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# **Environmental Law for Sustainable Construction**





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# **Environmental Law for Sustainable Construction**

**A guide for construction,  
engineering and architecture  
professionals**

**Francine Baker and Jennifer Charlson**

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## About the authors

**Dr Francine Baker** PhD, MA (1st cl. Hons), LLB, FHEA, FCICES, MCI Arb

Dr Baker was admitted as a barrister and solicitor of the Supreme Court of Victoria, Australia, in 1991, and then to the High Court of Australia. She has worked for government authorities and private firms in Australia, and as a solicitor of the Supreme Court of England and Wales since 2004. Her areas of professional legal and teaching experience include contentious and non-contentious property, planning, environmental and construction law.

Since 2008, Dr Baker has also taught the above areas of law for construction and engineering courses at both undergraduate degree and postgraduate levels at various universities, including as a senior lecturer at London South Bank, where she was also director of their undergraduate quantity surveying and commercial management course, for the University of Reading and Oxford Brookes University; and currently for the University of East London. She has also been an external examiner of other universities' built environment courses, monitored overseas university franchises, and taught and directed an international CI Arb and CICES accredited postgraduate course in construction law and dispute resolution. She has an active research portfolio and was a member of an international scientific advisory committee on waste management and environmental impact 2020 to 2022. Dr Baker's experience has also included membership of local government research ethics and university committees.

She is a member of Institution of Civil Engineers editorial panel for the *Management, Procurement and Law* journal, a member of the Environmental Law Foundation and of the United Kingdom Environmental Lawyers Association, and a patron of the Oxford Botanic Gardens.

**Dr Jennifer Charlson** PhD, MA (Oxon), MBA, CEng, FIET

Dr Charlson qualified as a solicitor of the Supreme Court of England and Wales in 1998. She has advised on contentious and non-contentious construction law in both a solicitor's practice and in-house for a leading UK support services and construction company. Her MBA is in legal practice.

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As a senior university lecturer in a school of architecture and the built environment for over 10 years, she lectured on courses including an MSc course in construction law and dispute resolution. Her research specialism is construction law, encompassing the disciplines of the UK legal framework, environmental and planning law, procurement and dispute resolution. Her PhD is in construction law.

Dr Charlson previously worked for the BBC as a projects engineer. She is a graduate of the University of Oxford in engineering science, qualified as a chartered engineer and is a Fellow of the Institution of Engineering and Technology. She is an editorial panel member of the Institution of Civil Engineers' *Management, Procurement and Law* journal and an external examiner of an LLM construction law and practice course.

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# Glossary

AQS	air quality strategy
BAT	best available techniques
BIM	building information modelling
BNG	biodiversity net gain
Brexit	the withdrawal of the United Kingdom from the European Union
CA	Court of Appeal
CAR	contractors' all risks
CBD	carrier, broker and dealer
CCC	Climate Change Committee
CDE	construction, demolition and excavation
CEAP	circular economy action plan
CEP	circular economy package
CIL	Community Infrastructure Levy
CJEU	Court of Justice of the European Union
CLU	certificate of lawful use
COP	Conference of the Parties
CHSR	The Conservation of Habitats and Species (Amendment) Regulations 2017
COSHH	Control of Substances Hazardous to Health
CPA	Control of Pollution (Amendment) Act 1989
C&I	commercial and industrial
DAS	design and access statement
Defra	Department for Environment, Food and Rural Affairs
DLUHC	Department for Levelling Up, Housing and Communities
DMPO	The Town and Country Planning (Development Management Procedure) (England) Order 2015
DVSA	Driver and Vehicle Standards Agency
D&O	directors' and officers'

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EA	Environment Agency
EC	European Community
EEC	European Economic Community
EIA	environmental impact assessment
EOR	environmental outcomes report
EN	enforcement notice
EP	environmental permit
EPA	Environmental Protection Act 1990
EPR	The Environmental Permitting (England and Wales) Regulations 2016
ES	environmental statement
EU	European Union
EVP	engineered into the void permanently
FDC	flood defence consent
FTT	First Tier Tribunal
GHG	greenhouse gas
GPDO	The Town and Country Planning (General Permitted Development) (England) Order 2015
HM	His Majesty's
HMRC	HM Revenue & Customs
HMO	house in multiple occupation
HSR	The Conservation of Habitats and Species Regulations 2017
IBC	intermediate bulk container
IDB	Internal Drainage Board
IPEIA	The Infrastructure Planning (Environmental Impact Assessment) Regulations 2017
JCT	Joint Contracts Tribunal
JR	judicial review
LDC	lawful development certificate
LPA	local planning authority
MoU	memorandum of understanding

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NE	Natural England
NEC	New Engineering Contract (ICE)
NMP	noise management plan
NSIP	nationally significant infrastructure project
NPPF	National Planning Policy Framework
NRBW	Natural Resources Body for Wales
NRW	Natural Resources Wales
NWFD	non-waste framework directive
OECD	Organisation for Economic Co-operation and Development
OEP	Office for Environmental Protection
PD rights	permitted development rights
PPE	personal protective equipment
PI	professional indemnity
PPG	Planning Policy Guidance
RA	Reservoirs Act 1975
RAMSAR	Convention on Wetlands (named after the city of Ramsar in Iran, where the convention was signed in 1971)
REACH	registration, evaluation, authorisation and restriction of chemicals
REWDT	resource efficiency and waste reduction targets
RPS	regulatory position statement
SACs	special areas of conservation
SDGs	Sustainable Development Goals
SoS	Secretary of State
SPAs	special protection areas
SSSI	Site of Special Scientific Interest
SuDS	sustainable drainage systems
<i>sui generis</i>	in a class of its own
TCA	EU–UK Trade and Cooperation Agreement
TCLP	The Chancery Lane Project

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TCPA	Town and Country Planning Act 1990
TCPEIA	The Town and Country Planning (Environmental Impact Assessment) Regulations 2017
WCF	The Water Supply (Water Fittings) Regulations 1999
UK	United Kingdom of Great Britain and Northern Ireland
UN	United Nations
UNFCCC	UN Framework Convention on Climate Change
WAC	waste acceptance criteria
WEEE	waste electrical and electronic equipment
WPA	waste planning authority
WRA	Water Resources Act 1991
WRAS	Water Regulations Advisory Scheme
WR	The Waste (England and Wales) Regulations 2011
WCA	Wildlife and Countryside Act 1981

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# Introduction

## Francine Baker

Given the international awareness of the impact of construction and other human activities on the environment and its biodiversity, the scope of environmental law has much expanded in recent years. The increasing number of severe weather-related incidents also requires companies within the construction sector to include climate risk management strategies for each of their projects and as part of their corporate framework. This requires knowledge of various areas of law, and increasingly of environmental law.

This book chiefly concerns environmental law in England. It also refers to law which concerns the UK, as well as to law which applies to both England and Wales. However, readers based in Scotland, Wales and Northern Ireland should check the applicable law in their region for differences.

It is intended to be a working guide for construction professionals, and so it is not written for lawyers. The term ‘construction’ is used in this book in a broad sense to encompass all the stages involved in the production of a structure, as well as all relevant activities and professions involved. It therefore includes, but is not limited to, the involvement of developers, contractors, architects, planners, civil engineers, mechanical and electrical engineers, site engineers, quantity and land surveyors, commercial managers, project managers and site managers, construction managers and cost estimators.

This book also considers the main interactions between planning law and environmental law. The areas of both environmental law and planning law have expanded considerably in the UK in the past 20 years, partly in recognition of climate change and the importance of providing a sustainable future for our world as reflected by the United Nations Sustainable Development Goals (discussed below). The result is that environmental issues and sustainability goals have taken a front seat in the day-to-day operation and management of construction projects. Problems on construction sites may develop quickly, and it is often unclear who is responsible for environmental law issues. Therefore, this book will be particularly relevant to all construction professionals within the industry. However, since Brexit, new relevant law is on the horizon, some of which is referred to here, but has yet to be enacted or drafted. This book may, therefore, be updated with appendixes.

## The objectives of environmental law

Environmental law is an evolving area of law which developed following the aftermath of the UK’s industrial revolution. The coal-powered industrial revolution of the mid-18th century to the 19th century had a destructive impact on air, water, vegetation, fish stocks and rivers in England (Christman, 2013). Various laws were passed in the 19th century to address discrete aspects of a polluted environment, such as the Smoke Nuisance Abatement Act 1853, which

sought to protect the quality of air, the Alkali Act 1863, which required chemical emissions to be stopped or diluted to protect vegetation, and the Rivers Pollution Act 1876, which aimed to address stream and river pollution from contamination by sewerage and other deposits. By the 20th century, there was finally a Clean Air Act 1956, and the first waste management legislation – the Deposit of Poisonous Waste Act 1972, (the same year that the UK joined the European Union) and the Control of Pollution Act 1974. However, modern environmental law may be said to have started with the Environmental Protection Act 1990, which superseded the latter legislation. This Act was needed to effectively regulate the collection, delivery and disposal of waste, and to address a range of causes of pollution and nuisances affecting our environment, whether on land or in the sea.

Modern environmental law in the UK includes both common law and legislation. Common law (case law) is based on the reasons given by judges for their decisions on cases they have heard in court. While such decisions are based on individual cases, they can be applied as precedent in future cases. The other main UK legislation is law that has been passed by the UK Parliament. Primary legislation is the main law passed by Parliament and is called ‘acts’ (also known as statutes). Secondary legislation is law made by persons or organisations given authority to draft law by a particular act of Parliament. Such legislation is called a ‘statutory instrument’, and includes orders, codes, regulations and rules. Chapter 1 explores the legal framework of environmental law in more detail.

Environmental law seeks to protect the environment, which is understood as the natural world we live in. It therefore seeks to protect the quality of the air we breathe, and naturally formed bodies of water, such as rivers, waterfalls, the seas, and lakes and streams. It seeks to protect the biodiversity (the variety and variability of plant and animal life) of the environment. It can include protozoa, beetle larvae, ants, earthworms, arachnids, rodents and more, as well as naturally formed minerals and mountains, and all kinds of naturally occurring vegetation, including fungi, bacteria, forests and marshes, and all kinds of species of creatures. The need for its protection extends to include the habitats of all wildlife such as animals, reptiles, birds and insects, including bees, spiders, ticks, centipedes and marine life. The inhabitants of the natural world are part of ecosystems that produce our food, the air we breathe and the water we drink. Environmental law seeks to protect the planet, whereas the science of ecology provides knowledge about the interdependence between people and nature that is vital for food production, maintaining clean air and water, and sustaining biodiversity.

Through damaging the environment, we contribute to destroying a viable home for us on this planet. The term ‘biodiversity’ is mentioned throughout in this book, but in particular see the law discussed in Section 2.12.5.3 in Chapter 2 and Sections 3.6.1–3.6.4 in Chapter 3.

## **The impact of the construction industry on the environment**

The environmental impact of both onsite and offsite construction has been recognised in planning law as well as environmental law, so that the relevant local planning authority or Secretary of State, as it may be, may not grant planning permission, or a permit to allow certain work, if the development or activity is likely to damage a protected area or site, species or other wildlife, or is likely to damage the onsite or surrounding environment. This is discussed in Chapter 2, Section 2.12.4, and the following sections.

The noise and light that construction sites generate may not directly affect any animals present, but it can impact their breeding and feeding behaviours, which may affect the future numbers of the species (see Chapter 3, Section 3.3.7.1; Chapter 6, Section 6.11; and Chapter 7, Section 7.6). The erection or demolition of buildings could cause the separation of species and their habitats, impacting on the dynamics of the ecosystem. These factors can contribute to a decline in population species and biodiversity.

Risk assessments and environmental impact assessments may be legally required for planning permission purposes where the area for development or nearby area concerns natural habitats and the work involves use of natural resources, in particular land, soil, water and biodiversity in the area and its underground (see Chapter 3, particularly Section 3.3.3.3). More recently, the Environment Act 2021 requires that there is at least one ‘long-term’ target set for each priority area, that is, to improve air and water quality, reduce waste, improve biodiversity, and improve resource efficiency and waste reduction. It also requires targets to be set to cut exposure to fine particulate matter (PM<sub>2.5</sub>) and improve species abundance, and requires biodiversity net gain requirements, which will need to be met before planning permission for developments is agreed, that is, once the provisions become operational in late 2023 or 2024. This is discussed in Chapter 3, Section 3.6.1. The UK government published its Environmental Improvement Plan in January 2023 setting out how it proposes to achieve these targets (CIEEM, 2022).

The Environmental Protection Act 1990 (as amended) places an obligation on local authorities to identify contaminated land. Land is considered contaminated if it has been affected by a pollutant. Contaminated land is often found on sites that have been used for industrial purposes, as well as those known as ‘brownfield sites’. Chapter 4 explains the contaminated land regime and the legal obligations of construction industry professionals when dealing with contaminated land. Construction is a major contributor to air pollution levels. According to the Centre for Low Emission Construction (2019, p. 3),

The 2019 London Atmospheric Emissions Inventory (LAEI) shows that approximately 30% of particulate matter (PM<sub>10</sub>) emissions come from construction, along with 8% of fine particulate matter (PM<sub>2.5</sub>) and 4% of nitrogen oxides.

The law relating to air pollution is discussed in Chapter 7.

## **Impact of Brexit on environmental law**

Under the European Union (Withdrawal) Act 2018, most European Union (EU) law, including environmental law and laws that affect business, worker’s rights, food standards, industry and animal rights, was kept (retained) for the UK following the end of the post-Brexit transition period, for the practical reason that to do otherwise would have been unmanageable at the time. Under section 6(3) of the Act, the UK courts are required, when interpreting unmodified retained EU law, to follow retained domestic case law, retained EU case law and retained general principles of EU law until a relevant UK court departs from it or it is modified by legislation.

However, the government introduced a proposal for legislation called the Retained EU Law (Revocation and Reform) Bill into Parliament on 22 September 2022. The purpose of the bill is to provide provisions which would enable the government to mend EU retained law or to

remove it from the UK legal system. The bill aims to review and repeal or assimilate EU retained law by the end of 2023. However, the government could delay the deadline until 2026, as the process of reviewing over 2400 documents is a huge undertaking. What law will be kept and what will be removed (sunsetting) is unclear.

The impact of any changes to UK law, including environment law, on those affected have not yet been assessed by the government. However, the independent Better Regulation watchdog considers that it is reasonable to expect the government to properly consider the impacts of such changes (Regulatory Policy Committee, 2022). Yet the current bill does not provide for the creation of secondary legislation such as regulations to address impacts. However, the bill is still proceeding through the Houses of Parliament, and it is possible that changes may be made before its final form. Brexit and UK–EU trade relations are discussed in Chapter 1, Sections 1.2.2–1.2.4. As EU directives may still be relevant for the purposes of understanding and interpreting certain provisions of retained EU-derived domestic legislation, there are further references to Brexit regarding the impact on waste management in Chapter 5, Sections 5.2.4 and 5.9.1, and to exit regulations regarding floods and water legislation in Chapter 6, Section 6.2.1.

## **Sustainable Development Goals (SDGs)**

The term ‘sustainability’ is commonly used in the construction industry to reflect courses of action, whether technical or performance related, to support a sustainable environment. The Brundtland Report (United Nations, 1987) defines sustainability as a balance between the economic, social and environmental elements of society in a manner that meets the needs of the present without compromising the ability of future generations to meet their needs; this definition is generally accepted.

In New York, in September 2015, the 193 countries that comprise the United Nations Assembly agreed a plan involving 17 interdependent Sustainable Development Goals (SDGs) and 169 targets to be reached by 2030. These goals linked social, economic and environmental aspects of the Millennium Development Goals agreed at the Millennium Summit of the United Nations in 2000, in recognition that action in one area affects outcomes in other areas (United Nations, 2022a). In 2015, the SDGs were adopted and ratified (signed) by 187 parties in an agreement known as the Paris Accord at the 21st Conference of the Parties to the United Nations Framework Convention on Climate Change, also known as COP21 (see Chapter 1, Section 1.2.3.2). The SDGs are set out below.

- Goal 1: End poverty in all its forms everywhere.
- Goal 2: End hunger, achieve food security and improved nutrition, and promote sustainable agriculture.
- Goal 3: Ensure healthy lives and promote wellbeing for all at all ages.
- Goal 4: Ensure inclusive and quality education for all and promote lifelong learning.
- Goal 5: Achieve gender equality and empower all women and girls.
- Goal 6: Ensure availability and sustainable management of water and sanitation for all.
- Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all.
- Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all.

- Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation, and foster innovation.
- Goal 10: Reduce inequality within and among countries.
- Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable.
- Goal 12: Ensure sustainable consumption and production patterns.
- Goal 13: Take urgent action to combat climate change and its impacts.
- Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development.
- Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation, and halt biodiversity loss.
- Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable and inclusive institutions at all levels.
- Goal 17: Strengthen the means of implementation and revitalise the global partnership for sustainable development.

All the SDGs are important and function interdependently to address climate change in every industry sector. They also inform the building of an appropriate infrastructure for a sustainable future (Thacker *et al.*, 2019).

The UK construction industry aligns its activities with the goal of supporting the SDGs through legal compliance with various standards and codes of practice, and through advisory and certification organisations (Archdesk, 2022; BRE, 2023; 17 Global Goals, 2020). In July 2022, the largest privately owned construction company in the UK, Laing O’Rourke, signed up as one of the 17 founding members of the new ConcreteZero campaign, an international non-profit initiative led by the Climate Group in partnership with the World Green Building Council and World Business Council for Sustainable Development (Laing O’Rourke, 2022). Its pledge is to achieve 100% net-zero concrete by 2050, and the use of 30% low-emission concrete by 2025 and 50% by 2030. The relationship between open and fair competition and sustainable development is discussed in Chapter 1, Section 1.2.3.4.

The construction industry’s professional institutions have also played a leading role in promoting the implementation of SDGs to its members and to the public on their websites. The following provide a few examples. The Institution of Civil Engineers (ICE) launched a Sustainability Road Map in 2019 to engage with the SDGs and report and address the SDG impact of their infrastructure projects and programmes (ICE, 2019). The Royal Institution of Chartered Surveyors (RICS, 2022) stated that it has been working with the United Nations on critical issues facing the construction industry to assist in the implementation of the SDGs. In September 2022, the Chartered Institution of Civil Engineering Surveyors (CICES) began a consultation on a white paper with the aim of how best to implement its Sustainability Strategy 2021–2030 (CICES, 2022). The Chartered Institute of Building (CIOB) stated in December 2021 that ‘The UN social sustainability goals on social sustainability fit closely with our own vision, mission and values to improve the quality of life for those who use and create our built environment.’ (CIOB, 2021).

## UK net-zero target and procurement goals

Prior to 2019, the UK was committed to reducing its net greenhouse gas emissions by at least 80% of their 1990 levels. However, in 2019, Parliament amended the Climate Change Act 2008 to require that the UK's net emissions of greenhouse gases be reduced by 100% relative to 1990 levels by 2050.

Net zero means any emissions would be balanced by schemes to offset an equivalent amount of greenhouse gases from the atmosphere, such as planting trees or using technology like carbon capture and storage. (BEIS, 2019)

Carbon dioxide (CO<sub>2</sub>) emissions in the UK are provisionally estimated to have increased by 6.3% in 2021 from 2020, to 341.5 million tonnes (Mt), and total greenhouse gas emissions by 4.7% to 424.5 million tonnes carbon dioxide equivalent (MtCO<sub>2</sub>e). Compared to 2019, the most recent pre-pandemic year, 2021 CO<sub>2</sub> emissions are down 5.0% and total greenhouse gas emissions are down 5.2%. Total greenhouse gas emissions were 47.3% lower than they were in 1990. (BEIS, 2021)

The unit MtCO<sub>2</sub>e is a million metric tonnes of carbon dioxide equivalent (CO<sub>2</sub>e). The carbon dioxide equivalent is a measure used to compare the global warming potential (GWP) of different greenhouse gases (GHG) by converting the amount of a GHG to the equivalent amount of CO<sub>2</sub> that would have the same atmospheric impact.

On 20 April 2021, following advice from the UK Climate Change Committee's sixth carbon budget on 9 December 2020, the UK government announced that it 'will set the world's most ambitious climate change target' to reduce emissions by 78% by 2035 compared to 1990 levels (Dray, 2021). The UK's Net Zero Strategy was launched in October 2021 (DESNZ and BEIS, 2021). It sets out policies and proposals for decarbonising all sectors of the UK economy to meet the net-zero target by 2050.

However, the strategy was being reviewed following a mandatory order given by the High Court in *Friends of the Earth Ltd & Ors, R (On the Application Of) v Secretary of State for Business, Energy and Industrial Strategy* [2022] EWHC 1841 for the government to lay a fresh report before Parliament by March 2023 to fully address its legal obligations under section 14 of the Climate Change Act 2008 as to how it would achieve its emissions targets. An independent review of the strategy was commissioned, with a call for evidence. The review of the Strategy was published on 13 January 2023 (Skidmore, 2023), and it includes recommendations on how the government can move faster to implement the delivery of its net-zero goals. A revised net-zero strategy was published on 30 March 2023 (ESNZ, 2023).

The UK government's National Procurement Policy Statement (HMG, 2021) sets out the strategic priorities for public procurement, and how contracting authorities can support the delivery of these through tackling climate change and reducing waste by

- contributing to the UK government's legally binding target to reduce greenhouse gas emissions to net zero by 2050

- reducing waste, improving resource efficiency and contributing to the move towards a circular economy
- identifying and prioritising opportunities in sustainable procurement to deliver additional environmental benefits, for example enhanced biodiversity, through the delivery of the contract.

Environmental and planning law work together to support the implementation of these priorities. Environmental law is a relevant tool for enabling the move towards a circular economy and the implementation of sustainable procurement goals. Planning law plays a part in the creation and maintenance of a framework within which sustainable environments are encouraged and environmental law is enforced, as discussed in Chapters 2, 3 and 7.

### **Recent developments – environmental law**

On 28 July 2022, the United Nations General Assembly (UNGA) adopted a resolution declaring that everyone on the planet has a right to a healthy environment (United Nations, 2022b). The UK Human Rights Act 1998 (HRA) which incorporated the European Convention of Human Rights does not refer to a human right to a healthy environment, although Article 8, ‘the right to respect for ... privacy and family life’, has been argued more recently in relation to air pollution cases (UK Parliament, 2022). However, although the discussion of human rights law is beyond the scope of this book, UNGA’s recognition there is a relationship between human rights and the environment signals a new and developing area of law.

More developments in UK law include the Environment Act 2021. The Act requires more construction industry accountability regarding the preservation of biodiversity (discussed in Chapter 3), the reduction of water, air and land pollution, (referred to in Chapters 3 and 4), and the use and management of water and waste management (discussed in Chapters 6 and 5, respectively). The Act also relates to the management of contaminated or brownfield land (discussed in Chapters 4 and 7). Construction industry players have personal and managerial legal obligations to protect the environment from a condition or activity that interferes with the use or enjoyment of land or from its contamination.

A bill which may impact on the planning process and how various environmental impacts are assessed when it becomes law is the Levelling Up and Regeneration Bill. It was introduced to Parliament on 11 May 2022, and is expected to become an Act of Parliament during 2023. The bill’s proposals, assuming they become law, will amend various legislation, including the Town and Country Planning Act 1990 and the Planning Act 2008, the Local Democracy, Economic Development and Construction Act 2009 and impact on environmental legislation (see part 6 section 152 of the bill). A feature of the bill is a reference to a consideration of the impact on or improving the economic, social and environmental wellbeing of some or all of the people in the relevant area, and so it aligns itself with the concept of sustainability.

Among the range of proposed changes to various legislation, the Levelling Up and Regeneration Bill proposes to simplify and speed up the local planning process (part 3 of the bill). However, part 6 of the bill only gives the Secretary of State the power to replace the current environmental impact assessment regimes with a simplified process involving an environmental outcomes report (EOR). For example, section 138 refers to EOR regulations yet to be

made by the Secretary of State under this part, and states that the Secretary of State ‘may’ specify the EOR ‘outcomes’ relating to environmental protection. The use of a mandatory term such as ‘should’ or ‘must’ in this part would have required such outcomes to be produced; however, it has not been used here. The proposed EOR process, assuming the relevant regulations are made, will further prioritise protecting the environment when local authorities or the Secretary of State are considering development plans and planning applications. Part 6 section 149 also states that any EOR regulations made may interact ‘with existing environmental assessment legislation or the Habitats Regulations’. The latter phrase is widely interpreted at section 152 of part 6. In addition, part 7, when law, will amend the Water Industry Act 1991 by requiring certain sewage disposal works to meet nutrient pollution standards set out in section 96F.

The bill also proposes to introduce a new infrastructure levy (part 4 of the bill) to be paid by developers when the property is sold, with the rates and thresholds likely to be set by local authorities, and the green regeneration of brownfield sites (discussed in Chapter 4) will be supported by changes to the compulsory purchase system. However, just how this bill, when it becomes law, will impact on the planning and decision-making process and environmental assessments and protections, as well as the financial impact on the construction industry, will become apparent in changes and regulations yet to make. Therefore, a clear picture of the impact of this bill on the industry is uncertain.

The proposals in the Levelling Up and Regeneration Bill, if it becomes law, and when certain proposals result in regulations, are likely to increase the extent of the current requirements set out in this book to avoid and mitigate any environmental impacts, as well as to further compensate for any damage to the environment when outcomes are not met.

## **Recent developments – implementing the law**

The use of building information modelling (BIM) by the construction industry also contributes towards managing risks and protecting the environment. This is discussed in ICE’s publications *BIM in Principle and in Practice*, and *BIM for Project Managers*, both by Peter Barnes. They explain that the process can increase productivity while reducing the use of resources at all stages of the project. The many building energy simulation tools available through BIM can ensure that the design efficiently optimises the use and reduces the waste of energy, water and other resources. Its ability to carry out a life-cycle analysis can provide a whole-life assessment of the environmental impact of products or services, which can then be used to amend elements of the design to reduce environmental impacts.

The increasing number of new rules and regulations being passed to address climate change and to minimise the impact of construction activities on the environment increases liability risk. Construction companies can ensure sufficient climate protection is already in place before work begins, and during all stages of the development. Any potential risks that could arise may be managed through appropriate insurance and the provision of environment-related insurance cover (discussed in Chapter 8).

Legal professionals are also creating new construction contract environment-friendly clauses which also assist with the achievement of the SDGs. For example, a range of climate clauses,