious targets on climate change, many of its efforts based on an emissions trading scheme that uses free-market mechanisms to cut emissions of greenhouse gases.
- EU policy on climate change has been integrated with energy policy, with goals to reduce greenhouse gas emissions while also improving energy efficiency and increasing the contribution of renewables to EU energy needs.
- Although energy policy has a longer history in the EU than environmental policy, it has only been since the mid-2000s that a more strategic approach has been taken to energy supply and security, and links with economic competitiveness.



## Comparing environmental policy

During the summer of 2019, new heat records were established in several parts of Europe, including Belgium, Britain, Germany, Luxembourg and the Netherlands. The immediate explanation was an ‘omega block’, a meteorological condition in which an area of high pressure (hot air) is trapped between two low pressure (cold air) systems, creating a shape on weather maps that resembles the Greek letter *omega*. The broader explanation for such events, though, is the continuing problem of the earth’s growing temperatures in the wake of human-induced climate change.

In June 2019, France recorded its highest ever temperature of 46.1°C (115.0°F), while Belgium recorded its highest ever temperature of 40.2°C (104.4°F) on 24 July, which was beaten the next day with a new high of 41.8°C (107.2°F). Several hundred deaths were ascribed over the summer to the heat, the chief architect of Paris’s damaged Notre Dame cathedral warned that the high temperatures might cause its vaulted ceilings to collapse, several fires were sparked in the dry conditions, rail travel was disrupted in the Netherlands, and several flights were cancelled from London airports out of concern for ‘extreme weather conditions’. The World Meteorological Organization subsequently declared that July 2019 was tied for the hottest month on record globally, and 2019 as a whole became the hottest year ever, breaking a record established only in 2016.

These events stood as another stark reminder of the threats posed by climate change, which has the dubious distinction of being one of the few truly existential problems faced by humankind (along with the threat of nuclear war). Although the science of the links between rising temperatures and rising concentrations of carbon dioxide (CO<sub>2</sub>) was first suggested in the 1890s, it was not until the 1950s that the first hard evidence of temperature increases was generated, and it was only in the late 1980s that the problem entered the policy agenda in any meaningful fashion. It was immediately clear that climate change could only be effectively addressed by states cooperating internationally, and the EU – one of the world’s major producers of greenhouse gases (GHG) – quickly became a global leader in efforts to go beyond expressions of concern and to cut emissions of those gases. (As we will see later in this chapter, EU emissions of CO<sub>2</sub> – the key greenhouse gas – fell by more than a fifth between 1990 and 2017.)

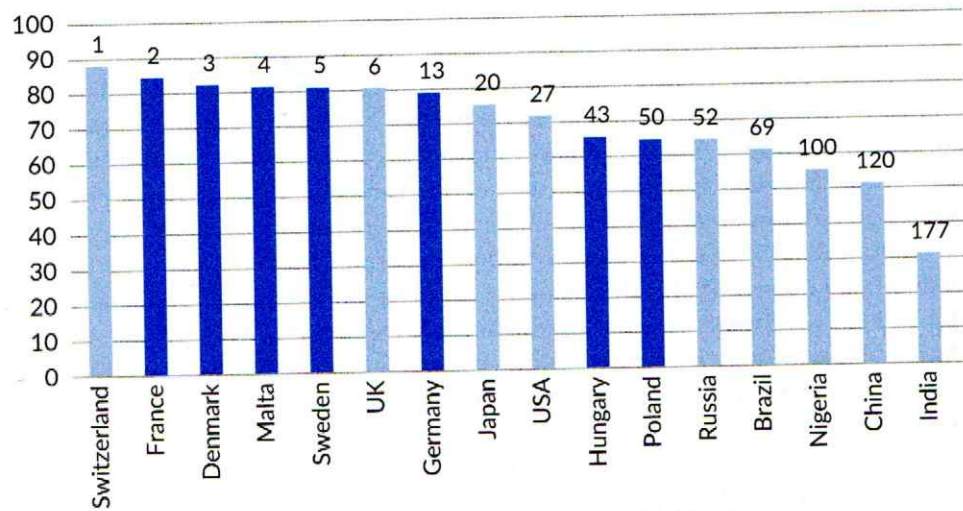
More broadly, the EU has long been a global leader on a wide range of **environmental policy** matters, from air pollution to water quality, the production and management of waste, and the protection of biodiversity. It might seem odd to say this when Europe still faces many environmental problems; for example, a report compiled by the European Environment Agency (2019b) pointed out that every urban European is exposed to unhealthy levels of air pollution, which – in 2016 – caused an estimated 498,000 premature deaths, 92 per cent of them in the EU member states. Yet air pollution is far worse in major Asian cities, and the Environmental Performance Index (maintained by Yale and Columbia universities in the United States, which ranks most countries in the world according to criteria such as environmental health, levels of pollution and habitat protection) suggests that the EU is doing relatively well on the environment. Some of the results of the 2018 index are shown in Figure 24.1: with countries given a score out of 100, nine of the top ten places on the index were held by EU member states, while every EU state ranked in the top 50 on the index, the lowest rank for an EU state – 50th place with a score of just over 64 – being held by Poland.

Even if many problems remain, the cooperative approach of the EU makes sense, given that different environmental standards can create telling barriers to the single

**Environmental policy**  
Policy dealing with the management of renewable natural resources, such as air, water, land and forests, and limiting the harmful impact of human activity.



Figure 24.1 Comparing environmental performance



Note: Numbers indicate rank on the index and dark blue bars indicate EU states.

Source: Environmental Performance Index (2018). Scores out of 100.

market, and given that few environmental problems respect national borders; air pollution created in the urban centres of one EU state, for example, can be carried by winds and weather to other EU states, while the only way to effectively manage rivers such as the Danube (which flows through ten countries, including three outside the EU) and the Rhine (which flows through five EU countries) is to build coordinated international policies. Environmental policy is a good example of the kind of policy diffusion and policy convergence discussed in Chapter 19, as well as the Europeanization of policy, and of the dynamics of multilevel governance.

The EU has made more progress on addressing those problems than many other parts of the world, and its citizens have mainly adopted greener lifestyles – with or without the prodding of law and policy – than is true almost anywhere else (even the United States, a leader on some environmental issues but a laggard on others). This has been a result of a combination of national policy, EU policy, and the post-materialist thesis proposed by Ronald Inglehart (1977): that the values of Western publics have seen a shift from an emphasis on material values and physical security towards a greater concern for the quality of life. He noted the emergence of a new middle class that had been socialized under conditions of relative peace and security, technological change and expanded higher education, whose changed attitudes and perceptions had brought new 'quality of life' issues into the public arena, among them a new concern for the environment.

To be sure, the environmental record of EU member states has varied, with Germany and the Scandinavian states long leading the way, France and Spain catching up more recently, and most eastern European member states still lagging behind. The Soviet and eastern European view during the Cold War was that economic development had to be pursued at almost any cost, including paying little attention to the waste and the pollution generated by industry. Even in EU member states with stronger overall records on the environment, perceptions of environmental risk vary, Balžekienė and Telešienė (2017) noting that they are lower among Europeans with a more secure and stable socio-economic status, who are also more able and willing to pay the costs needed to ensure a cleaner environment.





**Illustration 24.1:** Environmental policy has moved up the agenda of European integration as more governments realize the costs of pollution and the benefits of countries working together to achieve common goals and standards.

Source: EC - Audiovisual Service

In short, it is doubtful that there is a uniform green European identity, no matter how much the EU has achieved on the environmental policy front.

Despite such doubts, opinion polls have found that support for action at the EU level is overwhelmingly preferred to action at the member state level; one recent poll (European Commission, 2017d) found that two-thirds of respondents preferred joint action at the EU level, even though about the same number felt that neither the EU nor their national governments were not doing enough to protect the environment. Environmental concerns have also translated into the rise of numerous and often politically influential national public interest groups, as well as support for green politics. Green parties have had a significant presence in the European Parliament as well as in the national legislatures of several EU member states, and have been part of coalition governments in Belgium, Finland, France, Germany, Italy and several other countries. Although he was only in office for ten months, Indulis Emsis – prime minister of Latvia in 2004 – was the first green politician in the world to head a national government.

### The shaping of environmental policy

In contrast to agricultural policy, which was high on the EEC agenda from the beginning, environmental policy has only crept onto that agenda more recently, and there is no common environmental policy along the same lines as the Common Agricultural Policy. The environment was not something to which national governments paid much attention in the 1950s, although references in the Treaty of Rome to 'a harmonious development of economic activities, a continuous and balanced expansion, [and] ... an accelerated raising of the standard of living' could be interpreted in retrospect as setting the stage for what followed. A few laws were agreed in the early years of the Community dealing with radiation in the workplace and the management of dangerous chemicals, but they were prompted less by concerns for the environment than by the drive to build a single market. (For a survey of the evolution of EU policy, see Knill and Liefferink, 2013.)





## CONCEPT

## Sustainable development

Economic development that recognizes natural limits and does not result in permanent and harmful environmental change or natural resource depletion. The argument underlying sustainable development is that the uncontrolled free market does not work, that resources are not unlimited, and that while they can be used and exploited, this should be done only in such a way as to ensure indefinite supply. While it has been at the heart of environmental debates since the late 1980s, it has been criticized for being so vague as to have different meanings for different people.

It was only in the late 1960s and early 1970s that Community governments began to pay much attention to environmental issues, encouraged by heightened public concern, but also by the realization that different environmental standards in Community member states were a barrier to the efficient functioning of the single market. Efforts to tighten environmental quality were, in other words, a classic example of spillover at work – see Understanding Integration 14.

The European Commission adopted its first Environment Action Programme in 1973, the initial focus being on preventive action and the need to guard against different national policies becoming barriers to the single market. The focus later switched to factoring environmental considerations into other policy areas – notably agriculture, industry, energy and transport – so that the environment was no longer secondary to the single market (Hildebrand, 1993). These changes took place outside the treaties, though, and it was only with enlargement to Greece, Portugal and Spain (none of which had strong environmental standards) that approaches to policy started to be formalized.

The Single European Act (SEA) finally gave a legal basis to Community environmental policy and made environmental protection a component of all EC policies. Most importantly, the SEA began a process by which **sustainable development** was moved to the heart of European policy. The SEA noted the importance of ‘prudent and rational utilization of natural resources’, Maastricht called for ‘sustainable and non-inflationary growth respecting the environment’, and Amsterdam confirmed the need for a ‘balanced and sustainable development of economic activities’. Sustainable development is now one of the core policy objectives of the EU, applying to everything it does.

In 1990, the European Environment Agency (EEA) was founded with its headquarters in Copenhagen, its main job being to gather and process environmental



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## Spillover

As we saw in Chapter 1, spillover describes the pressures through which cooperation among states in one area of policy will lead to pressures to cooperate in other areas. In American military parlance, it might be described as ‘mission creep’, where a project goes beyond its original goals as new needs and opportunities arise. As Wildavsky (1979) once put it, policy can become its own cause, in the sense that the actions of organizations can often lead to ever larger numbers of unanticipated consequences. It is the best-known element of neofunctionalist theory, so much so that Saurugger (2013, p. 39) considers it ‘the key driving force behind all integration processes’.

Haas (1968) originally saw spillover as a functional economic phenomenon, applying to the manner in which integration in one economic sector would create pressures for further integration within that sector and related areas. Technical spillover implied that disparities in standards would cause states to rise (or sink) to the level of the state with the tightest (or loosest) regulations, and political spillover assumed that once different functional sectors were integrated, interest groups (such as corporate lobbies and labour unions) would switch from targeting national governments to trying to target the EU institutions, which will encourage them in an attempt to win new powers for themselves.

Spillover is a process that continues today, perhaps most notably as a result of the fallout from the euro zone crisis, which has seen the authority of the European Central Bank expand, and work undertaken on the development of a European banking union, both of which have needed political support. Much less often discussed has been the related concept of ‘spillback’, an idea proposed by Lindberg and Scheingold (1970, p. 135), referring to ‘a situation in which there is a withdrawal from a set of specific obligations. Rules are no longer regularly enforced or obeyed. The scope of Community action and its institutional capacities decrease.’ If spillover is an expansion of policy interest and authority, then spillback implies a contraction sparked by political resistance to integration. This has been a theme in the story of the EEC/EU dating back to the mid-1960s, and is very much a factor today in the thinking of Euroscepticism.



information from the EU member states, along with Iceland, Norway, Switzerland and Turkey. It partners with national environmental agencies through the European Information and Observation Network to collect information which is then used to help improve the quality and effectiveness of EU and national environmental policies and to measure the results of those policies. The EEA has published numerous reports on the state of the EU environment, as well as assessments of the effects of EU environmental law. Meanwhile, institutional changes in the European Commission have reflected evolving interest in the environment: in 1981, a separate directorate-general was created for the environment, which became a portfolio within the College of Commissioners in 1990, and a separate climate action portfolio was created in 2010.

From an initial and modest interest in dangerous chemicals and workplace radiation, the policy interests of the EU have expanded to cover a wide range of topics – see Table 24.1. In two areas in particular, the EU has been a leader and a shaper of policy not just in Europe but globally. On chemicals policy, the EU has changed the way in which chemicals are tested and recorded, leading to pressures for changes in the United States and more generally in the international regime (see below). Meanwhile, the greatest volume of political attention has been drawn by climate change, where the EU is one of the world's four major policy players, along with the US, China and India, and has been at the heart of efforts to achieve international agreement (see Wurzel et al., 2018).

Table 24.1 *Main areas of EU environmental policy*

TOPIC	DEVELOPMENTS
Water quality	Early focus on public health and setting of water quality standards for drinking and bathing water. Aquatic environment added with controls on discharge of dangerous substances into inland and coastal waters. Recent strategic approach to water management, but freshwater remains affected by sewage, pesticides and industrial waste, and overfishing and pollution threaten many coastal zones and marine waters
Waste control	Focus on waste production from agriculture, mining, industry and domestic households. EU policy encourages recycling and reuse, improved controls on waste disposal, and controls on transport of wastes across national borders. Mixed progress, however, and volume of waste production continues to grow
Air quality	Policy based on setting uniform air quality standards and controlling emissions from vehicles or industrial plants. EU laws on sulphur dioxide, lead, fine particles, nitrogen dioxide, benzene, carbon monoxide and heavy metals. Concerns about climate change, growing volume of traffic on roads, and air quality in eastern Europe
Chemicals	Controlling dangerous chemicals and other substances has been at the heart of the single biggest body of EU environmental law, focusing on handling of new chemicals, accidents at chemical plants, pesticides and trade in dangerous chemicals
Biodiversity	Policy on protection of wildlife and natural habitats developed mainly in response to terms of international treaties, including trade in endangered species and protection of migratory species. Concerns about pressure exerted by intensive agriculture on habitats
Genetically modified organisms	Widespread European consumer concerns about genetic modification of plant food; has become an issue in trade with the United States, where genetic modification is more widely used with less public concern (see Chapter 23)
Noise pollution	Large body of law developed with the aim of making the EU quieter by limiting noise from road vehicles, aircraft, compressors, tower cranes, welding generators, power generators, concrete breakers, etc.





## FOCUS 9

### Europe's leadership on chemicals

The control and handling of chemicals has long been at the top of the EU environmental agenda, with a large body of laws designed to control the release of new chemicals onto the market, prevent accidents at chemical plants, control the use of pesticides, and regulate trade in dangerous chemicals. The earliest EU chemicals legislation was motivated by the desire to remove obstacles posed to the common market by different sets of national regulations. Later, the desire to protect consumers led to measures to ban or limit the commercialization of dangerous substances and preparations, and there was a focus on efforts to minimize the impact of chemicals on the environment.

All these initiatives were capped with the REACH (Registration, Evaluation, Authorisation and Restriction of Chemical) Regulation, which entered into force in 2007. Prompted by concerns that thousands of new chemical compounds (many of them synthetic) had been placed on the market with little information about their potential threats to human health and the environment, REACH requires that manufacturers and importers gather information on the properties of the chemicals

that are produced or imported and submit that information to the European Chemicals Agency. This manages a database containing information that is made available to consumers and industry, the goal being to make clear any known risks associated with these chemicals. The regulation also encourages manufacturers to develop alternatives to the most dangerous chemicals.

The US government initially lobbied hard against REACH, because US laws on chemicals have traditionally been lax, making bans or restrictions difficult, and manufacturers have been loath to release information for fear of losing competitive advantage. The US ultimately had to concede not only to its passage, however, but to the new reality that US chemical manufacturers would have to follow the EU lead or else potentially lose access to the lucrative European market for many of their products (Layton, 2008). Where the US had long been the leader on environmental regulation, with Europeans having to adjust, the record on chemicals suggests that the roles may be in the process of being reversed.



## CONCEPT

### Climate change

The process by which the global climate has changed as a result of the enhanced greenhouse effect: an intensification, caused by the use of fossil fuels, of the natural phenomenon by which life on earth is made possible through the absorption of solar energy in the earth's atmosphere. With increased concentrations of greenhouse gases such as carbon dioxide and methane, more solar energy is trapped, causing temperatures to rise and generating a wide range of harmful effects, including changed weather patterns, changed crop-growing patterns, more extreme weather events, rising sea levels, and the melting of glaciers and the polar icecaps.

### Climate change

Without question the dominating environmental concern is **climate change**, which has moved to the top not just of the environmental agenda, but to the higher reaches of the public policy agenda more generally: in a 2019 poll, 60 per cent of Europeans described it as one of the most serious problems facing the world (European Commission, 2019d). Although – as noted earlier – the problem was well known to scientists as long ago as the early 1980s, it has only been since the late 1990s – thanks to increasingly dire warnings of its possible effects – that it has become a headline issue. So firm is its new place on the public policy agenda that it even survived the economic downturns of 2007–10; history has often shown that environmental issues rise and fall on the public agenda in inverse relationship to the state of the economy, but this has not applied to climate change, which has come to occupy a dominating long-term position in EU policy calculations.

Although there have been historic examples of the climate changing as a result of natural causes, the evidence today indicates that global warming has been accelerated by emissions of greenhouse gases such as carbon dioxide, produced in large part by the burning of fossil fuels. While this problem is often described as the ultimate global environmental issue, national governments have been reluctant to take unilateral action for fear of losing comparative economic advantage. There is also some residual scepticism about the existence of the problem, although it is strongly tied to the defence of economic interests; while the vast majority of scientists around the world argue that our understanding of the causes and effects of climate change is complete, enough have expressed doubt to offer a way out for those opposed to action. Most Europeans, though, are less convinced than others



about the scientific uncertainty; a 2019 poll in 23 countries found the highest degree of climate change denial in Poland (8 per cent) and the lowest in France (6 per cent) and the UK (4 per cent), all far behind oil-rich Saudi Arabia (17 per cent) and the United States (13 per cent) (YouGov, 2019).

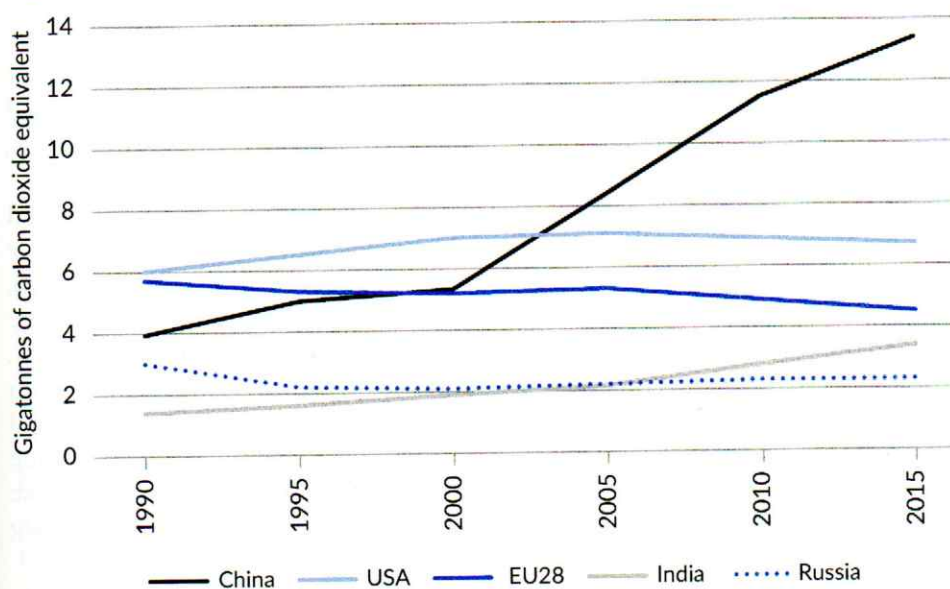
The EU has long been both a major producer of greenhouse gases (see Figure 24.2) and the major champion of climate change policy (see Delreux and Happaerts, 2016, Chapter 9). It supported and signed the core international agreement – the 1992 UN Framework Convention on Climate Change – as well as a 1997 protocol to the convention signed in Kyoto, Japan, and the climate change accord agreed in Paris in 2015. It began drafting a joint climate change policy in the 1990s, and the Commission in 2000 launched the European Climate Change Programme, listing measures that could be taken to reduce emissions, including greater use of renewable energy. In 2002, the EU15 ratified Kyoto, committing themselves to cutting emissions of carbon dioxide (CO<sub>2</sub>) by 8 per cent on 1990 levels by 2008–12. This was to be done with an **Emissions Trading Scheme (ETS)**, launched in 2005, under which member states set limits on CO<sub>2</sub> emissions from industrial plants (more than 10,000 are involved), which are given emission allowances. Those that use less than their allowance can sell the balance to companies that are having trouble meeting the limits. The limits (or caps) are reduced by just under 2 per cent each year, and since 2013 the allowances have been allocated through auction. The EU did all this without comparable commitments from either the United States or China.

In 2007, the EU launched a **20-20-20 Strategy** aimed at cutting CO<sub>2</sub> emissions and promoting the use of renewable sources of energy. At that point, its emissions were down only 7 per cent on 1990 levels, so it appeared to have a long way to go. The results since then, however, have been impressive (see Figure 24.3). Overall, EU emissions were down nearly 22 per cent by 2017, placing it ahead of its 20-20-20 goal, and far ahead of the United States, which

**Emissions Trading Scheme (ETS)** A free-market mechanism for reducing greenhouse gases, using emission caps and tradable emission allowances.

**20-20-20 Strategy** A programme introduced in 2007 that set the target of cutting the EU's CO<sub>2</sub> emissions by 20 per cent (on 1990 levels), improving energy efficiency by 20 per cent, and generating 20 per cent of its energy from renewable sources by 2020.

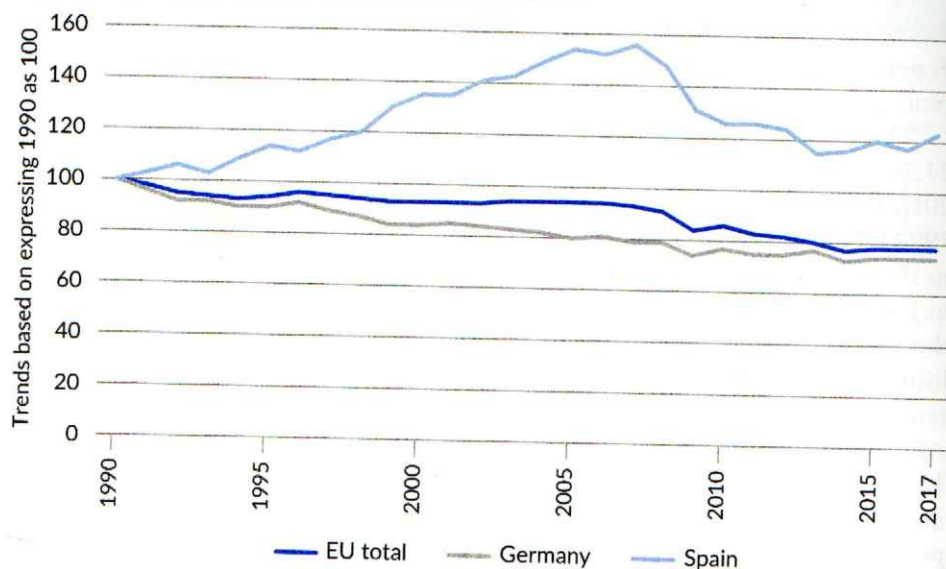
Figure 24.2 Greenhouse gas emissions: The five biggest producers



Source: Based on data in Netherlands Environmental Assessment Agency (2018).



Figure 24.3 Trends in carbon dioxide emissions in the EU



Source: Based on data in European Environment Agency (2017).

saw a 17 per cent increase in emissions over the same period, while China was up 170 per cent and India was up 142 per cent. Meanwhile, as we saw earlier, the EU was also well on track to achieve its goal of a 20 per cent share of energy from renewables.

Kerr (2007) early suggested that much of what the EU had achieved to that point was as a fortuitous result of changes in economic conditions rather than deliberate pollution control policies, and the biggest drop in EU emissions did indeed come during the global financial crisis, thanks in large part to a decline in industrial activity. However, the decreases have been sustained for the EU as a whole even as industry has recovered, notably in Germany, the UK and France, the EU's biggest producers: accounting for 43 per cent of CO<sub>2</sub> emissions in 2017, they had achieved a combined 27 per cent reduction in emissions. The figure offers Spain as an example of a member state that has not done so well; although it accounted for only 8 per cent of EU emissions in 2017, its emissions have increased since 1990 despite the problems it experienced during the global financial crisis, thanks mainly to an increase in emissions from transport.

In December 2009, the parties to the Convention on Climate Change and the Kyoto Protocol met in Copenhagen to try and give climate change policy more teeth, but the conference ended in failure. Although an accord was agreed, acknowledging that climate change is one of the greatest challenges facing the world and that action should be taken to keep temperature increases below 2°C, it was not legally binding, and included no commitments for specific cuts in CO<sub>2</sub> emissions. The EU had entered the negotiations on something of a moral high ground, saying that it would go ahead with its Emissions Trading Scheme whatever was agreed at Copenhagen, but was later criticized for its failure to take a leadership position by increasing its CO<sub>2</sub> reduction commitments and providing the kind of example that many observers felt that the conference needed.

In December 2015, the 21st Conference of Parties to the climate change convention met in Paris, and agreed to make efforts to hold the global average





**Illustration 24.2:** A demonstration in Brussels in September 2019, held as part of the global climate strike that was organized to emphasize growing public concern about the worsening problem of climate change.

Source: EC - Audiovisual Service

temperature to 'well below' 2°C above pre-industrial levels, and to achieve a global peaking of GHG emissions 'as soon as possible' (fudge phrases that were criticized for failing to hold signatories to specific targets). Unlike previous agreements, which were top-down in the sense that they gave countries targets and timetables, Paris was bottom-up: it set a temperature ceiling but allowed signatories to develop their own plans, the emphasis being on the need to move away from fossil fuels and towards renewables. The contrasts between the United States and the EU have been stark: while the Obama administration supported the Paris agreement, the Trump administration moved quickly in 2017 to withdraw, leaving the United States as the only country in the world not to support the accord.

The EU has a goal of establishing itself as an energy-efficient, low carbon economy, to which end it has agreed to expand its 20-20-20 targets with the goal of cutting CO<sub>2</sub> emissions by a total of 40 per cent over 1990 levels by 2030, and by 80 per cent by 2050. This will mean further development of the ETS, monitoring the emission reduction targets of member states under an Effort Sharing Regulation that gives each of them binding targets for 2030, encouraging a continued switch to renewable sources of energy, improving energy efficiency, setting targets for emissions from new road vehicles, and supporting carbon capture and storage technologies to trap and store CO<sub>2</sub> emitted by power stations and other large industrial installations. How far the EU will continue to provide leadership in the face of resistance to change in the United States, China and India remains to be seen,

### Energy policy

Although **energy policy** has been part of the EU agenda since at least the mid-1960s (the post of commissioner for energy was created in 1967, 23 years before the creation of the post of commissioner for the environment), it has only been in recent years that it has moved to the higher reaches of that agenda. It had

**Energy policy** Policy aimed at managing the extraction, processing, transportation and consumption of energy, including fossil fuels and renewable sources.

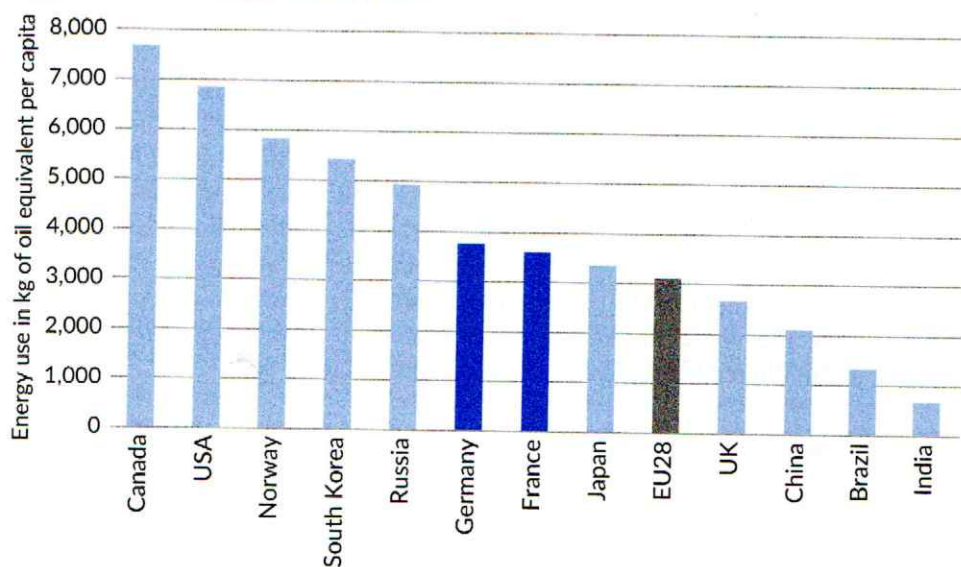


long adopted individual laws on energy efficiency, for example, but it was only in 2005 that it adopted a formal energy policy, given more substance when the Treaty of Lisbon legally included goals on energy supply. The change has come as a result of greater sensitivity about the importance of the security of energy supplies, and – more recently – of the links between energy use, climate change and economic competitiveness. Roeben (2018) argues that changes in regional and national policy have pushed the EU to the brink of establishing an energy union that can provide secure, sustainable and affordable energy throughout the cycle of production, transport and consumption.

Energy policy is partly a matter of addressing supply, but it is also partly a matter of addressing the environmental implications of energy use. Cheap and clean energy needs to be available in sufficient quantities to keep consumers and industry content, but energy generation and consumption have implications both for air and water quality, and the dependence of industrialized countries on fossil fuels (oil, coal and natural gas) is the cause of most of their worst environmental problems: notably the pollution of water through oil spills and runoff, and the production of the bulk of the chemicals involved in air pollution, particularly the greenhouse gases involved in climate change.

Initially, the focus of Commission policymaking and deliberations in the Council of Ministers was on issues such as energy supply and competition in the energy market. This was understandable given that the EU has long depended on imports for most of its energy needs (its reliance on imports of natural gas from Russia has raised particular security concerns). As the single market programme began to pick up speed, there was new interest in integrating EU energy markets, and encouraging competition in the interests of lowering the costs of energy. The compatibility of energy and environmental policy was, at least until the late 1990s, a relatively minor interest. Where it was considered, it focused on two goals: increased energy efficiency, and promoting the use of renewable sources of energy.

Figure 24.4 Comparative energy use



Source: World Bank (2019). Figures are for 2014–15. (Dark blue bars indicate EU states)



On the first initiative, the Community in 1991 launched the SAVE programme (Specific Actions for Vigorous Energy Efficiency), designed to help member states develop national policies for greater energy efficiency. This was backed up by energy consumption standards for household appliances, including the introduction in 1994 (expanded in 2004) of an energy label system that rated appliances on a scale of A (most efficient) to G (least efficient). As part of its 20–20–20 Strategy on climate change, the EU in 2007 set a target of a 20 per cent improvement in energy efficiency by 2020. Thanks to a combination of EU and national policies, per capita EU energy consumption rates are today among the lowest in the industrialized world – see Figure 24.4. After almost doubling between 1960 and 1980, they levelled out to a rate that was less than half that in the United States (one of the world’s most conspicuous consumers of energy), before falling by about 15 per cent in the wake of the global financial crisis (World Bank, 2019).

On the second initiative, the EU has become a global leader in the promotion of **renewable energy**. To be sure, renewables account for much larger percentages of total energy consumption in many sub-Saharan African and Asian countries, but this is because they rely far more on firewood and charcoal than on commercial supplies of energy. Globally, renewables now account for about 18 per cent of energy consumption, but this is partly because the figure among low-income countries such as those in sub-Saharan Africa is nearly 80 per cent. In high-income countries, renewables account for only 11 per cent of energy consumption, the EU figure of nearly 17 per cent in 2017 placing it ahead of most industrialized parts of the world, and significantly ahead of the 9 per cent achieved by the United States (all figures from World Bank, 2019).

The EU’s efforts date back to the early 1990s and its ALTENER programme (Promotion of renewable energy sources in the Community), which had the goal of helping increase the renewable share of energy use in the EU to 8 per cent by 2005. Targets were raised as part of the EU’s climate change strategy to a 20 per cent share by 2020, to be achieved using national action plans for all the member states, and on legally binding targets established by a 2009 EU directive on the promotion of the use of energy from renewables. Wood and wastes today account for the largest share of renewable energy use, followed by wind power, hydropower and solar energy. The levels to which renewables contribute to energy supply vary dramatically from one EU member states to another, though: while they account for just over 40 per cent of energy consumption in Sweden and Latvia, and about 30 per cent in Austria and Denmark, they account for only 5–10 per cent in Belgium, Cyprus, Ireland, the Netherlands, Poland and the UK. (All EU states have been surpassed by non-EU member Norway, which meets 45 per cent of its energy needs from renewable sources, mainly hydropower.) (All data from Eurostat, 2017c).

The initial focus on energy efficiency and renewables has evolved into a more strategic approach to energy, based on a combination of security of supplies, improved research, a decarbonized economy and an integrated EU energy market. Security remains a key challenge, given that the EU imports just over half its energy needs: about 30 per cent of its crude oil is imported from Russia, which is also the source of about 40 per cent of the EU’s natural gas supplies. As we saw in Chapter 20, Russia has the capacity to exert power over the EU based on its energy resources, although the sheer size of the EU market – and Russia’s need to have access to that market – more than compensates in geostrategic terms.

#### **Renewable energy**

Energy generated by sources that are potentially or actually infinite in supply, including solar, wind, and hydropower, geothermal power, and biofuels such as wood and charcoal.