

UK Environmental Policy Post-Brexit:

A Risk Analysis



**A report commissioned
by Friends of the Earth England,
Wales and Northern Ireland**

**Authors: Prof. Charlotte Burns,
University of Sheffield, Dr Viviane
Gravey, Queen's University Belfast,
and Prof. Andrew Jordan, Tyndall
Centre, University of East Anglia.***

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About this report

This report has been written by Professor Charlotte Burns, University of Sheffield (lead author), Dr Viviane Gravey, Queen's University Belfast and Professor Andrew Jordan, Tyndall Centre, University of East Anglia.

It was commissioned by Friends of the Earth who asked the researchers to identify “what, if any, are the risks to the environment from the various post-Brexit relationships currently being discussed”. The authors maintained full academic freedom in producing the content, conclusions and recommendations.

Methodology

The report reviews risk to UK and EU environmental policy under the Norwegian, Canadian, Turkish and planned and chaotic no deal Brexit scenarios. The categorisation of risk ranges from limited through to very high risk. The categorisation is based on risks to policy outputs, which we assume affect environmental outcomes. The decision of the level of risk is informed by a systematic review of the implications of each scenario for the regulation of the relevant sector, taking into account three cross-cutting risk factors: potential governance gaps; coordination problems between Westminster and the devolved nations; and the level of protection offered by international environmental commitments.

About the authors

Professor Charlotte Burns, Department of Politics, University of Sheffield is a recognised expert on European environmental policy and politics. She is the research lead on a UK In a Changing Europe Brexit Priority grant funded by the ESRC on the impact of Brexit on UK environmental policy and a founding co-chair of the Brexit and Environment Network. She has given evidence in the House of Lords, National Assembly for Wales and European Parliament. She has produced a number of peer-reviewed research papers on Brexit and its implications for UK environmental policy. She also produced briefings for Friends of the Earth ahead of the EU Referendum. She is on the editorial board of the journal Environmental Politics.

Professor Andy Jordan, School of Environmental Services, University of East Anglia is a world leading expert on European environmental policy and politics. He is the author of European Environmental Policy (Earthscan). He has advised the OECD, the UK Cabinet Office, DEFRA, the European Commission, the Dutch Environment Ministry, and others. In 2015-16 he served as specialist advisor to the UK Parliamentary Environmental Audit Committee for its inquiry on the EU referendum. He currently sits on the editorial boards of West European Politics, Policy Sciences, Economic Geography and Environmental Politics. In 2017 he was identified as a Web of Science Highly Cited Researcher, one of only 180 social scientists in the world. He is a co-investigator on the UK In a Changing Europe Brexit Priority Grant on the impact of Brexit on UK environmental policy and a founding co-chair of the Brexit and Environment Network

Dr Viviane Gravey, School of History, Anthropology, Philosophy and Politics, Queen's University Belfast researches the interactions between the direction of policy change and shocks to policy making systems. She has worked on how the EU has shaped UK environmental & agricultural policy and governance and researched the potential policy and governance changes linked to the repatriation of EU law in the UK and the devolved regions after Brexit. She won the Rudolf Wildenmann Prize in 2016 for her paper 'Environmental policy dismantling in the EU: disintegration by stealth or saviour of integration'. She is a co-investigator on the UK In a Changing Europe Brexit Priority Grant on the impact of Brexit on UK environmental policy and a founding co-chair of the Brexit and Environment Network. She has given evidence to the House of Commons and is member of the Environment Policy Stakeholder group of the Northern Irish Department for Agriculture, Environment and Rural Affairs.

Executive Summary

The United Kingdom's environmental policy sector has been profoundly affected by European Union (EU) membership. As the UK approaches the EU's exit door, uncertainties about what waits beyond abound. The government has promised a 'green Brexit' but exactly what this means and the challenges to its delivery remain under explored. This report seeks to provide clarity about the potential environmental implications raised by a number of prominent post-Brexit trade models. We provide a transparent, evidence-based assessment of the risks to current policy and governance systems, focussing upon the Norwegian, Canadian (CETA), Turkish and no deal models. For the no deal model we analyse both the planned and chaotic options.

We find that in general, the Norwegian model poses the least risk to current levels of environmental protection, whereas the chaotic 'no deal' model poses the highest risk. One reason for that finding is that the international backstop provided by the multilateral environmental agreements into which the UK has entered, invariably offer a lower level of protection and either no or weaker enforcement mechanisms than those provided by the EU.

Nature protection policies are judged to be especially vulnerable as they are at risk under all scenarios, and limits to nitrate pollution are at risk under all but the Norwegian option. On air quality, which has recently emerged as a major public health issue across the UK, ambient air quality standards will be at high risk under all but the Norwegian model.

Moreover, the environmental risks posed by Brexit will cut both ways. The UK has been a central driver of higher climate ambition within the EU (and beyond to international negotiations in the UN) and a greener Common Agricultural Policy (CAP). The EU may struggle to maintain political momentum on these issues with the UK outside. Hence, there are environmental reasons for both the EU and the UK to strike a strong, mutually acceptable deal well before exit day.

In her first and only speech on environmental matters, Prime Minister May sought to reassure voters that there would be no lowering of standards after Brexit day. If the UK government wants to reassure voters in the UK and across the EU that the UK will not engage in a 'Mad Max' style race to the bottom, it needs to ensure that environmental protection is incorporated into future trade deals. This could be achieved through a commitment to maintain and continually update current standards (i.e. through the insertion of an *environmental non-regression clause*) and a reference to a new '*environmental advancement principle*' that underlines the importance of pursuing ever higher environmental standards after exit day.

The government's recent policy documents, such as the 25 Year Environment Plan (25YEP), are welcome and indicate an encouraging direction of travel. However there is insufficient detail about future plans, and where detail has been provided it indicates a lower level of ambition than currently provided under EU law. Moreover, the 25YEP only covers England and there are

on-going co-ordination challenges associated with devolved policies including environment, agriculture and fisheries that must be resolved in order to ensure that the UK has coherent and nationally enforceable environmental standards that the devolved nations have had a role in framing and shaping. While these commitments remain at the level of Ministerial rhetoric or policy documents with no legal underpinning, they will do little to mitigate the risk to the environment posed by the different scenarios – especially those that involve a greater regulatory distance from the EU.

Finally, regardless of how they are written, *all* policies remain paper commitments until they are fully implemented. A necessary condition for a green Brexit is the creation of a *strong statutory body* that is able to hold the government fully to account for its environmental performance. This body should be well resourced, have prosecutorial powers, be fully coordinated across the four nations of the UK and be in place and running well before exit day.

The EU is deeply suspicious of the UK's plans and motives. The UK Government will find it much easier to forge a 'deep and special partnership' with the EU if it is able to back up its environmental promises with strong domestic policies, firmly enshrined in law, and robust and effective governance systems.

Table 1: Overall Environmental Risk

Policy Areas	Distance from EU 				
	Norwegian option	Canada option	Turkish option	Planned No Deal	Chaotic No Deal
Habitats and Birds	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk
Bathing Water	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Drinking Water	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Water Framework	Limited Risk	High Risk	High Risk	High Risk	High Risk
Urban Waste Water	Limited Risk	High Risk	High Risk	High Risk	High Risk
Ground Water	Limited Risk	High Risk	High Risk	High Risk	High Risk
Nitrates	Limited Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk
Climate and Energy	Moderate Risk	High Risk	High Risk	High Risk	Very High Risk
Ozone and Related Substances	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Transboundary Air Pollution	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Ambient Air Quality	Limited Risk	High Risk	High Risk	High Risk	High Risk
Waste and Transboundary Movement of Waste	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk
Chemicals	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk
Agri-environment, Food and Welfare Standards	Moderate Risk	High Risk	High Risk	Very High Risk	Very High Risk
Fisheries and Marine Protection	Moderate Risk	High Risk	High Risk	Very High Risk	Very High Risk

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1. Introduction

Environmental problems are invariably transboundary and therefore require cooperation across states. Over the last forty years the European Union (EU) has provided a venue for such environmental collaboration and coordination. The United Kingdom's environmental policy sector has been profoundly affected by EU membership: the National Audit Office has suggested that the Department for Environment, Food and Rural Affairs (Defra) will be the second most heavily affected department by the European Union Withdrawal Bill (EUWB), as the EU affects approximately 80% of Defra's work.¹

Yet despite this scale of work there is still on-going uncertainty about the implications of post-Brexit environmental protection, largely due to the fact that we still don't know what Brexit means. The government has suggested that we can have a 'green' Brexit² yet its long awaited 25 Year Environment Plan (25YEP), published in January 2018³ is light on detail. The absence of specific Brexit-facing detail in the 25YEP is unsurprising, as the nature of the Brexit deal still has to be negotiated domestically within the Conservative party, across the nations of the UK and with our European partners. Given these complexities a 'no deal' Brexit remains a very real possibility that is being prepared for across Whitehall.

To inform the on-going debate about what Brexit means for environmental policy and governance in the UK this policy briefing revisits some of the Brexit scenarios that have already been well-documented such as the Norwegian,

and Swiss options⁴ and brings some new ones into the mix such as Labour's preferred Customs Union model, the increasingly discussed CETA +++, and a no deal outcome – either planned or chaotic. Having outlined the main scenarios we go on to review the risks posed to key policy sectors. This risk analysis is informed by a systematic review of the implications of each scenario for the regulation of the relevant sector, taking into account cross-cutting governance and coordination issues, the international commitments into which the UK has entered, the commitments made in the 25YEP and clean growth strategy and ministerial speeches and policy pronouncements. In line with typical practice⁵, in order to avoid 'grade inflation' where there is debate over which classification should be applied we choose the lower classification. The drawback of this approach is that we may be downplaying the potential risks.

The purpose of this report is to identify the main risks to key policy sectors so that policy-makers and stakeholders are well informed and can act to mitigate those risks through choosing a future trade relationship that offers the highest possible levels of protection, or if that is not possible, putting in place safeguards to offset risks.

Below we outline the current UK government position on Brexit, and stated negotiating positions on both sides, before outlining the possible Brexit scenarios. In section 4 we turn to key policies to offer a systematic evaluation of the risks posed to core policies by each of the Brexit scenarios.

¹ National Audit Office, 2017. *Implementing the UK's exit from the European Union*. The Department for Environment, Food & Rural Affairs. December 2017. Available from: <https://www.nao.org.uk/wp-content/uploads/2017/12/Implementing-the-UKs-exit-from-the-European-Union-the-Department-for-Environment-Food-Rural-Affairs.pdf>.

² Gove, M., 2017. The unfrozen moment – delivering a green Brexit, Speech, 21/07/17, available from <https://www.gov.uk/government/speeches/the-unfrozen-moment-delivering-a-green-brexite>.

³ HMG, 2018. *A green future: Our 25 year plan to improve the environment*, available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/673203/25-year-environment-plan.pdf

⁴ Burns *et al.*, 2016. The EU referendum and the UK environment: An expert review, available from <https://www.brexitenvironment.co.uk/policy-briefs/>; Institute for European Environmental Policy, 2016. The potential policy and environmental consequences for the UK of a departure from the European Union, available from https://ieep.eu/uploads/articles/attachments/5f00e400-c0d4-4123-9efc-2bfe0e6e9f1f/IEEP_Brexit_2016.pdf?v=63664509964.

⁵ E.g. see. Burns, C., Carter, N., Davies, G.A.M., and Worsfold, N., 2013. Still saving the Earth?: The European Parliament's environmental record, *Environmental Politics*, 22(6):935-954.

2. UK Government and EU Positions on Brexit

With each week that passes we get a clearer sense of the negotiating positions of the UK government and the European Union. In February 2018 the EU published a Draft Withdrawal Treaty⁶ that formalised the principles agreed at the end of the first phase of negotiations in December 2017,⁷ which dealt with citizens' rights, the status of Northern Ireland and the financial settlement agreed between the EU and UK. The EU withdrawal bill includes the date of 29 March 2019 for UK withdrawal from the EU, and the draft withdrawal treaty specifies 31 December 2020 as the end for any transition period for UK exit from the EU.

Theresa May has given four speeches in which she has articulated the UK's Brexit position; the Lancaster House⁸, Florence⁹, Munich¹⁰ and Mansion House speeches.¹¹ In the Florence and Mansion House speeches she was consistent in her argument that Brexit will not lead to lower environmental standards, stating for example on 2nd March 2018 that:

*"[in] areas like workers' rights or the environment, the EU should be confident that we will not engage in a race to the bottom in the standards and protections we set. There is no serious political constituency in the UK which would support this – quite the opposite."*¹²

⁶ European Commission Draft Withdrawal Agreement on the withdrawal of the United Kingdom of Great Britain and Northern Ireland from the European Union and the European Atomic Energy Community, available from https://ec.europa.eu/commission/sites/beta-political/files/draft_withdrawal_agreement.pdf.

⁷ Joint report from the negotiators of the European Union and the United Kingdom government on progress during phase 1 of negotiations under article 50 TEU on the United Kingdom's orderly withdrawal from the European Union, available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/665869/Joint_report_on_progress_during_phase_1_of_negotiations_under_Article_50_TEU_on_the_United_Kingdom_s_orderly_withdrawal_from_the_European_Union.pdf.

⁸ May, T., 2017. The government's negotiating objectives for exiting the EU: PM speech, Speech, 17/01/17, available from <https://www.gov.uk/government/speeches/the-governments-negotiating-objectives-for-exiting-the-eu-pm-speech>.

⁹ May, T., 2017. PM's Florence speech: a new era of cooperation and partnership between the UK and the EU, Speech, 22/09/2017, available from <https://www.gov.uk/government/speeches/pms-florence-speech-a-new-era-of-cooperation-and-partnership-between-the-uk-and-the-eu>.

¹⁰ May, T., 2018. PM speech at Munich Security Conference: 17 February 2018, Speech, 17/02/2018, available from <https://www.gov.uk/government/speeches/pm-speech-at-munich-security-conference-17-february-2018>.

¹¹ May, T., 2018. PM speech on our future economic partnership with the European Union, Speech, 02/03/18, available from <https://www.gov.uk/government/speeches/pm-speech-on-our-future-economic-partnership-with-the-european-union>.

¹² May, T., 2018. PM speech on our future economic partnership with the European Union. Ibid.

Mrs May has sought to maintain four principal red lines: an end to the jurisdiction of the Court of Justice of the European Union (CJEU); an end to the UK's membership of the internal market; an end to free movement of people in order to reduce inward migration from the EU into the UK; and an end to the UK's membership of the EU's Customs Union leaving the UK free to negotiate trade deals with third parties.¹³ The Mansion House speech appeared to row back on some of these or at least recognise that the UK may remain subject to the rulings of the CJEU in some areas and that some kind of dispute settlement body very like the CJEU will be required to administer a Free Trade Agreement between the UK and the EU.¹⁴ Moreover, Mrs May seems to accept that the UK may wish to continue cooperating with EU agencies post-Brexit and accept limits on its behaviour as a condition of accessing the EU's internal market.¹⁵

On the EU side, agreement on the Brexit Withdrawal Treaty is subject to the approval of 27 Member States, the European Parliament (EP) and the UK Parliament. Furthermore, any post Brexit EU-UK trade deal will not only be subject the approval of these bodies, but also sub-national parliaments including the Wallonian Regional Parliament in Belgium, which hit the headlines when it first refused to ratify the EU Canada Trade Agreement (CETA). The EU, and the EP in particular, have suggested their own 'green' lines for the Brexit withdrawal agreement making clear that the EU is unwilling to accept any watering down of standards on the UK's part post-Brexit.¹⁶

Another on-going and challenging issue for the negotiations that has particular resonance for

¹³ May, T., 2017. The government's negotiating objectives for exiting the EU: PM speech <https://www.gov.uk/government/speeches/the-governments-negotiating-objectives-for-exiting-the-eu-pm-speech>.

¹⁴ May, T., 2018. PM speech on our future economic partnership with the European Union <https://www.gov.uk/government/speeches/pm-speech-on-our-future-economic-partnership-with-the-european-union>.

¹⁵ May, T., 2018. PM speech on our future economic partnership with the European Union. Ibid.

¹⁶ Burns, C., 2017. MEPs will fight Brexit deal that lets the UK become an offshore pollution haven, *The Conversation*, 01/02/2017 available from <https://theconversation.com/meps-will-fight-brexit-deal-that-lets-the-uk-become-an-offshore-pollution-haven-72300>; Burns, C., 2017. The case for the green line, available from <https://www.brexitenvironment.co.uk/2018/01/08/green-line/>.

environment, agriculture, marine and fisheries is the border between the Republic of Ireland and Northern Ireland. There is continuing concern that Brexit may lead to a hard border between the Republic of Ireland and Northern Ireland, as the UK would be outside the EU's Customs Union and therefore some kind of border checks will be needed.¹⁷ Moreover, if there are to be limits on the free movement of people then border controls between Northern Ireland and the Republic are likely to be required. Such controls would have enormous economic, political and social implications that could undermine the Good Friday Agreement, which has been central to the Peace Process in Northern Ireland since its agreement twenty years ago. The government has committed to avoid this by maintaining the common travel area between the Republic of Ireland and Northern Ireland, which allows relatively free movement of people with minimal border and immigration checks across the British Isles, although it remains unclear how this would work in practice. The draft Treaty published by the EU proposes a 'common regulatory area' after Brexit on the island of Ireland if no other solution to the Irish border is found, which would in effect keep Northern Ireland in an EU customs union. Mrs May has argued this proposal would threaten the 'constitutional integrity' of the United Kingdom and lead to a border in the middle of the Irish sea, which no British prime minister could ever accept.¹⁸

To summarise, the UK wants to be outside the internal market and the Customs Union so it is free to negotiate trade deals with third parties, and it also wants to be outside the jurisdiction of the CJEU. However, it looks as if the UK wants to maintain access to some agencies, agrees to the notion of a non-CJEU dispute resolution body and wants preferential treatment on services. It also wants to maintain the integrity of the Union of the United Kingdom, whilst ensuring there is no hard border with the Republic of Ireland. It is this combination of wants that has led the EU to term the UK position as 'double cherry-picking'.¹⁹ On its side the EU has intimated that if the UK wants to see its red lines respected then it will receive similar terms of trade as were agreed with Canada in CETA (page 14).

¹⁷ Hayward, K., 2018. The UK-EU joint report and scenarios for the post-Brexit Irish border, *Agenda NI magazine*, available from https://pure.qub.ac.uk/portal/files/147219972/Joint_Report_UK_EU_Brexit_for_AgendaNI_REVISSED_1_.pdf.

¹⁸ May, T., 2018. Prime minister's questions, 28/02/18, available from: <http://parliamentlive.tv/event/index/d1533e71-dc9b-476b-86ba-6ba54265f681?in=12:02:31>

¹⁹ Asthana *et al.*, 2018. May 'double cherry-picking' on Brexit, says leaked EU report, *The Guardian* 02/03/18, available from <https://www.theguardian.com/politics/2018/mar/06/theresa-may-conservative-politics-brexit-solutions-leaked-eu-report>.

3. The Main Brexit Scenarios

Since the 2016 referendum on UK membership of the EU depicting Brexit scenarios has almost become a cottage industry as the possible exit options have multiplied and varied according to the way the political wind is blowing.²⁰ In the following sections we outline the options that have been most discussed, without making any prediction as to which (if indeed any) is likely to come to pass. We don't discuss the 'remain option' here, having explored it extensively elsewhere.²¹ Suffice to say that for all policy areas remaining in the EU would mean that the current regulatory framework would be deemed at low risk of deregulatory pressure. It seems likely that we may end up with a combination of more than one scenario if the UK manages to secure a transition period. For example, we may have a transition period that looks like the Norwegian option, whilst the UK and EU negotiate a 'CETA+++' option that would enter into force after the transition period. It is worth noting that whichever of these scenarios comes to fruition, from an environmental perspective the UK will continue to be bound by the international environmental agreements to which it is party.²²

3.1 The Norwegian and Swiss Options

The European Economic Area (EEA) includes all EU states and three additional members of the European Free Trade Association (EFTA): Norway, Liechtenstein and Iceland. EEA membership is therefore often described as the 'Norwegian option'. Switzerland whilst being a member of EFTA is not an EEA member (see below).

The Norwegian option would see the UK either remaining (or applying for re-entry) as a member of the EEA and being subject to the European Economic Area Agreement. As members of EFTA, EEA members are subject both to the EFTA surveillance body, which operates like the

European Commission, and to the EFTA Court.²³

EEA members participate in the EU's internal market and, consequently, under this 'Norwegian option' the vast majority of EU environmental law (the environmental *acquis*) would still apply, albeit with some notable exceptions. The Birds and Habitats Directives, the Bathing Water Directive and the Common Agricultural and Fisheries Policies are not covered by the EEA agreement.²⁴ EEA members are subject to the jurisdiction of the EFTA court, which is separate from the Court of Justice of the European Union (CJEU) and deals with cases referred to it by the EFTA surveillance body. Whilst the EFTA court is distinct from the CJEU being an EEA member would still involve the UK being subject to the jurisdiction of a non-UK judicial body, and as such, is therefore likely to contravene one of the government's red lines. The UK's room for manoeuvre for environmental policy (for those policies covered by the EEA agreement) would be the same as that currently enjoyed, where the UK and its devolved nations are bound by common minimum standards but under the environmental guarantee article [Art. 193 TFEU] can pursue higher standards as long as they do not compromise the functioning of the EU's internal market. The internal coordination of environmental policy between the UK government and the devolved governments would be likely to be characterised by continuity.

EEA members are also subject to the same basic rules underpinning the EU's internal market namely the four freedoms: the free movement of goods, services, capital and people. However, there are restrictions on these freedoms as Norway, Iceland and Liechtenstein are not members of the European Union Customs Union (EUCU), so trade between them is subject to tariffs and these EEA states are free to negotiate trade deals with third parties. Non-EU EEA members have a limited opportunity to shape the rules agreed by the EU – and are essentially rule-takers rather than

²⁰ e.g. see Burns, C., 2016. Future scenarios, in Burns et al., The EU referendum and the UK environment, 147-156

²¹ Burns, C. et al., 2016. The EU referendum and the UK environment

²² UKELA, 2017. *Brexit and environmental law: The UK and international environmental law after Brexit*, available from <https://www.ukela.org/content/doclib/320.pdf>.

²³ Scott, J., 2016., Domestic law and legal procedures, in Burns et al., The EU referendum and the UK environment, 89-99.

²⁴ EEA Agreement, Annex XX, Environment, available from <http://www.efta.int/media/documents/legal-texts/eea/the-eea-agreement/Annexes%20to%20the%20Agreement/annex20.pdf>.

rule-makers. Consequently, whilst this option would involve possibly the least disruption to UK environmental policy (although it is not without risks, see sections 4.1 and 4.3. below), and has minimal new governance and coordination risks, it appears to be ruled out, as it would contravene the red lines on external court jurisdiction and free movement (see section 2 above).

Switzerland is also a member of EFTA but not of the EEA. Instead the Swiss have negotiated over one hundred bilateral agreements with the European Union to regulate trade between them, which are managed by around twenty joint committees.²⁵ There is no environmental agreement between Switzerland and the EU, although the Swiss are members of the European Environment Agency, and there is an agricultural agreement.²⁶ Broadly speaking standards between the two align although there is some evidence of divergence. Certainly for nature protection the Natura 2000 network offers a higher level of protection than the equivalent Swiss system, which rests upon the Bern Convention.

Switzerland is not a member of the EUCU but has separate agreements with the EU on tariffs in a range of sectors. The Swiss option seems an unlikely post-Brexit prospect. On the UK side the sheer of number of treaties that would need to be negotiated is a potential obstacle. On the EU side there has been a distinct cooling in relations with the Swiss following the 2014 referendum in which Switzerland voted to reduce immigration from EU states,²⁷ and it therefore seems unlikely that the EU would consider a similar relationship with the UK. Moreover, the Swiss-EU relationship evolved organically over a number of years and has become trapped in path dependence – it is unlikely that the EU would want to enter into the complexity of negotiating multiple agreements in

this fashion again.²⁸ For that reason we discount it from further consideration here.

3.2 The Customs Union (Turkish) Option

The option of the UK joining a Customs Union with the EU (also often called the Turkish option as Turkey and the EU are linked by a Customs Agreement without Turkey being in the EEA or participating in the EU's internal market), has been reinvigorated by the leader of the Labour Party Jeremy Corbyn, who announced on 26th February 2018 that the Labour Party was committed to negotiating membership of a Customs Union with the EU.²⁹ The wording chosen by Corbyn reflects the Labour position that an arrangement distinct from those currently used in the EU should be negotiated. Membership of the Customs Union requires states to observe the EU's Common External Tariff (CET) on goods entering the EU and to remove tariff barriers to trade between themselves and other members. Under this option the UK would not be able to conduct separate trade agreements with third parties. Corbyn has suggested that Labour's preferred model would be a customs union that allows the UK to jointly negotiate external trade agreements with the EU.

A key advantage of the Customs Union option is that it could go some way towards allowing the border between Ireland and Northern Ireland to remain open.³⁰ As noted above the Irish border has emerged as a key challenge for the government, as leaving the EU internal market and Customs Union could require border posts and checks to be re-established between NI and Ireland. Staying in the EUCU (or some equivalent) would mean that the border between Ireland and Northern Ireland could remain relatively open, (some checks on livestock, food, work permits. would nevertheless be required) and

²⁵ European Commission, n.d., Switzerland, available from http://ec.europa.eu/trade/policy/countries-and-regions/countries/switzerland/index_en.htm.

²⁶ Baker, J., 2017. The gilded green cage: Swiss agricultural policy and lessons for Brexit Britain, available from <https://www.brexitenvironment.co.uk/2017/09/19/swiss-agricultural-policy-lessons-brexit/>.

²⁷ EurActiv, 2014. EU warns Switzerland of consequences after anti-immigration referendum, available from <https://www.euractiv.com/section/global-europe/video/eu-warns-switzerland-of-consequences-after-anti-immigration-referendum/>.

²⁸ Piris, J., 2016. If the UK votes to leave. The seven alternatives to EU membership if the UK votes to leave. London: Center for European Reform, available from http://www.cereu/sites/default/files/pb_piris_brexit_12jan16.pdf.

²⁹ Corbyn, J., 2018. Britain after Brexit. Speech, 26/02/18, available from <https://labour.org.uk/press/jeremy-corbyn-full-speech-britain-brexit/>.

³⁰ Hayward, K., 2018. The Brexit Border in 4 key slides, QPOL, available at <http://qppl.gub.ac.uk/brexit-border-4-key-slides/>

would also limit the disruption of supply chains for products traded between the EU and UK more generally. From an environmental perspective the UK would continue to be bound by the environmental provisions of trade agreements conducted by the European Union and it seems likely therefore that for product standards there would be limited divergence between the UK and EU in the short term. However, for environmental policy protections that are not related to product standards or trade, such as habitats protection, there would be scope for divergence over the longer term without a clearly stated green line in any agreement.

The government has explicitly ruled out staying in the EU Customs Union as it involves remaining subject to the jurisdiction of the CJEU (or some equivalent) and would not allow the UK to contract trade agreements with third parties.

3.3 The Canada Option

In 2017 the EU and Canada Comprehensive Economic and Trade Agreement (CETA) came into force after eight years of negotiations. The EU's chief Brexit negotiator, Michel Barnier, suggested in October 2017 that CETA was the best option for post-Brexit EU-UK trade.³¹ UK Brexit Secretary David Davis announced in December 2017 that the UK and EU should negotiate a 'CETA +++' agreement.³² The CETA option would leave the UK outside the internal market and customs union and therefore free to pursue trade deals with third countries, but would also involve preferential access to the EU market and vice versa depending upon the nature of the negotiated deal. CETA provisions on services (which are close to the World Trade Organisation (WTO) norms) are unlikely to be palatable to the UK given the economy's dependence upon the services sector, which has been estimated to make up 80% of the

economy.³³ Hence of the three pluses suggested by Davis at least one is likely to relate to some kind of agreement on services. The content of the other two pluses remains to be determined, although it has been suggested one could cover the Irish border and another investor-state dispute settlements (ISDS).³⁴ On the latter it is worth noting that these are controversial: there was extensive lobbying during the consideration of the transatlantic trade investment partnership against ISDS on the grounds that they can be used to undermine domestic standards.³⁵ A recent CJEU ruling seems to suggest that they may also be inconsistent with EU law although this remains to be determined.³⁶

From an environmental perspective CETA has some interesting features. It includes an explicit commitment to environmental protection.³⁷ Its Joint Interpretative Instrument articulates a non-regression principle (that current standards should not be weakened) as well as a commitment to strive to improve levels of protection.³⁸ As with the Customs Union option it seems likely that for product standards there would be limited divergence between the UK and EU in the short term. But again for environmental policy protections that are not related to product standards or trade (e.g. protecting the natural environment) there would be scope for divergence over the longer term. This issue of regulatory divergence would be a potential negotiating 'green' line for Brussels – the presence of an off-shore pollution haven undercutting EU standards is unlikely to be palatable for the EU27.³⁹ Moreover, the

³¹ Reuters, 2017. EU-Canada trade deal is only model that fits Britain's terms: EU's Barnier, *Reuters*, 08/12/2017, available from <https://www.reuters.com/article/us-britain-eu-barnier-trade/eu-canada-trade-deal-is-only-model-that-fits-britains-terms-eus-barnier-idUSKBN1E218W>.

³² Hope, C., 2017. Britain should sign a 'Canada-plus plus plus' trade deal with the EU after Brexit, David Davis says, *The Telegraph*, 10/12/2017, available from <https://www.telegraph.co.uk/news/2017/12/10/britain-should-sign-canada-style-trade-deal-european-union-brexit/>.

³³ Hervey, G., 2018. Philip Hammond: Brexit trade deal without services not 'realistic' for UK, *Politico*, 04/01/18 available from <https://www.politico.eu/article/philip-hammond-brexit-trade-deal-with-services-not-realistic-for-uk/>.

³⁴ Hübner, K., 2018. A Canadian perspective on CETA +++: those pluses will come with minuses, 05/02/2018 available from <http://blogs.lse.ac.uk/brexit/2018/02/05/a-canadian-perspective-on-ceta-those-pluses-will-come-with-minuses/>.

³⁵ BBC, 2015. TTIP talks: transparency call for EU-US trade disputes, 07/07/2015, available from <http://www.bbc.co.uk/news/world-europe-33422086>.

³⁶ Case C-284-16 Slovak Republic v. Achmea BV.

³⁷ Comprehensive Economic and Trade Agreement, available from <http://ec.europa.eu/trade/policy/in-focus/ceta/ceta-chapter-by-chapter/>.

³⁸ Joint Interpretative Instrument on the Comprehensive Economic and Trade Agreement (CETA) between Canada and the European Union and its Member States, available from <http://data.consilium.europa.eu/doc/document/ST-13541-2016-JNIT/en/pdf>.

³⁹ Burns, C., 2017. The case for the green line <https://www.brexitenvironment.co.uk/2018/01/08/green-line/>.

Irish border question also makes regulatory divergence between the UK and EU unpalatable (see above).

3.4 The ‘Planned’ No Deal Option

The planned no deal option, also often referred to as a World Trade Organisation (WTO) option or a hard Brexit option, would typically be described as a possible outcome if the EU and the UK fail to come to an agreement. Our assumption here is that negotiation failure is foreseen and prepared for, indeed as intimated above, Whitehall departments are developing contingency plans for a no deal Brexit. Under this option the UK would not secure any kind of trade deal with the EU, would be outside the internal market and the EUCU, and would be free to negotiate trade deals with third parties. For this scenario we are assuming that a) the EUWB successfully passes through Parliament and b) an agreement is reached via the Joint Ministerial Council (JMC) on future coordination of trade related environmental matters between the devolved nations.

From an environmental perspective the UK would be free to change domestic policy (subject to the international agreements in to which it has entered). Environmental NGOs and parliamentarians have expressed on-going concerns that under this option UK producers would come under deregulatory competitive pressures. One implication here then is that despite the commitment to a ‘green Brexit’ articulated by Michael Gove,⁴⁰ after a ‘planned no deal’ exit the UK is likely to find itself allowing products on the market that have lower standards thereby de facto undercutting domestic standards even if they are set at a higher level (see 4.6 below).

3.5 The ‘Chaotic’ No Deal Option

The alternative no deal option is a more chaotic accidental falling out of the EU as timelines run out or the deal is rejected by one or other

of the EP, the UK Parliament, or the European Council (also often called the ‘cliff-edge’ Brexit). Here, as with the planned no deal, the UK would be outside the internal market and the EUCU, outside the jurisdiction of the CJEU and free to contract trade deals with third countries. However, by contrast it may not have put in place contingency measures to plug regulatory gaps if for example the EUWB fails to secure the parliamentary support. Or the EUWB may have passed successfully but there hasn’t been time to put in place alternative systems of governance – for example on chemicals regulation and authorisation, or waste trading, or time to secure the UK’s accession to international environmental agreements to which it is currently a party as an EU member. Under this scenario the risks of the ‘planned no deal’ option magnify. The prospect both of deregulatory pressure to agree a trade deal with third parties combined with potential regulatory gaps potentially pose significant risks for environmental policy and governance.

⁴⁰ Gove, M. 2017. The unfrozen moment <https://www.gov.uk/government/speeches/the-unfrozen-moment-delivering-a-green-brex-it>.

4. Risk Implications for Environmental Protection

In the following sections we outline the key policy instruments associated with the policy areas identified and spell out the different levels of risk to each policy posed by the Brexit scenarios. We concentrate here on the risks to policy outputs. We assume that these policies are vehicles for environmental protection and that if they are rolled back or weakened there will be negative impacts on environmental outcomes. The decision of the level of risk is informed by a systematic review of the implications of each scenario for the regulation of the relevant sector. There are also some cross-cutting risk factors that we take into account in our risk analysis that are worth unpacking here as they emerge in different ways across the Brexit scenarios. The first relates to the potential governance gaps that Brexit will create and the second to the coordination problems that are raised by devolved policy areas including environment, marine, fisheries and agriculture, the third to the international agreements to which the EU is a party.

The Regulatory and Governance Gap

A first cross-cutting risk arises from the sheer magnitude of EU law to be carried over into UK law through the EUWB. There is clear concern that, first, not all relevant dispositions will be brought into UK law – this is particularly the case for key environmental policy principles currently articulated in the EU treaties (e.g. the polluter pays and precautionary principles). Second, the EUWB grants powers to ministers to correct ‘deficiency in retained EU law’.⁴¹ These powers have been characterised by a committee in the House of Lords as ‘unique in peace-time’, allowing ministers ‘to override Acts of Parliament by statutory instrument, without in most cases the need for any prior debate in either House of Parliament’.⁴²

The UK’s membership of the EU also means that there is EU involvement throughout the policy cycle in developing policy, providing expertise and

data gathering, monitoring, implementation and enforcement. Brexit raises risks for the future of environmental governance that we factor into our risk analysis, namely the absence of: pooled expertise and access to agencies; monitoring and scrutiny; transparency; and accountability and enforcement. The UK currently benefits from being able to draw upon expertise from other EU states, the European Commission and a range of agencies. These repositories of expertise and innovation will no longer be available to inform UK policy creation and development, although Mrs May has indicated a desire to retain access to some EU agencies. The UK is also obliged to provide regular reports to the Commission on its ability to deliver against targets, which are then made publicly available. These transparent reporting practices mean that citizens, NGOs and other groups can hold governments to account if they have failed to meet targets or deliver on policy goals.

In the event of on-going implementation and enforcement lapses states can be prosecuted under EU law and may eventually find their case being referred to the CJEU. Although the UK is taken to the CJEU relatively rarely compared with other states, environmental issues are those that most often see the UK in front of the CJEU. Moreover, whilst the UK tends to win most cases, in the field of environmental policy it has lost in 21 out of 25 cases since 2003.⁴³ These figures demonstrate that for the environment at least the CJEU provides an important role in securing the implementation of sometimes costly policies.

⁴¹ EU Withdrawal Bill (as introduced) available from <https://publications.parliament.uk/pa/bills/bill/2017-2019/0079/18079.pdf>.

⁴² House of Lords Delegated Powers and Regulatory Reform Committee, 2017. European Union (Withdrawal Bill) report, available from <https://publications.parliament.uk/pa/ld201719/ldselect/lddelreg/22/2202.htm>.

⁴³ Hogarth, R., and Lloyd, L., 2017. Who’s afraid of the ECJ? Charting the UK’s relationship with the European Court, Institute for Government, available from https://www.instituteforgovernment.org.uk/sites/default/files/publications/IFG_Brexit_ECJ_v10FINAL%20web.pdf.

A key concern expressed by NGOs,⁴⁴ politicians⁴⁵ and experts⁴⁶ is that this governance architecture will be lost post-Brexit (under all but the Norwegian scenario) leaving environmental policy vulnerable to poor implementation and enforcement, lower levels of accountability and law will no longer be underpinned by cross-cutting environmental policy principles. The government has also committed to introducing an environmental watchdog in the 25YEP, however this body currently would only cover England and the scope of its powers and functions remain to be decided. These regulatory and governance gaps raise the risk of ‘zombification’ of UK environmental policy⁴⁷ – where EU policies that have been retained, exist on the UK statute book, but without an underpinning system of governance to give them teeth.

The Coordination Challenge

The second key issue is the coordination challenge that Brexit raises for devolved policy areas. Environment, agriculture and fisheries are heavily Europeanised (i.e. most policies are set at EU level) and devolved. This combination of features means that common EU policies are applied differently across the four nations. This raises key questions as to who will eventually ‘take back control’ of these policy areas: which policies will be set in Westminster, which in the devolved capitals, and where will coordination, in the form of common frameworks, be required?

Discussions on the extent and shape of

common frameworks are still on-going. The UK government published in March 2018 a list of 153 areas – 49 requiring no common frameworks (although what this means is up for debate) (including water and land use), 82 requiring non-legislative frameworks (such as biodiversity and air quality) and 24 requiring UK-wide legislative frameworks (including agriculture, chemicals, pesticides).⁴⁸ This list does not have the backing of the Scottish and Welsh governments.⁴⁹ Beyond precise sharing of competences, the debate on devolution has shed light on the dearth of co-ordination and co-operation mechanisms between the four nations. The body used to coordinate cross-national policies, the Joint Ministerial Council, meets irregularly (at the behest of the UK government) and is an opaque institution, which raises further questions about transparency and ability of stakeholders to influence the design of future environmental and agricultural common frameworks. The risk is that the UK government fails to find a way to work effectively with the devolved administrations and to devise common frameworks. Beyond the question of how that coordination will operate there is also an issue, which is discussed in the sectoral analysis below, about which policy areas the government believes require coordination.

International Agreements

Many of the UK’s environmental policy commitments are nested within a wider network of European and international policy. For example, the UK is signatory of over 40 international agreements, and a series of associated instruments.⁵⁰ It has been suggested that Brexit will not compromise the integrity of environmental protection in the UK due to the presence of these international policy

44 Greener UK, 2017. The governance gap: why Brexit could weaken environmental protections, available from http://greeneruk.org/resources/Greener_UK_Governance_Gap.pdf.

45 House of Lords, 2017. European Union Committee, Brexit environment and climate change, HL Paper 109, available from <https://publications.parliament.uk/pa/ld201617/ldselect/lddeucom/109/109.pdf>.

46 Gravey, V, Jordan, A. and Burns, C., 2016. Environmental policy after Brexit: mind the governance gap, available from <http://ukandeu.ac.uk/environmental-policy-after-brexit-mind-the-governance-gap/>; Jordan, A., Burns, C. and Gravey, V. 2017., Three Brexit governance gaps no one is talking about, available from <https://greenallianceblog.org.uk/2017/12/06/three-brexit-governance-gaps-no-one-is-talking-about/>; Lee, M. and Fischer, L., 2016. Environmental governance after the EU: the need to ensure accountability, available from <https://www.brexitenvironment.co.uk/2016/11/28/environmental-governance-after-the-eu-the-need-to-ensure-accountability/>.

47 Jordan, A., Burns, C., Gravey, V. 2016. Zombie-like or Servile? Why the environment sector needs to consider the worst-case scenarios for Brexit. Transform, available at <https://transform.iema.net/article/zombie-or-servile/>; House of Commons Environment Audit Committee, 2017. The Future of the Natural Environment after the EU Referendum, available from <https://publications.parliament.uk/pa/cm201617/cmselect/cmenvaud/599/599.pdf>.

48 HMG, 2018. Frameworks analysis: breakdown of areas of EU law that intersect with devolved competence in Scotland, Wales and Northern Ireland, available from <https://www.gov.uk/government/publications/frameworks-analysis>

49 BBC, 2018. UK government to press on with Brexit bill despite no agreement available from <http://www.bbc.co.uk/news/uk-scotland-scotland-politics-43327796>.

50 UKELA, 2017. Brexit and Environmental Law The UK and International Environmental Law after Brexit, available from <https://www.ukela.org/content/doclib/320.pdf>.

Table 2: Risk Typology for Post Brexit Environmental Policy

Limited Risk	UK standards more advanced than the EU. Other policy protections either domestic or international offer a similar level of protection. Concrete policy commitments with timelines and deadlines exist. No expressed preference for deregulation from key decision-makers. Governance arrangements exist or are in development for deployment by exit day
Moderate Risk	EU protections may no longer apply, but no expressed preference for weakening protection, or removing protections may reduce access to significant markets, and no political advantage to doing so. Equivalent international or domestic instruments offer similar levels of protection but with less well-developed enforcement infrastructure, risks of zombification.
High Risk	EU protections no longer apply. Expressed preference to weaken protection from some stakeholders. No competition case for retaining and possible long-term costs associated with doing so. Equivalent international or domestic instruments offer some protection but with less well-developed enforcement infrastructure, risks of zombification.
Very High Risk	EU protections no longer apply, political pressure from senior ministers to weaken legislation, policies viewed by some stakeholders as impediment to economy. No competition reason for retaining. No governance or enforcement mechanisms.

commitments⁵¹ and the government has stated its intent to uphold all of them once the UK leaves the EU.⁵² However, the EU has often pursued higher standards and tighter timelines than those specified at the international level and has a better developed implementation and enforcement framework. Consequently, these international agreements do not offer comparable levels of protection to that afforded by the EU’s regulatory and enforcement frameworks.

In addition, the process of withdrawing from the EU whilst remaining bound by these international agreements is not straightforward.⁵³ The United Kingdom Environmental Law Association (UKELA) identifies three principal areas of concern. First, for agreements where the EU has held exclusive competence, unless the UK ratifies these agreements itself, the backstop they provide will be lost.⁵⁴ On mixed agreements to which both the EU and its member states are contracting parties there is on-going uncertainty about whether these will still apply post-Brexit and what steps need to be taken to ensure that they do.⁵⁵ Third, the EUWB has no mechanism for enabling the UK to keep pace with international conventions and agreements,

so that UK laws may become out-of-date.⁵⁶

In determining the level of risk for each sector we take these cross-cutting governance and coordination issues into account along with the presence of non-EU derived domestic legislation, the international commitments into which the UK has entered, the position of the government articulated in speeches and the 25YEP, and where appropriate ministerial speeches and policy pronouncements.

Given the high levels of uncertainty surrounding the entire Brexit process the analysis summarised below is not based on firm predictions informed by probabilistic analysis. Rather, it is based on a process of expert judgement of what will be impacted, when and through what processes, drawing on the best available academic and policy evidence. The analysis mostly focuses on the risks⁵⁷ to current levels of policy protection, associated with processes of policy non-implementation, dismantling, and gaps emerging in the current scope of environmental policy protections. These risks are transparently explored across the five scenarios using the scale outlined in Table 2.

51 Hilson, C., 2017. The impact of brexit on the environment: exploring the dynamics of a complex relationship, *Transnational Environmental Law*, 7(1): 89-113.

52 Baker, S. 2017. Answer to parliamentary question, 17/09/17, available from [https://hansard.parliament.uk/commons/2017-09-07/debates/3861E3BE-F7F1-4C3C-893E-194F14185F5C/EuropeanUnion\(Withdrawal\)Bill](https://hansard.parliament.uk/commons/2017-09-07/debates/3861E3BE-F7F1-4C3C-893E-194F14185F5C/EuropeanUnion(Withdrawal)Bill)

53 UKELA, 2017. The UK and international environmental law after Brexit, 6, available from <https://www.ukela.org/content/doclib/320.pdf>.

54 UKELA, 2017. The UK and international environmental law after Brexit. Ibid.

55 UKELA, 2017. The UK and international environmental law after Brexit. Ibid.

56 UKELA, 2017. The UK and international environmental law after Brexit. Ibid.

57 For a discussion of opportunities see Burns *et al.* 2016. The EU referendum and the UK environment: An expert review.

4.1 Birds and Habitats

The EU Birds Directive⁵⁸ is primarily implemented in the UK via the Wildlife and Countryside Act.⁵⁹ Its principal aim is to protect and maintain populations of all wild bird species. It is underpinned by a system of Special Protection Areas (SPAs) for rare or vulnerable species, and migratory species, with a specific focus upon protecting wetlands of international importance.

The EU Habitats Directive⁶⁰ is implemented in the UK via the Conservation Regulations for the UK and the devolved nations.⁶¹ The Habitats Directive seeks to maintain biodiversity in the EU by requiring Member States to maintain or restore natural habitats and wild species to a favourable conservation status, and to introduce robust protection habitats and species of European importance. A key tool used in the Habitats Directive to achieve these goals is the development of a coherent European ecological network of protected sites, known as Special Areas of Conservation (SACs). The SACs and SPAs designated under the Birds Directive form a network of European protected areas known as Natura 2000.⁶²

Academic studies suggest that these two legislative instruments have had a positive impact on the welfare of bird species and habitats across

Europe.⁶³ One study⁶⁴ compared the population trends for species protected under the Birds Directives, analysing the difference between those that require special conservation measures and those that have less protection under the legislation. Notably those bird species subject to higher levels of protection are faring better leading to the conclusion that

“the EU’s conservation legislation has had a demonstrably positive impact on target species, even during a period in which climate change has significantly affected populations.”⁶⁵

The Royal Society for the Protection of Birds (RSPB) further suggests that Natura 2000 and the Habitats Directive have had a positive effect in the UK: protected sites in the UK were being lost at a rate of 15% a year before the directives were implemented, but this declined to just 1% a year afterwards.⁶⁶ The government’s own review of the Habitats and Birds Directives in 2012 found that on the whole they were working well, and that “claims that the UK was guilty of gold-plating its implementation of the directive were not substantiated.”⁶⁷ Moreover, when the directives were reviewed as part of the Regulatory Fitness programme (REFIT) at the EU level, they were again found fit for purpose but lack of implementation in member states did emerge as an issue.⁶⁸

However, it is worth noting that while some birds protected under the EU birds directive have fared better over-time common farmland birds

58 Directive 2009/147/EC on the conservation of wild birds <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32009L0147>.

59 The other principal instruments include: The Conservation (Natural Habitats, & c.) Regulations 2010 (as amended) <http://jncc.defra.gov.uk/page-1379>; The Wildlife (Northern Ireland) Order 1985; the Nature Conservation and Amenity Lands (Northern Ireland) Order 1985; the Conservation (Natural Habitats, &c.) (Northern Ireland) Regulations 1995 (as amended) http://www.opsi.gov.uk/sr/sr1995/Nisr_19950380_en_1.htm; the Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 <http://jncc.defra.gov.uk/page-4550>. For UK offshore waters (ie from 12 nautical miles from the coast out to 200nm or to the limit of the UK Continental Shelf Designated Area), the Habitats Directive is transposed into UK law by the Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 (as amended) <http://jncc.defra.gov.uk/page-4550>.

60 Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

61 The Conservation of Habitats and Species Regulations 2010 <http://www.legislation.gov.uk/uksi/2010/490/contents/made> consolidate all amendments made to the 1994 Regulations in respect of England and Wales. In Scotland the Habitats Directive is transposed through a combination of the Habitats Regulations 2010 (in relation to reserved matters) and the 1994 Regulations. The Conservation (Natural Habitats, &c) Regulations (Northern Ireland) 1995 (as amended) http://www.opsi.gov.uk/sr/sr1995/Nisr_19950380_en_1.htm transpose the Habitats Directive in relation to Northern Ireland. For UK offshore waters (12 nautical miles from the coast out to 200nautical miles or to the limit of the UK Continental Shelf Designated Area), the Habitats Directive is transposed into UK law by the Offshore Marine Conservation (Natural Habitats & c.) Regulations 2007 (as amended) <http://jncc.defra.gov.uk/page-4550>.

62 JNCC, 2018. European legislation, available from <http://jncc.defra.gov.uk/page-1372>; European Commission, 2018. Nature and biodiversity law, available from http://ec.europa.eu/environment/nature/legislation/index_en.htm.

63 Donald, P., Sanderson, F. Burfield, I., Bierman, S., Gregory, R., Waliczky, Z., 2007. 'International conservation policy delivers benefits for birds in Europe', *Science*, 317: 810-813; Sanderson, et al., 2015. 'Assessing the Performance of EU Nature Legislation in Protecting Target Bird Species in an Era of Climate Change', *Conservation Letters* DOI: 10.1111/conl.12196.

64 Sanderson, et al. Assessing the performance of EU nature legislation. Ibid.

65 Sanderson, et al. Assessing the performance of EU nature legislation, 1. Ibid.

66 Vidal, J., 2015. UK criticised for failure to defend European nature protection laws, *The Guardian*, 28/10/2015 available from: <https://www.theguardian.com/environment/2015/oct/28/uk-criticised-for-failure-to-defend-european-nature-protection-laws>

67 HMG, 2012. Report of the Habitats and Wild Birds Directives implementation review, available at, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/69513/pb13724-habitats-review-report.pdf; also see Morris, R., 2011. 'The application of the Habitats Directive in the UK: Compliance or gold Plating?', *Land Use Policy*, 28(1): 361-369.

68 European Commission, n.d. Fitness check of the Birds and Habitats directives, available from http://ec.europa.eu/environment/nature/legislation/fitness_check/index_en.htm.

populations have declined by 50% since 1970,⁶⁹ although evidence indicates that the protection afforded under the Habitats and Birds Directives is beginning to address this trend.⁷⁰

Risk Analysis

On balance the Birds and Habitats Directives have delivered protection to vulnerable species and crucial habitats yet of all the environmental policies reviewed in this briefing the Habitats and Birds Directives are arguably most at risk and under all scenarios. Whichever Brexit option is selected the Birds and Habitats Directives can be set aside within the UK if the government so chooses as they are not included in the European Economic Area Agreement and nor are they specifically related to product or trade standards, which means there is no competition case for maintaining the level of protection currently offered. Whilst there are different regulations implementing the provisions in Scotland and Wales, as currently worded the EUWB offers the UK government scope to roll back legislation across all territories.

However, there are four mitigating factors to consider. The first is that the Habitats and Birds Directives were adopted to give effect to the EU's international commitments under the Council of Europe's Bern Convention, which aims to promote European cooperation to conserve wild flora and fauna and their habitats,⁷¹ and the UN's Bonn Convention on migratory species and wild animals, which aims to conserve or restore places where these species reside, to mitigate obstacles to their migration and to control other factors that might endanger them.⁷² The UK is also a party to the RAMSAR convention⁷³, which seeks to conserve wetlands and covers many areas regulated under the Habitats and Birds Directives.

Upon leaving the EU the UK will remain party to these agreements and therefore a degree of protection will still be offered.⁷⁴ However, *none* of these international agreements has enforcement provisions, and consequently the level of protection they provide is far lower than that provided by equivalent EU legislation.⁷⁵

Second, some of the areas protected under the habitats and birds directives are also designated as Sites of Special Scientific Interest (SSSI) under the Wildlife and Countryside Act. SSSIs cover 'the best examples of the UK's flora, fauna, or geological or physiographical features'⁷⁶. Yet SSSI designation tends to offer more discretion on the balance of interests to be considered in the case of, for example, a development near or on an SSSI, than EU legislation and therefore the level of protection offered is generally considered to be lower than under EU law.⁷⁷

Third, the government has committed in the 25YEP to implement a Nature Recovery Network providing 500,000 hectares of additional wildlife habitat, claiming that the network will more effectively link existing protected sites and landscapes.⁷⁸ Such a network might effectively maintain and further extend existing Natura 2000 sites whilst delivering on the recommendation made eight years ago in the Lawton report⁷⁹ to put in place a more coherent network of ecological sites.

However, there are as yet no concrete policy recommendations or timelines attached to this commitment. Moreover it only applies to England. There are also indications that at least two senior government ministers wish to see the Habitats and Birds Directives

69 Defra, 2014. UK biodiversity indicators 2014, available at, <https://www.gov.uk/government/statistics/biodiversity-indicators-for-the-uk>.

70 Gamero et al., 2017. Tracking progress toward EU biodiversity strategy targets: EU policy effects in preserving its common farmland birds, *Conservation Letters*, 10 (4): 395-402.

71 The Bern Convention, available from <https://www.coe.int/en/web/bern-convention>.

72 The Bonn Convention, available from <http://www.cms.int/en/legalinstrument/cms>.

73 The Ramsar Convention, available from <http://www.ramsar.org>.

74 Hilson, C., 2017. The impact of Brexit on the environment: exploring the dynamics of a complex relationship, *Transnational Environmental Law*, 7(1): 89-113.


75 UKELA, 2017. *Brexit and environmental law: The UK and international environmental law*.

76 JNCC, n.d. Protected areas designation directory available from <http://jncc.defra.gov.uk/page-1527>.

77 Institute for European Environmental Policy, 2016. The potential policy and environmental consequences for the UK of a departure from the European Union, available from https://ieep.eu/uploads/articles/attachments/5f00e400-c0d4-4123-9efc-2bfe0e6e9f1f/IEEP_Brexit_2016.pdf?v=63664509964IEEP_2016

78 HMG, 2018. *A green future*.

79 Lawton et al., 2010. Making space for nature. *A review of England's wildlife sites and ecological network*, available from <http://webarchive.nationalarchives.gov.uk/20130402170324/http://archive.defra.gov.uk/environment/biodiversity/documents/201009space-for-nature.pdf>.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No Deal
Habitats and Birds	Very High Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk

set aside. During the referendum campaign George Eustice, the current Farming Minister, described the Habitats and Birds Directives as ‘spirit crushing’ and said they would ‘go’ post-Brexit.⁸⁰ Boris Johnson, Foreign Secretary also implied in February 2018 that Brexit provided the opportunity to weaken planning rules and legislation protecting nature.⁸¹ In addition current Environment Secretary Michael Gove argued that the directives should be reformed or rescinded post Brexit.⁸² These statements, set alongside the long-standing antipathy to the nature directives in the Conservative Party, suggest these policies are at risk, and, as they are not covered by the EEA agreement, they are at risk under all scenarios. Hence, in the absence of concrete policy commitments in the 25YEP and stated preference of key ministers to set aside the protections currently embodied in EU nature legislation we have deemed the risk category to be the highest.

⁸⁰ Neslen, A., 2016. Brexit would free UK from ‘spirit-crushing’ green directives, says minister, *The Guardian*, 30/05/2016, available from <https://www.theguardian.com/politics/2016/may/30/brexit-spirit-crushing-green-directives-minister-george-eustice>.

⁸¹ Murray, J., 2018. Boris Johnson hints at opportunity to dilute environmental standards post-Brexit, *businessGreen*, 14/02/2018, available from <https://www.businessgreen.com/bg/news/3026668/boris-johnson-hints-at-opportunity-to-dilute-environmental-standards-post-brexit>.

⁸² Murray, J. 2017. Michael Gove takes aim at habitats directive, *businessGreen*, 28/03/17, available from <https://www.businessgreen.com/bg/news/3007263/michael-gove-takes-aim-at-habitats-directive>.

4.2 Energy and Climate Change

The UK is a signatory of a range of international and EU commitments relating to renewable energy, energy efficiency and climate change. The UK is a member of the United Nations Framework Convention on Climate Change (UNFCCC), which acts as an umbrella organisation for international action to tackle climate change. The UK is a signatory of the 2015 Paris Agreement under which 160 countries have pledged to cut their emissions in order to try to limit increases in global average temperature rise to less than 2°C above pre-industrial levels and to pursue efforts to limit warming to 1.5°C.

As an EU Member State the UK has agreed to make a contribution towards the EU 2030 target of at least a 40% reduction in emissions below 1990 levels. This 2030 commitment follows on from the EU's 2020 package, which commits the EU to a 20% reduction in greenhouse gas emissions relative to 1990, a 20% energy efficiency improvement and a 20% share of renewables in energy consumption by 2020.

UK climate policy is primarily governed by domestic instruments, including the UK Climate Change Act (CCA), which was adopted in 2008,⁸³ following an extensive campaign.⁸⁴ The CCA established a long-term target to cut greenhouse gas emissions by 80% on 1990 levels by 2050 with interim targets established by carbon budgets to enable the process to stay on track. An independent Climate Change Committee (CCC) gives advice to the government on the policies required to reach targets and reports on progress. The current government has developed a Clean Growth Strategy⁸⁵ to help to pave the way to the achievement of the carbon budget targets up to 2032 and has committed to phasing out unabated

coal fired electricity generation by 2025.⁸⁶ As a successful low-carbon transition will rely upon investment in renewable sources of energy, the UK is committed to a 15% increase in renewable energy generation by 2020 under the Renewable Energy Directive. It is also committed to 18% reduction in energy consumption on 2007 levels by 2020 under the Energy Efficiency Directive.⁸⁷

There is no reason in principle why Brexit would impact the UK's climate commitments given that the CCA is a domestic policy. However, the Climate Change Committee has already identified a 'policy gap' for the delivery of the fourth and fifth carbon budgets, suggesting that current policy measures would leave the UK short of reaching its targets by 6% and 9.7% respectively.⁸⁸ For example, policy instruments that were designed to help the UK meet energy efficiency targets such as the Warm Front programme, the Green Deal, and the Zero Carbon Homes target for new homes have been scrapped – and the Energy Company Obligation, which requires energy providers to subsidise home insulation, has been downsized.⁸⁹ The number of major energy efficiency measures installed in homes dropped by 80% between 2012 and 2015.⁹⁰ A 2016 House of Commons Energy and Climate Change Committee report found that whilst the government was on target to meet its renewable energy commitments under the EU's Renewable Energy Directive it would miss those for renewable heat and transport without further investment.⁹¹

⁸³ The devolved nations' legislative commitments on climate change are contained within the Climate Change (Scotland) Act (2009) and Well-being of Future Generations (Wales) Act 2015 and The Environment (Wales) Act 2016.

⁸⁴ Carter, N. and Jacobs, M. 2014. Explaining radical policy change: the case of climate change and energy policy under the British Labour Government 2006–2010. *Public Administration*, 92 (1): 125-141; Carter, N. and Childs, M., 2017. Friends of the Earth as a policy entrepreneur: 'The Big Ask' campaign for a UK Climate Change Act, *Environmental Politics*, DOI:10.1080/09644016.2017.1368151.

⁸⁵ HMG, 2017. The Clean Growth Strategy. Leading the way to a low carbon future, available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/651916/BEIS_The_Clean_Growth_online_12.10.17.pdf

⁸⁶ Perry, C., 2017. Speech the conference of the parties (COP) 23, 16/11/2017, available from <https://www.gov.uk/government/speeches/speech-to-the-conference-of-parties-cop-23>.

⁸⁷ European Commission, 2017. National Energy Efficiency Action Plan UK 2018, available from https://ec.europa.eu/energy/sites/ener/files/documents/uk_neeap_2017.pdf.

⁸⁸ Climate Change Committee, 2018. An independent assessment of the UK's Clean Growth Strategy: From ambition to action, available from <https://www.theccc.org.uk/publication/independent-assessment-uks-clean-growth-strategy-ambition-action/>.

⁸⁹ House of Commons Energy and Climate Change Committee, 2016. Home energy efficiency and demand reduction. Fourth Report of Session 2015–16, available from <https://publications.parliament.uk/pa/cm201516/cmselect/cmenergy/552/552.pdf>.

⁹⁰ Temperly, J., 2017. Report lays out vision for 'ambitious' UK energy efficiency plan. *Carbon Brief*, 27/09/2017, available from <https://www.carbonbrief.org/report-lays-vision-ambitious-uk-energy-efficiency-plan>.

⁹¹ House of Commons, Energy and Climate Change Committee, 2016. 2020 renewable heat and transport targets, available from https://publications.parliament.uk/pa/cm201617/cmselect/cmenergy/173/17302.htm?utm_source=173&utm_medium=fullbullet&utm_campaign=modulereports.

Recent academic analyses have suggested that Brexit may further compromise UK climate ambition for a number of reasons.⁹² First, the EU has provided an external driver keeping the UK on track. For example, when George Osborne was Chancellor his preference to reduce the UK's climate ambition was curtailed by EU-level commitments. Second, the EU has provided funding for infrastructure projects to facilitate low-carbon transition. Under the current EU budget (covering 2014-2020), the UK will have received approximately €5.8 billion to fund projects that support the environment and tackle climate change.⁹³ Since 2000 energy infrastructure development in the UK has absorbed more than €37 billion in European Investment Bank loans including €6 billion towards low-carbon projects.⁹⁴ The UK will no longer have access to such funds and it is unclear what level of resources will be available post-Brexit.

Third, Brexit has distracted the government from the pursuit of climate goals and created capacity challenges due to the workload involved in reviewing policies as part of the withdrawal process. Fourth, is the on-going uncertainty about carbon prices and the operation of the EU Emissions Trading Scheme (ETS). It is unclear whether the UK will leave the ETS and if it does what the implications would be for both the EU and the UK. The key questions to be resolved here would be the fate of the UK's legacy credits and the price of carbon within the UK and EU. Participation in the ETS has been identified as requiring a UK-wide legislative framework by the UK government, which also needs to be agreed.

Brexit's impacts would not be limited to the UK: there is a strong sense at the EU level that the UK's exit may in turn weaken European ambition

where the UK is regarded as a key player.⁹⁵ There is a fear that the UK leaving the EU will see a shift in the balance of power within the EU Council that will see more sceptical states, especially those that find the transition to a low carbon economy more challenging, such as Poland, become vocal and effective in lowering overall EU ambition. Losing the UK's diplomatic expertise within the EU negotiating team at the international level is also a concern.⁹⁶ The other key issue is that with the UK leaving the EU the UK's contribution to the EU's climate targets will have to be shared across the remaining states.⁹⁷

Risk Analysis

The risk for climate mitigation is judged to be low for the Norwegian option where the UK would remain largely in step with the rest of the EU. However, the UK would become a policy-taker with limited ability to influence the EU's position for better or worse, which is why we have suggested there is a moderate rather than limited risk. For three other Brexit options the risk level for these policies is judged to be high and for a chaotic no deal as very high.

UK climate policy – whilst nested within international and European commitments – is largely framed by a domestic policy instrument, the Climate Change Act, which has fairly wide support. The positive policy statements on climate ambition in the 25YEP, Claire Perry's speech at the UNFCCC Conference of the Parties in Bonn 2017⁹⁸, and the publication of the Clean Growth Strategy, all indicate an on-going commitment to UK climate leadership in this field. Set against this are the claims that emerged in the press in April 2017⁹⁹ that climate ambition could be scaled back in an effort to

⁹² Farstad, F. Carter, N. and Burns, C. 2018. What does Brexit mean for the UK's Climate Change Act? *The Political Quarterly* DOI: 10.1111/1467-923X.12486; Hepburn, C. and Teytleboym, A. 2017. Climate change policy after Brexit, *Oxford Review of Economic Policy* 33(1):144–154.

⁹³ Greenpeace, 2016. Brexit: 'How much EU money currently goes to the environment available from <https://energydesk.greenpeace.org/2016/10/07/brexit-eu-money-fund-environment/>.

⁹⁴ House of Lords, 2017. European Union Committee, Brexit: environment and climate change, available from https://publications.parliament.uk/pa/ld/201617/ldselect/lddeucom/109/10911.htm#_idTextAnchor076.


⁹⁵ Hepburn, C. and Teytleboym, A. 2017. Climate change policy after Brexit

⁹⁶ Hepburn, C. and Teytleboym, A. 2017. Climate change policy after Brexit; Farstad *et al.* 2018. What does Brexit mean for the UK's Climate Change Act?

⁹⁷ Keating, D. 2016. Brexit makes it harder to dole out EU climate burden, DW, available from <http://www.dw.com/en/brexit-makes-it-harder-to-dole-out-eu-climate-burden/a-19414911>.

⁹⁸ Perry, C. 2017. Speech to the Conference of the Parties, COP 23, Speech, available from <https://www.gov.uk/government/speeches/speech-to-the-conference-of-parties-cop-23>.

⁹⁹ Shipman, T. 2017. 'Less climate concern' key to Brexit trade, *The Times*, 09/04/2017, available from <https://www.thetimes.co.uk/article/less-climate-concern-key-to-brexit-trade-g6rs6cw3>.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No Deal
Climate and Energy	Moderate Risk	High Risk	High Risk	High Risk	Very High Risk

reach trade deals, this prospect maybe more likely under a chaotic no deal if the UK scrambles to secure trade from a relatively weak position. Moreover, several key challenges remain. Detailed policies are needed to ensure that the policy gap identified by the Climate Change Committee is closed, particularly in relation to renewable energy and energy efficiency where there are some legitimate concerns, and here it is worth noting that CCC has no enforcement powers, unlike the CJEU.

Diplomatic work is required to ensure that there is on-going and constructive cooperation between the UK and EU at international climate meetings and the UK should seek to ensure that an environmental non-regression principle is included within any EU-UK trade deal so that if the UK continues to exercise leadership on this field the EU should track its progress and vice versa.

4.3 Water Quality

The principal instrument governing water quality in the EU is the Water Framework Directive, which seeks to manage water quality within river basin catchment areas with the overall goal of achieving good water status for inland and coastal waters. It is underpinned by a set of ‘daughter’ directives covering ground water, urban waste water, drinking water and bathing water. The Nitrates and Integrated Pollution Control Directives are also of relevance to improving European water quality.¹⁰⁰ These are implemented in the UK via a range of legislative instruments in England, Wales, Scotland and Northern Ireland, primarily but not exclusively by the Water Environment, Water Quality and Urban Waste Water Regulations.¹⁰¹

The latest Environment Agency state of the environment report on water quality in England found that

“Over the last 30 years, there has been good progress following more than a century of poorly regulated industrial practices. England has the cleanest bathing waters since records began, serious pollution incidents are steadily declining and rivers that were biologically dead are reviving.”¹⁰²

The vast majority of this progress has been driven by the implementation of EU directives. The UK struggled initially to implement EU rules on bathing water, designating only 27 bathing water sites despite the fact that the UK is an island.¹⁰³ Successful litigation on the UK’s government’s failure to implement the directive properly¹⁰⁴ saw the government shift its position. Similarly on the treatment of urban waste water,

legal action against the UK government for failure to implement the relevant directive¹⁰⁵ has prompted major investment in projects such as the Thames Tideway Tunnel.¹⁰⁶ Although there is still much to do: a recent monitoring report estimated that further investment of €882 million is needed for the UK to be able to comply fully with EU urban waste water standards.¹⁰⁷

The same report shows that for the long-standing directives on bathing and drinking water, the UK now performs relatively well, although as discussed below, the UK has struggled to reach new bathing water standards. The UK is also finding it challenging to achieve ‘good’ water status for natural surface water bodies, where only 41% achieve a good or high ecological status and only 27% of heavily modified or artificial water bodies achieve a good or high ecological potential.¹⁰⁸ There are also serious on-going issues in relation to nitrate pollution with the Environment Agency suggesting that nearly half of groundwater bodies will fail to reach good chemical status by 2021. For groundwater used for drinking water, nitrate levels were responsible for 65% of failures to achieve good chemical status.¹⁰⁹

Risk Analysis

In terms of determining the risk factor we should note that the Bathing Water Directive is explicitly excluded from the European Economic Area Agreement, so for this section we review the risk factor for each of the main directives separately. Under the Norwegian option the EU’s regulatory regime for bathing water would no longer apply to the UK. However, it seems unlikely that UK citizens would be willing to accept deterioration in the quality of water, and investments have already been made to improve bathing water quality. In

¹⁰⁰ European Commission, n.d, Water, available from http://ec.europa.eu/environment/water/index_en.htm.

¹⁰¹ The Water Environment (Water Framework Directive) (England and Wales) Regulations 2003 <http://www.opsi.gov.uk/si/si2003/20033242.htm> (Statutory Instrument 2003 No. 3242) for England and Wales; the Water Environment and Water Services (Scotland) Act 2003 http://www.opsi.gov.uk/legislation/scotland/acts2003/asp_20030003_en_1 (WEWS Act) and The Water Environment (Water Framework Directive) Regulations (Northern Ireland) 2003 (Statutory Rule 2003 No. 544) for Northern Ireland

¹⁰² Environment Agency, 2018. *State of the Environment: Water Quality*, 19/02/18, available from <https://www.gov.uk/government/publications/state-of-the-environment-water-quality>.

¹⁰³ Jordan, A., 1998. Private affluence and public squalor. The Europeanisation of British coastal bathing water, *Policy and Politics*, 26(1): 33-54.

¹⁰⁴ Case C-56/90, Judgement available from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A61990CJ0056>

¹⁰⁵ Case C301/10, Judgement available from <http://curia.europa.eu/juris/document/document.jsf?docid=128650&doclang=en>.

¹⁰⁶ Institute for European Environmental Policy, 2016. The potential policy and environmental consequences for the UK.

¹⁰⁷ European Commission, 2017. The EU environmental implementation review. Country report – the United Kingdom, SWD (2017) 59 final , 03.02.2017, Brussels, available from http://ec.europa.eu/environment/eir/pdf/report_uk_en.pdf.

¹⁰⁸ European Commission, 2017. The EU environmental implementation review.

¹⁰⁹ Environment Agency, 2018. *State of the Environment: Water Quality*.

the short term at least it seems likely bathing water standards will remain at current levels.

However, there is a potential risk of longer-term zombification where the standards are not updated. Indeed the UK slipped in the bathing water rankings when the directive was last updated as it struggled to implement the more stringent rules.¹¹⁰ The failure to keep up to date with scientific advance is an on-going risk, especially if the governance gap is not addressed, so that policy is not regularly monitored and the transparency and accountability that characterise current policy cease. The commitments made in the 25YEP do little to address these concerns remaining vaguely worded and weak, particularly in comparison to EU legislation. Thus, the 25YEP commits the government to minimising by 2030 the harmful bacteria in designated bathing waters and continuing to improve the cleanliness of those waters, and making sure that potential bathers are warned of any short-term pollution risks.¹¹¹ But no specific detail is given as to what minimising means, which bacteria and how bathers will be warned and what short-term pollution means. Moreover as this is a 25 year plan it is perhaps surprising that commitments are limited to 2030. These risks are not just limited to the UK. Polluting our marine environment would have negative implications for neighbouring coastal nations and the wider health of the marine environment.

For drinking water, under the Norwegian option the UK will be required to stay in line with EU standards but with limited input. For the other scenarios, as with bathing water, given investment in this sector and the public expectation that water will be safe and clean to drink it seems unlikely that there will be a roll back on quality. Again, the key risk relates to governance. There is a potential risk of longer-term zombification where the standards are not updated and an on-going risk if the governance gap is not addressed, that policy will not be

regularly monitored and that the transparency and accountability that characterise current policy will cease.

The principal areas of concern relate to the Water Framework Directive where there are on-going challenges with meeting good water status.¹¹² The 25YEP commits the government to improving at least three quarters of UK waters to be close to their natural state as soon as is practicable, which is a less ambitious target than EU's Water Framework Directive, which aims for good status for all-natural water bodies by 2027 at the latest.¹¹³ The wording of the 25YEP implies a roll back of policy and potentially the reassertion of the traditional UK cost-based approach to policy-making. The uncertainty about the transfer of environmental policy principles is also of relevance here – the polluter pays principle has been used successfully as a tool for taking action against water companies for failing standards.¹¹⁴ Its absence in this and other fields will limit the tools available to stakeholders to uphold environmental standards. Moreover there has been lobbying by the National Farmers Union to review and set aside some aspects of the Nitrates Directive – a principal tool used by the EU for improving water quality, which seeks to reduce the impact of nitrates upon water bodies. This would make meeting commitments of improving water quality more challenging. These concerns about the fragility of government's commitments to water quality after Brexit are further fuelled by the common frameworks proposal, which considers water as an area of policy not requiring a UK wide framework.¹¹⁵ This would open the way for differentiated zombification, or roll-back of key standards (such as regulation of diffuse pollution from agriculture).

¹¹⁰ European Commission, 2017. The EU environmental implementation review.


¹¹¹ HMG, 2018. A Green Future, 26, 103.

¹¹² European Commission, 2017. The EU environmental implementation review; Environment Agency, 2018. *State of the Environment: Water Quality*.

¹¹³ Gravey, V., Jordan, A. and Burns, C. 2018. A tale of two plans: UK and EU post-Brexit policy, 14/02/18, available from <https://www.brexitenvironment.co.uk/2018/02/14/tale-two-plans-uk-eu-environment-policy-brexit/>.

¹¹⁴ Reuters, 2017. Thames Water hit with record fine for polluting River Thames, available from <https://uk.reuters.com/article/uk-britain-environment-thames-wtr-utills/thames-water-hit-with-record-fine-for-polluting-river-thames-idUKKBN16T1SR>.

¹¹⁵ HMG, 2018, Frameworks analysis: breakdown of areas of EU law that intersect with devolved competence.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No Deal
Bathing Water	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Drinking Water	Limited risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Water Framework Directive	Limited risk	High Risk	High Risk	High Risk	High Risk
Urban Waste Water	Limited risk	High Risk	High Risk	High Risk	High Risk
Ground Water	Limited risk	High Risk	High Risk	High Risk	High Risk
Nitrates Directive	Limited Risk	Very High Risk	Very High Risk	Very High Risk	Very High Risk

On water abstraction the 25YEP simply reiterates an existing EU policy commitment to ensure that by 2021 the proportion of water bodies with enough water to support environmental standards increases from 82% to 90% for surface water bodies and from 72% to 77% for groundwater bodies.¹¹⁶ And there is no mention of shale gas in the 25YEP despite the fact that it has implications for ground water quality and is identified as an area for expansion in the Conservative Party manifesto.¹¹⁷

¹¹⁶ HMG, 2018. A green future, 26.

¹¹⁷ The Conservative Party, 2017. The Conservative Party Manifesto, available from <https://www.conservatives.com/manifesto>.

4.4 Air Quality

Air quality is regulated through a number of key instruments relating to acidification, industrial pollution, ozone depleting substances and emissions from vehicles. The European Commission has recently revised EU air quality legislation and its current strategy is based upon establishing a set of national emissions ceilings for key primary and secondary pollutants. UK air quality legislation is consequently based upon patchwork of overlapping international, European and national legislation; and competences across the devolved nations.¹¹⁸ The Ambient Air Quality directive has been implemented via the Air Quality Standards Regulations of 2010 in each of the UK nations.

In terms of overall trends, there is a correlation between the existence and extension of the EU's air quality laws and the reduction in the UK of levels of acidification, ground and high-level ozone, and air pollution.¹¹⁹ However, a number of states, including the UK, are struggling to implement provisions of the Ambient Air Quality Directive even though EU targets fall well short of recommended World Health Organisation guidelines.¹²⁰ In January 2017 it was revealed that the UK had already breached its annual limits for nitrogen dioxide by 5 January in one part of London and it was anticipated that further sites would be in breach within a matter of days.¹²¹ Client Earth has taken action against the UK government for failing to implement air quality laws several times between 2010 and 2018.¹²² Whilst the UK is not alone in struggling to meet emission

limits¹²³ there are concerns that in the absence of EU pressure to meet standards, measure quality and provide transparent data that the UK will revise current air quality laws. The House of Commons Environment, Food and Rural Affairs, Environmental Audit, Health and Social Care, and Transport Committees led a joint inquiry, the report of which lambasted the government for its lack of ambition and asked it to bring forward a new Clean Air Act to revise its current air quality plans to establish more stringent targets and tighter time deadlines.¹²⁴

A key challenge for the UK and other states is that sources of air pollution are diffuse – in 2015 Defra estimated that 35 to 50% of ambient particulate matter recorded in the UK stemmed from international sources.¹²⁵ Hence this is a genuinely transboundary policy problem and whichever Brexit outcome the UK ends up with will require on-going cooperation with its European neighbours. On car manufacture and trade in cars the EU and UK will likely remain aligned. The key contributors to particulate matter are traffic-based emissions so to deal with them requires integrated approaches across environment, transport and planning policies and national, sub-national and local government. A further on-going reason for the UK's failure to comply with EU air quality legislation is cost with local authorities struggling to put in place the necessary measures to implement the plan.¹²⁶

Risk Analysis

For ozone and sulphur dioxide emissions the UK is bound by international treaty commitments in the form of the Convention on Long Range Transboundary Air Pollution (CLRTAP)¹²⁷ and the Montreal Protocol (and successor agreements)

¹¹⁸ Scotford, E., 2016. Air quality law in the United Kingdom at a crossroads, available from <https://blog.oup.com/2016/10/air-quality-law-environment/>.

¹¹⁹ Guerreiro, C.B.B., Foltescu, V. and De Leeuw, F., 2014. 'Air quality status and trends in Europe', *Atmospheric Environment*, 98:376-384; Wilson, R.C., Fleming, Z.L., Monks, P.S., Clain, G., Henne, S., Konovalov, I.B., Szopa, S., and Menut, L., 2012. 'Have primary emission reduction measures reduced ozone across Europe? An analysis of European rural background ozone trends 1996–2005', *Atmospheric Chemistry and Physics*, 12: 437–454; European Environment Agency, 2015. *The European environment – state and outlook 2015: an integrated assessment of the European Environment*, available from <https://www.eea.europa.eu/soer>.

¹²⁰ AirClim et al. 2017 Clearing the air: A critical guide to the new national emission ceilings directive available at <http://www.airclim.org/publications/clearing-air>.

¹²¹ Carrington, D., 2017. London breaches annual air pollution limit for 2017 in just five days, *The Guardian*, 06/01/2017, available from <https://www.theguardian.com/environment/2017/jan/06/london-breaches-toxic-air-pollution-limit-for-2017-in-just-five-days>.

¹²² ClientEarth, 2018. UK Government loses third air pollution case as judge rules air pollution plans 'unlawful', available from <https://www.clientearth.org/government-loses-third-air-pollution-case-judge-rules-air-pollution-plans-unlawful/>.

¹²³ Doerig, H. 2014. 'The German Courts and European air quality plans', *Journal of Environmental Law*, 26: 139-146.

¹²⁴ House of Commons Environment, Food and Rural Affairs, Environmental Audit, Health and Social Care, and Transport Committees, 2018. Improving air quality, HC 433 available from <https://publications.parliament.uk/pa/cm201719/cmselect/cmenvfru/433/433.pdf>.

¹²⁵ Defra, 2016. Air pollution in the UK 2015, available from https://uk-air.defra.gov.uk/assets/documents/annualreport/air_pollution_uk_2015_issue_1.pdf.

¹²⁶ Johnston, I., 2017. Cash-strapped councils breaking the law on air pollution, documents reveal, *The Independent*, 10/05/2017, available from <http://www.independent.co.uk/environment/air-pollution-air-quality-plan-government-local-councils-fail-publish-reports-a7745756.html>.

¹²⁷ UNECE, n.d. Air Pollution, available from <https://www.unece.org/env/irtap/welcome.html>.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No deal
Ozone and related substances (Montreal)	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Trans-boundary air pollution	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Moderate Risk
Ambient air quality	Limited risk	High Risk	High Risk	High Risk	High Risk

on ozone depleting substances.¹²⁸ The Montreal protocol in particular has a relatively robust enforcement regime for an international regime, which whilst potentially less effective than the EU equivalent, is one of the most advanced at the international level. However, the EU has moved further and faster than the Montreal regime and provides detailed plans on how gases and substances are to be phased out. There is therefore some concern that the post-Brexit enforcement regime will compromise the achievement of f-gas targets under the Kigali amendment of the Montreal protocol.¹²⁹ There are also industry concerns about having two reporting regimes post-Brexit.¹³⁰ In the 25YEP the government has laid out plans to regulate emissions from Medium Combustion Plants (MCPs) in line with EU's MCP directive¹³¹ and has committed to on-going international leadership although without any detail as to what that means. Taking these factors into account for transboundary air and ozone pollution, Brexit poses a limited risk for the Norwegian Option and moderate risk across the remaining scenarios.

However, for ambient air quality it is a different story. The cost dimension, the government's on-going inability to address ambient air quality and the fact this area is not directly linked to product standards means there could be a rolling back in ambition for all but the Norwegian scenario, where

the UK government would remain subject to EU laws. At the very least there is a risk of zombification and an on-going governance challenge that applies across all nations of the UK. For example, the Welsh government admitted on 25 January 2018 that its failure to put in place plans to implement the air quality directives was illegal.¹³² The government has committed in the 25YEP to a clean air strategy in which it will set out how the government intends to work towards 'our legally binding ceilings on UK emissions of air pollution',¹³³ which appear to remain equivalent to EU targets as both aim to 'halve the effects of air pollution on health by 2030'.¹³⁴

On the positive side the 25YEP commits to reviewing the way in which farmers use fertilisers in order to reduce ammonia emissions, which are a major contributor to ambient air pollution after traffic (although it is worth noting that the UK was critical in removing methane from the 2016 National Ceiling Directive to reduce pressure on farmers).¹³⁵ Also on the positive side is the commitment to review the strategy regularly and report publicly on progress in reducing national emissions of air pollution.¹³⁶ However, as with many of the 25YEP commitments there are promises but currently no detail. Pressure in the form of the recent House of Commons report on air quality¹³⁷ is therefore important to hold the government to its promises in the 25YEP and make them meaningful. Consequently, in view of the on-going challenges associated with meeting air quality emissions we deem ambient air quality to be at high risk.

¹²⁸ UNEP n.d. The Montreal Protocol on substances that deplete the ozone layer, available from <http://ozone.unep.org/en/treaties-and-decisions/montreal-protocol-substances-deplete-ozone-layer>.

¹²⁹ Saveresi, A. 2017. UK Membership of international environmental agreements after Brexit – The case of fluorinated gases, Written Evidence, 12/12/2017, Environmental Audit Committee UK progress on reducing F-Gas emissions Inquiry, available from <https://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/inquiries/parliament-2017/uk-progress-on-reducing-f-gas-emissions-17-19/>.

¹³⁰ Lail, D. 2017. Oral evidence, 17/12/2017 Environmental Audit Committee UK progress on reducing F-Gas emissions Inquiry, available from <https://www.parliament.uk/business/committees/committees-a-z/commons-select/environmental-audit-committee/inquiries/parliament-2017/uk-progress-on-reducing-f-gas-emissions-17-19/>.

¹³¹ HMG, 2018. A green future, 99.

¹³² ClientEarth, 2018. Welsh Government admits in High Court: No plan on air pollution was "unlawful", 25/01/18, available from <https://www.clientearth.org/welsh-government-admits-high-court-no-plan-air-pollution-unlawful/>.

¹³³ HMG, 2018. A green future, 99.

¹³⁴ HMG, 2018. A green future, 99 and AirClim, 2017. Clearing the Air, 16

¹³⁵ ClientEarth, 2016, UK Scuppers Pollution Deal, <https://www.clientearth.org/uk-scuppers-pollution-deal/>

¹³⁶ HMG, 2018. A green future, 99.

¹³⁷ House of Commons Environment, Food and Rural Affairs, Environmental Audit, Health and Social Care, and Transport Committees, 2018. Improving air quality.

4.5 Waste

The main EU legislation on waste is the EU's Waste Framework Directive, which provides an overarching legislative framework for the collection, transport, recovery and disposal of waste in each state and includes a common definition of waste.¹³⁸ The Directive requires governments to recover or dispose of waste and covers permitting, registration and inspection. It also specifies the waste hierarchy, which encourages states to prevent, reduce, recycle, re-use or reclaim waste in order to recover energy or other materials from it, prior to considering disposal, which should be the last resort.¹³⁹ A series of further directives covering specific waste streams complement the framework directive.¹⁴⁰ The EU adopted a Circular Economy package in 2015 that seeks to 'close the loop' of product lifecycles through greater recycling and re-use.¹⁴¹ These goals will be delivered by revised legislation. The EU also has provisions on transport of waste stemming from the Basel convention¹⁴² on transboundary shipments of waste.

EU legislation is implemented in the UK via inter alia the Waste (England and Wales) regulations, Waste (Scotland) regulations and the Waste and Contaminated Land Order (Northern Ireland).¹⁴³ Evidence submitted to the government's balance of competence review suggests that the EU has had a positive impact upon UK waste policy, most notably by promoting

a shift from landfill to recycling of waste.¹⁴⁴ The targets established by the waste framework directive to ensure 50% of municipal waste is recycled seem to have resulted in change in the UK, where recycling rates increased by 400% between 2000 and 2015.¹⁴⁵

Waste is identified as a key strategic priority in the 25YEP, which commits England to a goal of zero avoidable waste by 2050 to be achieved by doubling resource productivity.¹⁴⁶ The UK government has also committed to developing a 'national resources and waste strategy' to be published in 2018 (although presumably only to cover England), which will spell out how its waste goals can be achieved. The question of plastic waste, which has had a higher profile since the screening of Blue Planet 2, also features heavily in the 25YEP. There is a commitment to zero avoidable plastic waste by 2042, a ban of single use plastics on government estates, an extension of the 5p plastic bag charge, and a commitment of funds for research into alternative materials. However, there is a lack of detail or clear staggered interim timelines attached to these commitments. Moreover, the EU has also moved to legislate on plastics waste and its proposed policies have been described as more ambitious than the UK equivalent.¹⁴⁷ Whilst Scotland and Wales share the same minimum EU standards as England there is already divergence in levels of ambition and goal achievement across the UK, with Wales in particular achieving success on bringing waste levels down.¹⁴⁸ There is also a commitment to address marine waste by significantly reducing and where possible preventing marine plastic pollution.¹⁴⁹

¹³⁸ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain directives, OJL 312/3, 22/11/2008, available from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32008L0098>.

¹³⁹ Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste.

¹⁴⁰ See European Commission, n.d. Waste, available from <http://ec.europa.eu/environment/waste/index.htm>.

¹⁴¹ The European Commission, 2015. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: Closing the loop – An EU action plan for the circular economy, COM (2015)614, available from <http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52015DC0614>.

¹⁴² The Basel Convention, available from <http://www.basel.int/>.

¹⁴³ Also see <https://www.gov.uk/browse/environment-countryside/recycling-waste-management>; http://gov.wales/topics/environmentcountryside/epg/waste_recycling/zerowaste/?lang=en; <https://www.environment.gov.scot/our-environment/people-and-the-environment/waste-and-resources/>; <https://www.daera-ni.gov.uk/articles/waste-legislation>.

¹⁴⁴ HMG, 2014. Review of the balance of competences between the United Kingdom and the European Union, available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/279197/environment-climate-change-documents-appendix.pdf.

¹⁴⁵ Local Government Association, 2015. 'Meeting EU Recycling Targets' available from <https://www.local.gov.uk/sites/default/files/documents/meeting-eu-recycling-targ-bba.pdf>.

¹⁴⁶ HMG, 2018. A green future, 29, 83.

¹⁴⁷ Gabbatiss, J. 2018. How does the new EU plastic strategy compare to the UK's plans to cut pollution?, *The Independent*, 18/01/2018, available from <https://www.independent.co.uk/environment/eu-plastic-pollution-strategy-uk-environment-plan-theresa-may-prime-minister-a8164531.html>.

¹⁴⁸ Cowell, R., Flynn, A. and Hacking, N., 2017. Assessing the impact of Brexit on the UK waste resource management sector, available from <https://www.brexitenvironment.co.uk/policy-briefs/>.

¹⁴⁹ HMG, 2018. A green future, 29.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No deal
Waste Directives	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk
Transboundary Movement of waste	Limited Risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk

Risk Analysis

Waste is a tradeable product. In evidence submitted to a House of Lords inquiry on the impact of Brexit on waste, industry associations expressed concerns that Brexit could result in increased costs and difficulties in trading waste, potentially leading to increases in waste crime and landfilling.¹⁵⁰ There are also concerns that divergent approaches across the nations of the UK could make the trade and governance of waste more difficult.¹⁵¹ In the common frameworks document released in March 2018 waste management was identified as an area where non-legislative common frameworks should be considered, although the UK government has suggested that common legislative frameworks might also be required for waste packaging and product regulations that set standards in order to minimise waste.¹⁵² There is a general lack of clarity about how this policy area will be coordinated and what the standards will be, which is already compromising long-term investment and business planning decisions.¹⁵³ Given the stated ambitions of the Welsh Assembly¹⁵⁴ and Scottish¹⁵⁵ government it is more than possible that these states will set more ambitious standards than England, although an on-going concern here is that the greater market power and economic weight of England might lead to a convergence on the lowest common denominator.¹⁵⁶

¹⁵⁰ House of Lords European Union Committee, 2018. Letter to Thérèse Coffey, 17/01/2018, available from <https://www.parliament.uk/documents/lords-committees/eu-energy-environment-subcommittee/Brexit-UK-trade-in-waste/Letter-to-Dr-Th%20c3%a9r%20c3%a8se-Coffey-MP-17-January-2018-trade-in-waste%20.pdf>.

¹⁵¹ Cowell, R., Flynn, A. and Hacking, N., 2017. Assessing the impact of Brexit on the UK waste resource management sector.

¹⁵² HMG, 2018. Frameworks analysis: breakdown of areas of EU law that intersect with devolved competence.

¹⁵³ House of Lords European Union Committee, 2018. Letter to Thérèse Coffey.

¹⁵⁴ Welsh Government, 2017. Towards zero waste, available from http://gov.wales/topics/environmentcountryside/epq/waste_recycling/zerowaste/?lang=enales

¹⁵⁵ Scottish Government, 2010. Scotland's zero waste plan, available from <http://www.gov.scot/Publications/2010/06/08092645/0>

¹⁵⁶ Cowell, R., Flynn, A. and Hacking, N., 2017. Assessing the impact of Brexit on the UK waste resource management sector.

Another area of concern relates to the implementation of the Basel convention. Under EU regulations Member States cannot export hazardous waste for treatment to non-EU countries,¹⁵⁷ which could cause particular problems for the Republic of Ireland, which currently exports around 40% of its hazardous waste to the UK.¹⁵⁸ In addition Gibraltar currently relies on transporting its waste to Spain for processing, which means that post-Brexit tariff and non-tariff barriers could have significant effects for Gibraltarian waste management.¹⁵⁹

On the one hand, the fact that waste is a tradeable product means that there are strong drivers for the government to ensure that post-Brexit regulations remain EU compliant and to develop consistent policy frameworks across the UK. However, the EU is in the process of adopting more ambitious waste policies as part of the Circular Economy package, which it seems unlikely will be on the statute book in time to be transferred into the UK via the EUWB, raising the risk of regulatory divergence and policy zombification over time. Moreover, there is a strong risk of intra-UK policy divergence if the UK's devolved nations adopt divergent policies some of which track the EU and some of which don't.

Overall then, we judge there to be limited risk for the Norwegian option, high risk for the Canadian, Turkish and planned no deal options – here the primary concerns are the scope for zombification and regulatory divergence. On the Turkish option the benefits offered by shared customs arrangements are offset by the scope for regulatory standards diverging. We judge a chaotic no deal to engender very high risks due to the scope for a race to the bottom, waste smuggling and build-up of waste that can't be traded.

¹⁵⁷ European Commission, 2018. Notice to stakeholders withdrawal of the United Kingdom and EU waste law, 08/02/2018, available from http://ec.europa.eu/environment/waste/shipments/pdf/Notice_to_stakeholders_Brexit_waste.pdf.

¹⁵⁸ House of Lords European Union Committee, 2018. Letter to Thérèse Coffey.

¹⁵⁹ House of Lords European Union Committee, 2018. Letter to Thérèse Coffey.

4.6 Chemicals

Chemicals in the UK are regulated via a range of international and regional agreements including the Rotterdam (Prior Informed Consent (PIC), Stockholm (Persistent Organic Pollutants (POPs)) and Basel (Transboundary Hazardous Waste) conventions,¹⁶⁰ as well as various air and water quality, pesticide and nitrates directives. At EU level there are four main pieces of chemicals legislation: the Regulations on the Registration, Evaluation and Authorisation of Chemicals (REACH); the Classification, Labelling and Packaging of chemical substances and mixtures (CLP), which incorporates the UN's Globally Harmonised System of Classification and Labelling of Chemicals (GHS) (Europa 2016e) into the EU; the Biocidal Products Regulation (BPR); and the Prior Informed Consent (PIC) Regulations. As all these pieces of legislation are regulations they are directly applicable in the UK, which means that new legislation is required to regulate them post-Brexit. The primary purpose of these EU rules has been to provide systematic information upon hazardous materials and clear labelling in order to facilitate trade but also to protect human health and the environment. The European Chemicals Agency (ECHA) is responsible for overseeing the implementation of the regulations and companies register information about chemicals products with the ECHA.

In terms of the impact upon environmental quality, EEA data indicate that the UK has made good progress in reducing the presence and use of POPs¹⁶¹ and heavy metals¹⁶² since the early 1990s. However, a scoping study commissioned by Defra on the impact of REACH and CLP suggested that given the presence of a range of legislation regulating the use of chemicals it is difficult to disentangle the costs, benefits and

impact of EU chemicals legislation¹⁶³ from policy that is nationally and internationally derived. Nevertheless, the same report concludes that on balance REACH has reduced the risk posed by certain chemicals (*ibid*). Evidence submitted to the balance of competence review highlighted the economies of scale that accrue to states under the EU's chemicals regime and evidence submitted by CHEM Trust argued that the UK would need to implement a version of REACH to access Single European Market but would have less say in its content.¹⁶⁴

The House of Commons Environmental Audit Committee found that transposing REACH into UK law via the EUWB would be challenging. Yet it also found that the vast majority of chemical industries that gave evidence to the Committee's inquiry on chemicals wanted the UK to remain as closely aligned the REACH system as possible.¹⁶⁵ The government has committed in the 25YEP to meeting a range of pre-existing international commitments and to publishing an overarching chemicals strategy to set out the UK's approach as we leave the EU, but no time frame is attached.¹⁶⁶ Moreover, there is on-going uncertainty about whether the UK will continue to have access to the ECHA following Brexit, although both Mrs May¹⁶⁷ and Mr Corbyn¹⁶⁸ have intimated that they regard retaining access to the EU's agencies as desirable and possible.

Risk Analysis

Chemicals are a tradeable product, which means that the UK is likely to try to maintain and track EU standards. However, under a chaotic no deal there are risks associated with the UK no longer being able to access the ECHA and not having

¹⁶⁰ See Synergies among the Basel, Rotterdam and Stockholm Conventions available from <http://www.brsmeeas.org/>.

¹⁶¹ European Environment Agency, 2016. 'Persistent Organic Pollutant Emissions', available from, <http://www.eea.europa.eu/data-and-maps/indicators/eea32-persistent-organic-pollutant-pop-emissions-1/assessment-5>.

¹⁶² European Environment Agency, 2015. 'Heavy Metal Emissions', available from, <https://www.eea.europa.eu/data-and-maps/indicators/eea32-heavy-metal-hm-emissions-1/assessment-5>.

¹⁶³ RPA, 2009. Scoping Study for the Evaluation of EU REACH and CLP Regulations, available from, https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/399115/eu-reach-clpregs-report.pdf.

¹⁶⁴ HMG (2014) Review of the Balance of Competences.

¹⁶⁵ House of Commons, Environmental Audit Committee, 2017. The future of chemicals regulation after the EU referendum Eleventh report of session 2016-17, HC 912, 29/04/2017, available from <https://publications.parliament.uk/pa/cm201617/cmselect/cmenvaud/912/912.pdf>.

¹⁶⁶ HMG, 2018. A green future, 100.

¹⁶⁷ May, T. 2018. PM speech on our future economic partnership with the European Union, Speech, 02/03/18, available from <https://www.gov.uk/government/speeches/pm-speech-on-our-future-economic-partnership-with-the-european-union>.

¹⁶⁸ Corbyn, J., 2018. Britain after Brexit.

	Norway	Canada	Turkey	Planned No Deal	Chaotic No deal
Chemicals	Limited risk	Moderate Risk	Moderate Risk	Moderate Risk	Very High Risk

put in place equivalent structures. Generally speaking though because of the globalised nature of this sector and the characteristics of chemicals as tradeable products we judge there to be limited risk for the Norwegian option and a moderate risk for the Canadian, Turkish and planned no deal options, where we make the (perhaps heroic) assumption that an equivalent set of domestic structures are put in place in the UK and either access to the ECHA is negotiated or a UK equivalent is up and running by exit day. However, we judge the risk to be very high for a chaotic no deal. However, this is an evaluation of the risk of regulatory gaps limiting environmental protections not of economic risk. Evidence submitted to Environmental Audit Committee's report suggests that companies have already started to relocate outside of the UK¹⁶⁹ and the government's own analysis that suggests the chemicals' sector is vulnerable to economic losses post Brexit.¹⁷⁰

¹⁶⁹ House of Commons, Environmental Audit Committee, 2017. The future of chemicals regulation after the EU referendum.

¹⁷⁰ <http://www.parliament.uk/documents/commons-committees/Exiting-the-European-Union/17-19/Cross-Whitehall-briefing/EU-Exit-Analysis-Cross-Whitehall-Briefing.pdf>.

4.7 Agri-Environment

The reform of agricultural policy has been identified as a clear Brexit opportunity.¹⁷¹ Under all scenarios the UK will no longer be subject to the Common Agricultural Policy (CAP) and will be free to develop its own rules for supporting agriculture, subject to agreements on international trade. It is widely acknowledged that the CAP encouraged excess production and environmental harms and that despite recent greening moves it still has negative environmental effects.¹⁷² Brexit consequently presents an ‘opportunity for fundamental reform’¹⁷³ of existing agricultural, rural development and land use policies. The government has brought forward a consultation document, the title of which – *Health and Harmony: the future for food, farming and the environment in a Green Brexit* – indicates the view that agricultural reform is a key plank for delivering the promised green Brexit. The purpose of the consultation is to gather views on a future post-Brexit agricultural policy in England and an agriculture bill is expected in 2018. The key change indicated in *Health and Harmony* is a shift from using public money to directly support farm incomes to a model that focuses upon public money for public goods.¹⁷⁴ What public goods mean in practice (and which public goods will be prioritised) has yet to be decided.¹⁷⁵

Moreover, who will decide and implement future UK agricultural policies is still being debated – while agriculture is a devolved matter, agricultural issues (from direct payments to rural development, GMOs and pesticides) are listed as requiring UK-wide legal frameworks by the UK government.¹⁷⁶ This makes *Health and Harmony* an indicator of where DEFRA would like English

agriculture to go and, a potential template for a UK wide framework policy. But differences in how the Common Agricultural Policy is implemented today across the four nations,¹⁷⁷ especially in the importance accorded to agri-environment schemes, which make up 71% of the English rural development plan but only 15% of its Scottish equivalent,¹⁷⁸ indicates that devising a common framework acceptable to all will be no easy task.

In addition to payments, the other key environmental issues raised by Brexit are animal welfare standards, regulatory standards and the use of pesticides. Whilst the CAP falls outside the Norwegian option, regulatory standards and pesticides are covered by other parts of the environmental acquis and would therefore potentially remain subject to EU regulations. High environmental and welfare standards are also closely bound with trade. High welfare standards are necessary to keep access to the EU market – while free trade agreements with countries with lower environmental and welfare standards may undercut UK food producers and put pressure on high UK standards.

The EU is currently a key export market for UK agrifood products – although this differs by region and commodities (93% of Welsh lamb goes to the EU).¹⁷⁹ Erecting new barriers to trade with the EU, by for example reverting to WTO rules would cut both ways, reducing imports from and exports to the EU – hence a report to the European Parliament¹⁸⁰ argued that under a WTO scenario:

“Agri-food exports of the EU27 to the UK will decrease by USD 34 billion (62%) and imports by USD 19 billion (with the same relative decrease, 62%)”

Some of these EU imports would be replaced by a surge in UK production, others by imports

171 Defra, 2018. *Health and Harmony: the future for food, farming and the environment in a green Brexit*, February 2018, available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/684003/future-farming-environment-consult-document.pdf.

172 Gravey et al. 2017. ‘Post-Brexit policy in the UK: A new dawn? Agri-environment’, available from <https://www.brexitenvironment.co.uk/policy-briefs/>.

173 Defra, 2018, *Health and Harmony*, 6

174 Matthews, A., 2018. A tale of two policy documents: DEFRA vs. Commission communication, 12/03/18, available from <http://capreform.eu/a-tale-of-two-policy-documents-defra-vs-commission-communication/>.

175 Hejnowicz, A. and Hartley, S., 2018. *New Directions: A public goods approach to agricultural policy post-Brexit*, available from <https://www.brexitenvironment.co.uk/policy-briefs/>.

176 HMG, 2018, *Framework Analysis*, 17.

177 Ralse, 2014. CAP Reform 2014–20: EU Agreement and Implementation in the UK and in Ireland, available at <http://www.miassembly.gov.uk/globalassets/Documents/RaISe/Publications/2014/dard/allen10314.pdf>

178 Environment Audit Committee, 2017. *The future of the natural environment after the EU referendum*, 35, available from <https://publications.parliament.uk/pa/cm201617/cmselect/cmenvaud/599/599.pdf>

179 BBC, 2017. Brexit: New Zealand deal ‘could destroy’ lamb industry, <http://www.bbc.co.uk/news/uk-wales-politics-38831023>

180 Bellora, C., Eminger, C., Fouré, J. And Guimbard, H., 2017. *Research for AGRI Committee, EU – UK agricultural trade: state of play and possible impacts of Brexit*, European Parliament, Policy Department for Structural and Cohesion Policies, Brussels.

from the rest of the world. Scenarios of future agrifood trade¹⁸¹ have shown that different terms of trade – CETA +++, WTO or even unilateral free trade – will have diverse impacts across the agricultural sector. Hence, while a CETA +++ or bespoke deal with the EU would leave production broadly constant, a planned no deal that sees the UK fall back on WTO rules would see a sharp drop in sheep production (-11%) and an increase in beef, pigs, poultry, and dairy. And unilateral free trade would see a general drop in production across the agricultural sector.

These trade uncertainties matter for developing strong agri-environment and rural development policies. Depending on the trade policy choices made, agri-environment and rural development instruments should aim to support farmers as they transition to become providers of public goods (as the demand for their food production decreases), or to ensure that greater demand for food production does not come with greater environmental damage. Irrespective of the final trade policy choice, the current uncertainties are a barrier to the further greening of UK agriculture – agri-environment schemes require farmers to sign up to medium-term programmes at a time where farmers do not know what level and type of support to expect in two years' time.

On the devolution question the common frameworks reveal different risks for specific agri-environmental issues such as the nitrates directive or limits to the cultivation and marketisation of genetically modified foods. All water policies, including the Nitrates Directive, are currently listed in the government's March 2018 list as not requiring UK frameworks. This means different administrations within the UK could decide to roll-back provisions on diffuse pollution such as on nitrates and phosphorus, which would undermine the application of the polluter pays principle throughout the UK,

assuming it is somehow maintained post Brexit. In addition such a policy seems to rest on the erroneous assumption that the effects of these pollutants is purely local but there are shared water courses that cut across national borders that may be affected by nitrate and phosphorus pollution. Conversely, GMOs are listed as requiring a common UK legal framework. Currently Wales, Northern Ireland and Scotland have all opted out of cultivating GMOs while England has not. After Brexit, and in light of a trade policy geared towards the United States, devolved administrations wary of GMOs may find themselves constrained by UK frameworks. Even if devolved administrations regain control of most of the decision-making on agricultural matters, funding and trade policy will still be decided at the UK level.

Furthermore, agriculture and agri-food are central to discussions over the Irish border. Both agriculture and environment are areas of North/South cooperation under the Good Friday Agreement, which both the UK and the EU have vowed to maintain in all its parts. Currently the agri-food industry is fully integrated on a whole-island basis: sheep reared in Northern Ireland are slaughtered in Ireland and vice-versa for Irish pigs, while milk crosses the border multiple times.¹⁸² Changes to animal welfare standards – such as banning the export of live animals – would force meat industries in both North and South to restructure in depth, while border checks on agricultural produce – present even under the Norwegian and Turkish options – could also have immediate impact on animal welfare standards (increasing transport and waiting time for live animals) and would increase risk of fresh product spoiling (milk especially).¹⁸³


Risk Analysis

It is difficult to determine risk for agri-environment because of the blank slate that Brexit has presented. On the one hand the

¹⁸¹ AFBI, 2017. Impacts of alternative post-Brexit trade agreements on UK agriculture: Sector analyses using the FAPRI-UK model, Presentation available from <https://www.afbini.gov.uk/sites/afbini.gov.uk/files/publications/FAPRI-UK%20Brexit%20Report%20-%20FINAL%20Clean.pdf>.

¹⁸² House of Lords European Union Committee, 2017. UK-Irish Relations, Sixth report of session, HL paper 76, 19, available at <https://publications.parliament.uk/pa/ld201617/ldselect/ldeucom/76/76.pdf>.

¹⁸³ Hayward, K., 2018. The Brexit border in 4 key slides, QPOL, available from <http://qppl.gub.ac.uk/brexit-border-4-key-slides/>.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No Deal
Agri-Environment payments	Moderate Risk	High Risk	High Risk	Very High Risk	Very High Risk
Food and welfare standards	Moderate Risk	High Risk	High Risk	Very High Risk	Very High Risk

government's consultation indicates a direction of travel that seems to place environmental protection at the heart of policy but this needs to be set against the statements of key ministers. As noted above (section 4.1), during the EU referendum campaign Defra minister George Eustice called for the end of 'spirit crushing' directives¹⁸⁴ while in January 2017 former Defra secretary Andrea Leadsom MP promised 'a bonfire of regulations for farmers'.¹⁸⁵ These contradictory policy statements are unhelpful in a policy area where environmental goals are often seen to be in competition with food production.¹⁸⁶

Moreover agricultural policy is very much at the mercy of trade policy and whilst uncertainty reigns over the future trade deal, the long term planning necessary to underpin green agricultural transitions become challenging. In addition the risk cuts both ways – the UK has been a key reforming voice at the EU level – pushing for greening the CAP and in its absence there is a risk that the drive for environmental ambition within the CAP will wane.¹⁸⁷ Overall, we judge Norway to present moderate risk as at least some of the key directives that cut across agricultural policy on product regulation and water pollution will remain in place. Turkey and Canada are judged to present high risk, as they may open up the possibility of rolling back on some key measures. Finally, we judge the two no deal options as very high risk as the economic uncertainties they engender seem likely to have knock on effects upon stated greening ambitions and lead to downward deregulatory pressure on standards.

¹⁸⁴ Neslen, A., 2016. Brexit would free UK from 'spirit-crushing' green directives.

¹⁸⁵ Walker, P., 2017. Andrea Leadsom promises Brexit bonfire of regulation for farmers, *The Guardian*, 4/01/2017, available from <https://www.theguardian.com/politics/2017/jan/04/andrea-leadsom-vows-to-scrap-eu-red-tape-for-farmers-after-brexit>.

¹⁸⁶ Diamand, E., 2018. Brexit: hope for our agriculture?, Friends of the Earth, May 2017, available from <https://friendsoftheearth.uk/sites/default/files/downloads/brexit-hope-our-agriculture-103719.pdf>

¹⁸⁷ Gravey, V., 2016. Agriculture Policy in Burns *et al.*, The EU referendum and the UK environment: An expert review, 36-35.

4.8 Marine Environment and Fisheries

The Common Fisheries Policy (CFP) like the CAP has been associated with environmental problems, most obviously overfishing.¹⁸⁸ There have been attempts to improve the way in which quotas are allocated and to reform the discards policy, which has been particularly unpopular.¹⁸⁹ Like the CAP the CFP will no longer apply under any Brexit scenario. However, there are EU instruments that shape the protection of the marine environment that would still apply under the Norwegian scenario, namely the Marine Framework Strategy (MFS), and Water Framework Directives. The Habitats and Birds directives, which overlap with the MFS, as they cover marine and coastal sites, would cease to apply under all scenarios. Like agriculture, fisheries' policy is devolved – however the nature of fish as migratory species and the intersection of the UK's exclusive economic zone with those of other nations means that the UK will have to negotiate access and fishing rights with other countries. Indeed, evidence submitted to the balance of competence review demonstrated a consensus across stakeholders that fisheries will require a supranational governance regime regardless of the UK's EU membership status.¹⁹⁰

The headline indicators for fisheries in the 25YEP are for the UK to achieve good environmental status of its seas while allowing marine industries to thrive, and to complete an ecologically coherent network of marine protected areas (MPAs).¹⁹¹ The 25YEP also commits the government to recovering fish stocks to sustainable levels in the shortest time feasible, using the principles of maximum sustainable yield (MSY).¹⁹² This latter goal is already present in the CFP, although the

EU has been criticised for its calculation of MSY and its target dates for achieving it.¹⁹³ However, the EU objective is clearly linked to the 'application of a precautionary approach to fisheries management', which is not included in the discussion of fisheries in the 25YEP.¹⁹⁴ The wording in the 25YEP also leaves considerable margin for discretion – how will the balance between good environmental status and marine industries be struck if there is a conflict between an offshore development and maintaining good environmental status? And who will decide?

On timing, the current targets in the Marine Directive commits the UK to achieving good environmental status by 2020, as opposed to in 'the shortest time feasible', a term that begs two questions. Who decides what is feasible and feasible for whom? The 25YEP commits the UK to ending discards but this has already been replaced in the EU by a landing obligation.¹⁹⁵ The goal to extend current MPAs into an ecologically coherent network is welcome but academic analyses suggest that the level of protection offered under current UK MPAs is lower than that under EU rules.¹⁹⁶

On trade the majority of fish caught by the UK fleet is exported, mostly to the EU; and the majority of fish consumed is imported, so the future trading relationships the UK develops will determine the future viability of this sector.¹⁹⁷ Given both the geographical proximity and relative economic importance of the EU to the fisheries sector getting this relationship right will be important.

On funding the UK has benefitted from access to the European Maritime Fisheries Fund and

¹⁸⁸ Stewart, B.D. 2016. Fisheries, in Burns *et al.*, The EU referendum and the UK environment: An expert review, 46-56.

¹⁸⁹ Stewart, B.D. and O'Leary, B.C., 2017. Post-Brexit policy in the UK: A new dawn? Fisheries, seafood and the marine environment, available from <https://www.brexitenvironment.co.uk/policy-briefs/>.

¹⁹⁰ HMG, 2014. Review of the balance of competences – Fisheries report, available from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335033/fisheries-final-report.pdf.

¹⁹¹ HMG, 2018. A green future, 7.

¹⁹² HMG, 2018. A green future, 106.

¹⁹³ Salomon, M., Markus, T. & Dross, M., 2014. Masterstroke or paper tiger–The reform of the EU's Common Fisheries Policy. *Marine Policy*, 47, 76-84.

¹⁹⁴ Gravey, V., Jordan, A. and Burns, C., A tale of two plans: UK and EU post-Brexit policy 2018, available from <https://www.brexitenvironment.co.uk/2018/02/14/tale-two-plans-uk-eu-environment-policy-brexit/>. The YEP (p.129) does make reference to the provisions of the EUWB on policy principles, which state that principles will be copied over when they are articulated in legislation or case law. However, this will not apply in the case of fisheries as UK policy will be completely new. Moreover, the clauses on principles in the EUWB limit the application of environmental policy principles.

¹⁹⁵ European Commission, n.d. Managing fisheries, available from https://ec.europa.eu/fisheries/cfp/fishing_rules; Salomon, M., Markus, T. & Dross, M., 2014. Masterstroke or paper tiger–The reform of the EU's Common Fisheries Policy. *Marine Policy*, 47, 76-84.

¹⁹⁶ Stewart, B.D. 2016. Fisheries.

¹⁹⁷ House of Lords European Union Committee, 2016. Brexit: Fisheries, HL Paper 78.



	Norway	Canada	Turkey	Planned No Deal	Chaotic No deal
Fisheries Policy	Moderate Risk	High Risk	High Risk	High Risk	Very High Risk
Marine Protection	Moderate Risk	High Risk	High Risk	High Risk	Very High Risk

there are concerns that Brexit will limit funding in the sector. There are currently limited indications of what the government has in mind. There are also concerns that the UK may lose funding for research that can inform policy and access to science and expert networks.¹⁹⁸

On the devolution question the Common Frameworks document released by the UK government reserves the right for setting quotas to the UK level, which is likely to stoke further the discontent expressed by Scotland and Wales over the implications of Brexit for the exercise of their powers, not least because the Scottish fishing fleet whilst having fewer but larger vessels, lands the most fish in terms of volume as well as value.¹⁹⁹

Risk Factor

It seems likely that whichever Brexit outcome we end up with the UK will find its options on fisheries relatively constrained. The transboundary character of this policy area, the UK's proximity to other states, overlapping territorial waters and international policy commitments, will all shape what the UK can reasonably achieve as it seeks to renegotiate its quota with its neighbours. The International Council for the Exploration of the Seas will continue to offer advice on the level of catch advisable for the UK. However, the experience of the CFP demonstrates that this advice can be subject to political pressure and watering down.²⁰⁰ The UK will remain bound to international commitments and has a potential opportunity to lead on MSY given that the EU has struggled to implement it. However, there is limited indication so far that it will do so.

For the Norwegian option, the protection offered by the Birds and Habitats Directives will no longer apply potentially endangering sites

currently protected under these directives. However, cross-cutting EU legislation such as the Marine and Water Framework Directives will still apply so we judge this scenario to present a moderate risk for the future environmental sustainability of fisheries and marine protection.

Nevertheless, there is a concern under all scenarios that if the UK does not secure its preferences in these constrained negotiations that it could walk away from the negotiating table. If this were to happen there is a risk that the government would come under pressure to set unsustainably high catch limits, as occurred during the "Mackerel Wars" when Iceland, Norway and the Faroes all argued for (and set) a higher share of the catch than that advised by the EU.²⁰¹ Consequently, in the absence of cross-cutting directives we judge the risks to be high for the Canadian, Turkish and planned no deal options and very high for the chaotic no deal option as this would imply a higher level of economic pressure with concomitant pressure on standards.

¹⁹⁸ Stewart, B.D. 2016. Fisheries.

¹⁹⁹ House of Lords European Union Committee, 2016. Brexit: Fisheries, HL Paper 78, available from <https://publications.parliament.uk/pa/ld201617/ldselect/ldecom/78/78.pdf>.

²⁰⁰ Carpenter, G., Kleinjans, R., Villasante, S. and O'Leary, B.C., 2016. Landing the blame: The influence of EU Member States on quota setting. *Marine Policy*, 64:9-15.

²⁰¹ Jensen, F., Frost, H., Thøgersen, T., Andersen, P. and Andersen, J.L., 2015. Game theory and fish wars: The case of the Northeast Atlantic mackerel fishery. *Fisheries Research*, 172:7-16; Stewart, B.D., 2016. Fisheries.

5. Conclusions and Recommendations

Brexit poses risks for environmental policy across all the scenarios. The risk under the Norwegian model is generally lower and for the chaotic no deal high, or very high. We judge nature protection to be particularly at risk due to the weaker protection international commitments offer, the stated ambition of key ministers to water down current levels of protection and the limited competition case for maintaining standards. Even for policies where there is a strong domestic legislative base, such as climate change, we find there to be a very high risk associated with a chaotic no deal option and limited to moderate risk for the other scenarios. For climate change and agri-environment we identify a two-way risk that not only will the UK face deregulatory pressure outside the EU, but also that the UK's absence from the EU could lead to waning environmental ambition. For tradeable products such as waste and chemicals we suggest that a chaotic no deal is a very high risk for these sectors that will have both environmental and economic consequences.

We identify some mitigating factors that can offset the level of risk, which we took into account in our analysis – namely the presence of international environmental commitments that can act as a backstop and the recent government publications on the pathway to achieve a green Brexit. However, the level of environmental protection offered by international commitments is generally lower with weaker standards, less stringent timelines, and limited or no enforcement structures. In the absence of a strong UK environmental watchdog falling back on international commitments will leave significant parts of the UK environment at risk.

The government's policy documents and consultations (the 25YEP and *Health and Harmony*) provide some clarity but lack detail. The 25YEP contains lots of promises to bring forward consultations, strategies and policies in the next year to two years. Worryingly though, where concrete commitment are made they generally offer weaker protection than that currently provided under EU law. Until these shortcomings are rectified it is difficult to see

recent speeches and announcements as offering any real security or genuinely mitigating the risks posed by the scenarios.

5.1 Recommendations

- Given the potential risks that Brexit raises for both the EU and the UK, include in any future trade agreement an environmental non-regression clause and a reference to a new 'environmental advancement principle' that underlines the importance of pursuing ever higher environmental standards after exit day. This will prevent regulatory zombification at national and EU levels.
- Given the consistent environmental and economic risk associated with the chaotic no deal work to avoid this outcome.
- Ensure policies brought forward to implement the 25YEP have timelines and targets at least as ambitious as those currently offered by the EU.
- Ensure the language employed in new legislation is clear with enforceable targets with limited or no room for discretionary interpretation. Avoid escape hatch clauses such as 'where feasible', which provide far too much scope to offer vague policy commitments or escape such commitments altogether.
- The UK government and devolved nations should work collaboratively to put in place effective and appropriately consultative and open co-ordination arrangements that allow for the creation of suitable joint frameworks for developing UK-wide environmental policy. As a first step, review existing joint frameworks list with a view to proposing legal coordination on water quality.
- By exit day, establish a new watchdog whose work involves and is coordinated across the four UK nations, is sufficiently resourced and has robust scrutiny and enforcement powers.

