environmental SCIENTIST

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The EU

Red Tape or Green Governance?

The EU leading on the environment

Environmental challenges know no borders. Issues such as climate change, the loss of biodiversity, the thinning of the ozone layer, and acid rain have an international or even global dimension. And the quality of our air and our water, the state of our nature depend on our neighbours as well as ourselves. None of these challenges can be efficiently managed without shared responsibility and common decisions.

Over 40 years, member states of the European Union have built up an understanding that the environment is an area that needs joint action. They increasingly work together, define policies together and set common goals. As a result, we now have a comprehensive body of environmental legislation that has delivered benefits for people and businesses in every part of Europe.

Clean air legislation has made urban smog a thing of the past and has significantly cut acid rain. Millions more people have access to high-quality drinking water and live in areas where waste water is properly treated. Thanks to the Bathing Water Directive, by 2012 94 per cent of bathing waters in the EU reached the minimum water quality standards, and the percentage of freshwater bathing sites in the highest quality category almost doubled between 1990 and 2009.

Environmental legislation is there to protect citizens, but it also helps the EU evolve towards a more resource-efficient, low-carbon economy. The advantages are clear: one recent study estimates that full implementation of EU waste legislation, for example, would save €72 billion a year, and create over 400,000 jobs by 2020. And our standards for water and air quality have helped drive innovation, with European companies becoming world leaders in pollution abatement technologies and water services.

But legislation that is not properly implemented cannot deliver better outcomes for people or the environment. For the European Commission, strengthening implementation begins with constructive dialogue, preventing breaches, and helping member states ensure compliance. Cooperation with professionals such as national inspectors, environmental scientists, judges, prosecutors and ombudsmen is crucial to ensuring that the standards that everyone has agreed are in fact upheld. Over the years we have seen the value of support for IMPEL, the network of inspectors, and several networks of judges. The role of civil society is also crucial.

In the end, to ensure equal treatment and a level playing field across Europe, the European Commission has the responsibility of making sure that member states deliver what has been agreed. If they do not, they can find themselves faced with court action and fines. We try to target enforcement action on systemic or large-scale problems, for example in management of waste and urban waste water, or where people's health is at risk.

One result of this legislation is that Europe's environmental standards are increasingly recognised and copied around the world. This is a direct benefit for us, and vital if we are to succeed in dealing with the key global challenges. So if we do not lead by example, why should anyone follow?

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ENEP European Network of Environmental Professionals

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The European environment

Adam Donnan and **Emma Fenton** provide an outline of the history of Europe and the environment.

A spectre is haunting Europe — the spectre of public indifference and hostility to the European Union (EU).

Throughout Europe numerous political movements have sprung up to campaign for national renegotiations or withdrawals, fuelled by the perceived failure of the EU to deal with the recent economic crisis. Of these perhaps the UK's anti-federalists are the most vocal. The UK appears to be inching towards and In/Out referendum some time before 2017. In light of this, the IES felt this was an opportune moment to review the impact of the EU on the natural environment.

This edition of the environmental SCIENTIST looks at the role of EU environmental legislation, consequences for countries that do not implement directives, the role of European environmental regulatory networks, and the track record of the EU in tackling climate change. There are also case studies on the Soil Directive and fracking. We have tried to avoid dwelling on policy formulation or exploring the numerous bodies that make up the EU. Readers who are interested in learning more about these aspects should read our 2011 report, *Influencing the EU*, which can be found on the IES website[1].

In the course of putting this issue together the IES has brought together opinions from politics, industry, NGOs and environmental practitioners, presenting their perception of the impacts of EU environmental legislation. With the likelihood of a referendum in the not-too-distant-future we felt it important to measure not just the impact of legislation but the *perception* of its impact. This edition therefore contains more opinion pieces than we would normally publish. Interestingly, we were unable to source any full articles written mainly against the EU or its legislation, despite our best efforts.

GLOSSARY: TYPES OF EU LEGISLATION

There are three basic types of EU legislation – regulations, directives and decisions.

- A **regulation** is similar to a national law except it is applicable to all EU Member States[4].
- **Directives** set out general rules to be transferred into national law by each Member State as they deem appropriate as long as the requirements of the Directive are met[4].
- A **decision** only deals with a particular issue and specifically mentioned persons or organisations[5].

The result is a publication that – in contrast to the prevailing mood throughout Europe – is overwhelmingly positive about the role of the EU. The narrative of the EU and the environment is a success story that pro-Europeans should be shouting from the rooftops to banish the anti-European spectre.

THE DEVELOPMENT OF DG ENVIRONMENT

The EU represents a political and economic agreement between 28 Member States. Created in the aftermath of the Second World War, the EU (or the European Coal and Steel Community as it was then known) was intended to foster economic cooperation. The assumption was that as countries traded with one another, and thus became economically interdependent, they would be more likely to avoid conflict[2]. A measure of the success of this was the award of the Nobel Peace Prize to the EU in 2012.

This notion of economic cooperation morphed into the concept of a single market: a free trade area with the

1951 — Founding of the European Coal and Steel community.

1973 — DG Environment established and the First Environmental Action Programme Published.

goal of making the movement of capital, labour, goods, and services between the members as easy as within them. This new vision drove the creation of rafts of new legislation around border control, standardisation, competition and eventually the environment. The justification for including the environment is twofold: one member state should not be able to undercut another through weaker environmental legislation, and many environmental issues are transboundary, so are better dealt with at regional or international level.

There was no department dedicated to environmental issues for the first 15 years of the European Commission's existence. Originally an environmental unit was created within DG Industry, but then a fully fledged Environment Directorate-General (DG) was set up in 1973. One of 40 DGs, DG Environment's official objective is to "protect, preserve and improve the environment for present and future generations."[3]

Since the creation of DG Environment the EU has adopted and championed a diverse range of environmental measures that are aimed at improving the quality of the environment for European citizens. The first Environmental Action Programme was published in 1973, and a proposal for a seventh is currently being drawn up.

In an on-going poll, 89 per cent of IES members who responded to a poll on the IES website think that leaving the EU would have a small negative or very negative effect. When you have finished reading the journal you can offer your opinion by adding your vote on the IES website[4]. ES

AT A GLANCE: DG ENVIRONMENT

- Established in 1973
- Responsible for ensuring that Member States correctly apply EU Environmental legislation
- Its role is twofold:
  1. To investigate complaints that are brought by non-governmental organisations and individual citizens and take action if it deems EU law to have been breached; and
  2. To finance projects that contribute to European environmental protection. It has financed over 2,600 projects since 1992 through LIFE, the EU's financial instrument for the environment[2].
- It started as a team of five people in a branch of DG Industry. It now has just over 500 staff, reflecting evolving environmental awareness among European citizens;
- DG Environment currently oversees over 200 pieces of environmental legislation in force at the European level[3]

Adam Donnan has worked at the IES since 2006. In 2013 he was appointed as the organisation's first CEO.

Emma Fenton is the Project Officer at the IES.

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1987 – The Single European Act provides a legal basis for environmental policy by making protection of the environment an objective of the EU.

1993 – The Maastrict Treaty stipulates that environmental considerations be integrated into other EU policies.

1997 – Treaty of Amsterdam makes sustainable development an EU goal.

EU law and climate change

Nick Flynn explains how EU law is attempting to address anthropogenic climate change.

"We need more Europe, not less" Angela Merkel proclaimed in 2012 to the annoyance of eurosceptics. She was speaking in the context of the global financial crisis, but a parallel climate crisis is unfolding that is likely to have a much greater impact than any austerity measure. The EU has a track record of innovation in the field of environmental law. We might ask then whether Angela Merkel's prescription for more Europe holds good for the climate also?

Environmental problems have never been respecters of borders or political authority, and today the implications of this feature are profound. Population growth is accelerating. The concentration of greenhouse gases (GHGs) in the atmosphere has risen rapidly from 270 ppm at the start of the industrial age to just over 400 ppm today, a change that would normally have taken many millennia and a level not seen for 3 million years. At the same time, we are witnessing what many believe to be the sixth mass extinction.

Such changes have always occurred, but their scale and pace is now unprecedented. Natural variations in the climate have always produced winners and losers as societies in one location are undermined while those in another thrive. But this pattern has been disrupted environmental, economic and societal pressures have intensified and multiplied. A robust scientific consensus now gives fair warning that avoiding the most serious climate risks requires GHG emissions to peak in 2020 and fall rapidly thereafter. A 'business-as-usual' model of significantly rising emissions will simply guarantee that everyone in our highly interdependent and interconnected world loses.

CROSS-BORDER ENVIRONMENTAL ISSUES

The scientific community has been clear about the risks, but there is a significant gap between the scale of the problem and the international community's efforts to agree rules that might solve it. We should not be surprised. The strategic importance of cross-border environmental issues only began to be acknowledged properly in the 60s and 70s with the UN Conference on the Environment in Stockholm in 1972, followed by the Bruntland Report in 1987 and then the Rio Conference in 1992, which led to both the UN Framework Convention on Climate Change (UNFCCC) and the Convention on Biological Diversity (CBD) in the same year. The two Conventions are legally binding and undoubtedly important for creating an international framework for action in their areas, but their lack of specific targets or detailed requirements has limited their impact.

The same period did, however, witness momentum at the domestic level with the introduction of meaningful environmental laws and regulators in both the USA and in Europe. Since that time, the two blocs' behaviour has diverged and other players have emerged with their own agendas. While the USA has typically refused to ratify the most important environmental treaties, the EU has embraced global environmental policy and broken new ground in the pooling of sovereignty. Over the same period, China, India and other countries' economies have grown enormously but they have been cautious about limiting their increasing power and influence by submitting to binding global rules, particularly regarding commitments that might inhibit their economic development.

FIT FOR PURPOSE?

Such differences in approach may be par for the course, but the urgency and scale of climate challenge begs the question of whether the current international legal machinery remains fit for purpose and, if not,

how to fix it. As seen in the case of the Conventions discussed e need more Europe, not less" Angela Merkel proclaimed in 2012 to the annoyance of eurosceptics. She was speaking in the context of the global financial crisis, but a parallel climate crisis is unfolding that is likely to have a much greater impact than any austerity measure. The EU has a track record of innovation in the field of environmental law. We might ask then whether Angela Merkel's prescription for more Europe holds good for the climate also?

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▼ EU Parliament

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FIT FOR PURPOSE?

Such differences in approach may be par for the course, but the urgency and scale of climate challenge begs the question of whether the current international legal machinery remains fit for purpose and, if not, how to fix it. As seen in the case of the Conventions discussed above, the typical international treaty commitment is often vague and aspirational. Even when states do take on specific commitments, international law lacks the enforcement machinery that is typically found in domestic systems, and this means that collective action can be very weak if the political will to act is lacking. Sanctions for non-compliance are generally based on the loss of privileges such as voting rights or future increases in commitments in emissions reductions, for example. Sanctions of this kind are apt to be ignored.

These arrangements reflect the habits and norms of sovereign states dealing with each other, at least in principle, as equals subject to no higher authority. The Conference of the Parties (COP) to the UNFCCC is a case in point. It operates by consensus: in principle nothing is agreed until everything is agreed by all 195 parties. Although in the long run everyone has much to lose from exploiting this fact in order to obstruct agreement, in the short term many see tactical advantages in delay. The scientific consensus is therefore politely acknowledged, but in practice, ignored. Over their 20 years, the UNFCCC and its associated Kyoto Protocol have failed to reduce global emissions of GHGs – quite the reverse.

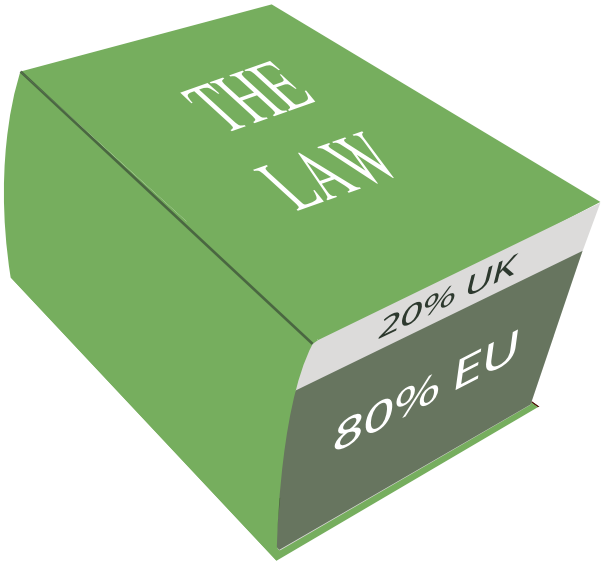
As the IPCC's and other bodies' warnings have increased, a consensus has emerged that a new approach is needed, but with little agreement on how or what it should look like. Trumpeted as a success by some, in Durban in 2011 the COP arguably simply tore up the carefully negotiated road map that it had been following for the previous four years. Delegates restarted the process with the aim, this time, of agreeing a new globally applicable treaty by 2015 which is only to come into force in 2020. We might note that this also happens to be the year in which the science community warns that emissions must peak to avoid the biggest climate risks. The gap between reality and the path we need to travel appears to be getting bigger and starker.

So what is to be done? Imaginative thinking about national sovereignty and international collaboration is required but seems to be lacking. The EU meanwhile has the most ambitious environmental law programme of any regional international body and, even though it faces serious economic and political challenges, its example of sovereign states submitting to the binding rules of a higher authority to deal with cross-border political and economic issues is a useful model for the international community if the political will and ambition existed to follow it.

THE EU'S RECORD

The EU has promulgated more than 200 specific laws covering environmental issues. The majority of these laws have been in the form of directives, leaving the choice of implementation methods up to the member states to reflect the principle of subsidiarity, which encourages the lowest appropriate level of government to make important decisions. It is estimated that 80 per cent of UK environmental law has its origins in EU requirements and, although performance is by no means uniform, such requirements are largely properly implemented and enforced, in contrast to many international commitments.

These laws cover a wide range of environmental subjects, from use of landfill to habitat protection, the handling of waste, the quality of water and air, and the prevention



▲ 80% of the UK environment law has its origins in EU requirements

and clean-up of contamination. They have a significant impact both within and outside the EU.

REACH

To take one example, the 2007 Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) was a ground-breaking response to the difficulty of ensuring the safety of the many chemicals on sale in the EU market. REACH's innovation was to make participants in the chemical supply chain, rather than public authorities, responsible for evaluating and reporting the relevant associated risks. The US position under the Toxic Substances Control Act has been very different, with regulators hampered by Congress persistently refusing to contemplate reform. The EU model has, by contrast, set the agenda for chemical manufacturers and their customers on a global basis, as they have adapted products to comply with the requirements of the wealthiest consumer market in the world. This includes many US companies who have EU customers. In addition, China has introduced its own version of REACH. The original EU law is one of the most complex pieces of legislation in history and has changed the chemical sector globally. It shows what can be done when the political will exists.

The EU has also demonstrated innovation, impact and leadership in the field of climate legislation. It was the only major power other than Australia at the recent UN climate conference in Doha to commit to emissions reduction obligations under the second Kyoto Protocol commitment period which started in January 2013. There are questions over the effectiveness of EU climate policy instruments but, again, it offers a model for pooling sovereignty, sharing responsibility and influencing global action that the wider international community might note.

For example, the EU Emissions Trading Scheme (EU ETS) began operation in 2005 as a key part of achieving the bloc's emission reduction obligations under the Kyoto Protocol, thus creating the first large-scale carbon 'cap and trade' market in the world. It covers more than 40 per cent of the EU's total GHG emissions from 11,000 power stations and manufacturing plants in the 27 EU member states as well as Croatia, Iceland, Liechtenstein and Norway. Flights within and between most of these countries are now also covered.

The EU Effort Sharing Decision of 2009 complements the EU ETS by setting binding GHG emission reduction targets in sectors that are not subject to the main carbon market. These sectors include agriculture, buildings, housing waste and transport, which represent around 60 per cent of total GHG emissions in the EU. The Decision requires that by 2020, total EU GHG emissions from these sectors be cut by 10 per cent compared to 2005 levels. The Effort Sharing Decision and the EU ETS are the key policy instruments for achieving the EU's overall emission reduction target of 20 per cent by 2020.

"Its much-vaunted carbon market is moribund and its support for the Kyoto Protocol is almost splendid in its isolation"

Compared to recent efforts by Barack Obama to introduce climate measures while bypassing a reluctant US Congress or China's efforts to reduce its carbon intensity (the level of emissions relative to economic output) while opening two coal-fired power stations every week, this is a record of real leadership in this field.

COMPLEX OUTCOMES

The picture in terms of outcomes is, however, complex. The European Environment Agency records that in 2013 EU GHG emissions are around 18 per cent less than 1990 levels, which puts the EU on track to comply with its own climate commitments. Global emissions, however, have increased by approx 45 per cent by reference to the same criteria, and the EU's performance may have more to do with Angela Merkel's commitment to austerity than the design of its climate laws. The carbon price in the EU ETS, the flagship policy instrument, has collapsed to little more than €4 per tonne. The EU Parliament recently frustrated the EU Commission's effort to remove 900

million carbon allowances from the market and thus drive up the price to the much higher level that might incentivise the transition to a low-carbon economy.

Undoubtedly there are problems with the EU model. Its currency and banks are threatened while its citizens struggle with falling living standards. Its much-vaunted carbon market is moribund and its support for the Kyoto Protocol is almost splendid in its isolation. But its 50-year history proves that states will submit to binding and meaningful limitations to their sovereignty with enormous environmental and social consequences if the political will and vision are there.

MORE NOT LESS

Fifty years ago such will and vision emerged from the ruins of a continent devastated by a global war. Decisions of huge strategic importance were taken to replace conflict with peace and cooperation. They resulted in community of approximately 500 million people benefiting today from levels of freedom, prosperity and environmental protection that, despite recent problems, are among the highest in the world. Yet again, strategic decisions are urgently awaited, upon which the destinies of billions of people depend. Whether those decisions will be robust from the point of view of scientific rigour and in terms of legal justice and fairness is the critical question. As the international climate talks stall for lack of political will and vision, it may indeed be a time not for less Europe, but more. ES

The views expressed in this article are solely those of the author.

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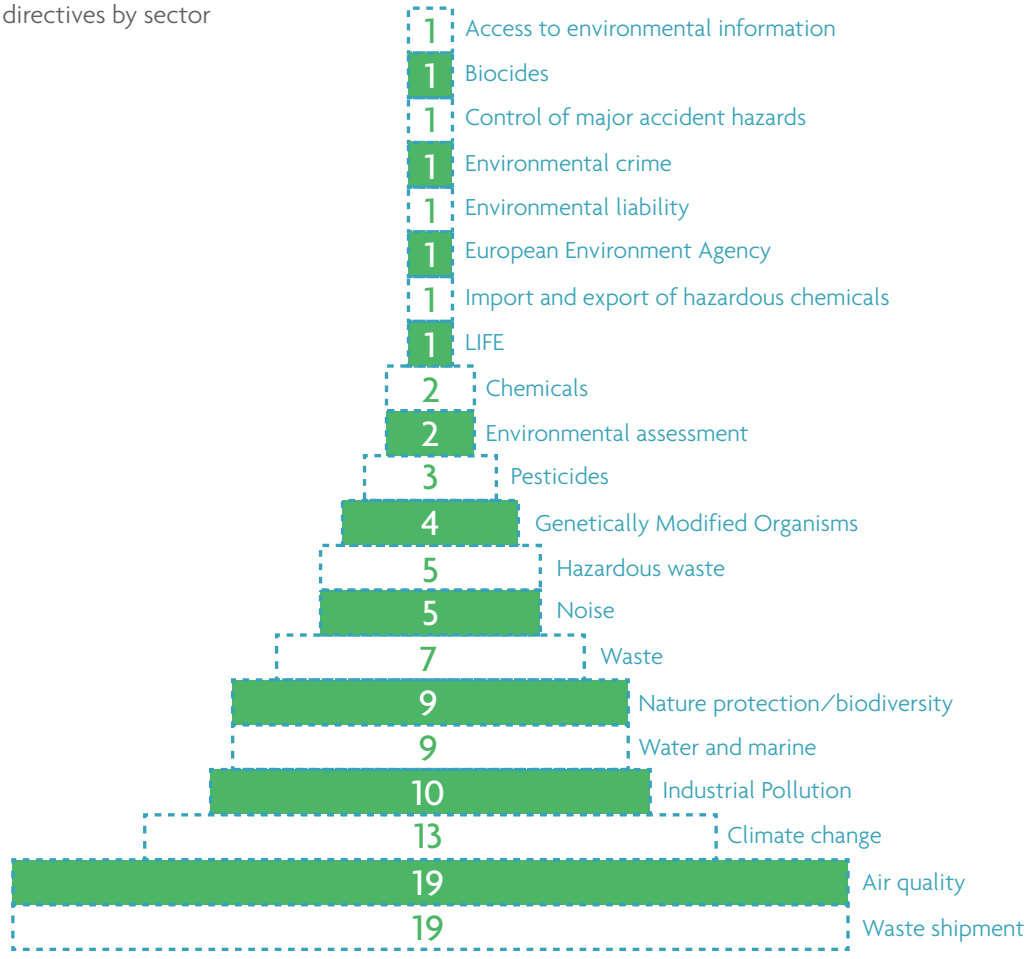
▶ EU environmental directives by sector



The consequences of not implementing EU law

Colin Reid uses the Environmental Impact Assessment Directive to explain the ways in which the European Commission and Court enforce EU law.

Legal systems are constructed on the basis that most of the time most people will obey the rules, while recognising that inevitably on occasion some people will not. The same applies to the European Union. Not every member state fulfils its obligations on every occasion, to give full effect to the laws that have been agreed in Brussels after the prolonged legislative process. There can be a variety of reasons, ranging from a deliberate attempt to avoid a rule to a genuine but mistaken belief that everything has been done to comply with the law.

Various mechanisms have been developed to respond to such failures. The Environmental Impact Assessment Directive provides a good example of the ways in which these mechanisms operate and the ways in which cases come before the courts.

ENVIRONMENTAL IMPACT ASSESSMENT DIRECTIVE

The Directive on Environmental Impact Assessment (EIA) was adopted in order to ensure that the environmental consequences of major developments were taken into account before deciding whether or not they should go ahead[1]. The way in which Directives work is that they do not change the law in the member states, but rather specify what the end result should be. This is the mechanism used for most EU environmental law. The result to be achieved in this case was that an EIA fulfilling the requirements set out in the Directive should be carried out as part of the approval process for any developments in the categories listed therein. It was then up to the member states to effect this in their own legal system by a set date (in this case three years after the Directive was made) in the way that they thought most appropriate.

In the UK, most of the categories of development that were covered already required planning permission, so the assessment was simply added as a stage in the procedure of obtaining such permission. For other categories, either it was added to the existing statutory approval processes (as for highways and pipe-lines) or a new approval procedure, incorporating an EIA, had to be introduced (as for some forestry developments).

However, in a number of ways the initial response did not fully meet the requirements of the Directive, and this has given rise to two forms of litigation that have reached the Court of Justice of the European Union, which sits in Luxembourg. The first route is direct enforcement action (often called 'infraction proceedings') taken by the European Commission to carry out its role of ensuring that member states do in fact comply with EU law. The second arises when an individual party argues that EU law has not been properly implemented and goes to court to claim that the position in the UK is in breach of EU law.

INFRACTION PROCEEDINGS

Action to ensure that member states are complying with EU law is primarily in the hands of the Commission[2]. The Treaties also enable any member state to start legal proceedings against another in the European Court, but this very rarely happens since it is a politically provocative act and each state knows that if it does so it is vulnerable to retaliatory action in areas where it in turn is not fully complying with the law. There is no right for individuals or companies to take a state to the Court in this way.

The Commission does not have an inspectorate or police force to seek out cases of non-compliance but learns about these from the reports that member states may have to provide to show what they have done to implement a Directive, from its own limited desk-based studies of national law and, more importantly, from complaints received from individuals and companies.

When a potential breach of EU law is discovered, there are several stages to the procedure, with opportunities for cases to be settled or dropped at each stage:

- **Administrative stage**: there is an exchange of correspondence between the Commission and the member state about the alleged breach, giving both sides the chance to explain why they think that there is or is not a breach, and giving the state a warning that infraction proceedings are being contemplated. Many cases where states have been slow to implement Directives are resolved at this stage;

- **Reasoned opinion**: the Commission formally sets out the grounds on which it alleges that the law is being breached and its decision to take things further. This defines the issues that may be heard by the Court and also sets the date at which a member state's law is to be judged. Any changes in the national law after the date set in the reasoned opinion will be disregarded by the Court in judging whether or not a state has complied with the law;

- **Court hearing**: the Court hears argument from the Commission and the state, and determines whether or not the state is in fact in breach of EU law. If it is, the Court's decision does not actually change anything, but the member state is under a specific obligation to ensure that it obeys the judgment and makes the necessary changes to its law to give full effect to the Directive; and

- **Second Court hearing**: if a member state does not respond fully to the Court's decision, the Commission can refer the case back to the Court, this time asking for sanctions to be imposed on the member state. These can take the form of a lump-sum penalty or a periodic penalty (annual, monthly or daily) until compliance is reached, or both. The penalties can be substantial: France had to pay a lump sum of €20 million for breaches of fishing rules, plus over €57 million for every further six months that the breach persisted[3], and in December 2012 Ireland lost two environmental cases (one on EIA), leading to penalties of €3.5 million plus €12,000 per day until the breach still outstanding was cured[4].

An example of this process came in 2005 when the Commission took the UK to the Court on the basis that the EIA Directive was not properly implemented, since at that date development undertaken by the Crown could go ahead without being subject to an EIA[5]. When taken to Court the UK admitted its failure, and did change the law soon afterwards. This case also shows that it can be a long time after the due date for implementing a Directive before infraction proceedings are initiated and a case comes to Court.

In this case the reasoned opinion was made in 2003, and it was early 2006 before the Court gave its judgment, seven years after the date for implementing the specific amended Directive on which the case was formally based and almost 18 years after the date when the law should first have been changed to comply with EU measures on this point.

PRELIMINARY RULINGS

The second way for litigation to reach the Court of Justice is as a request for a preliminary ruling from a national court after a case has been raised there[6]. Individuals cannot themselves go to the Luxembourg Court to argue that a member state has failed to implement a Directive, but they can go to the national courts to challenge the legality of what the state is doing on the grounds that it is not in compliance with EU law. The national court can determine this itself, but if the national court considers that there is a question about the interpretation or application of the EU law that needs to be resolved to decide the case, then it may, and in some cases must, refer the case to Luxembourg. Additionally, any argument that an EU measure itself is invalid must be referred in this way.

The individual cannot force the national court to make a reference and it is also the court that frames the question to be asked. This takes the form of a legal question phrased in terms of general application, for example asking how a provision should be interpreted, not asking about the outcome of the specific case. The Luxembourg Court responds to the question and the case then goes back to the national court which has to apply the ruling to the specific circumstances of the case before it can reach its conclusion.

This procedure ensures consistency across the EU rather than each state's courts coming up with their own, potentially conflicting, decisions on what EU law means or requires. At the same time it allows the national courts to act as a filter, preventing the European Court from being swamped by ensuring that only those cases where there is a genuine issue to be resolved are passed on to it.

BARKER VS BROMLEY

To illustrate this process we can look at the case of Diane Barker, who in 2000 sought judicial review of the decision by Bromley Council to approve a major development in Crystal Palace Park[7]. The development was considered under a two-stage procedure whereby outline permission was given to the general principle of the development and then the final details were to be approved as "reserved matters". In accordance with the relevant statutory provisions (which were meant to implement the EIA Directive), the Council considered the need for an impact assessment at the first stage (it was agreed that none was necessary) but when it came to consider the reserved matters it did not address the

question of whether an assessment might be required. Mrs Barker claimed that the terms of the Directive meant that the need for an EIA should be considered at each stage and that the council's action, and the UK regulations it was applying, were in breach of EU law. If so, the council was acting unlawfully and the English courts should say so.

She lost her case before the Queen's Bench Division and then the Court of Appeal, both of which were clear that the English rules did adequately implement the Directive and that therefore there was no illegality. Moreover they thought the issue clear enough for there to be no need to refer it to the European Court. When the case reached the House of Lords, though, the judges there considered that there was enough doubt to require a ruling from Luxembourg on the application of the Directive to multi-stage procedures.

The European Court held that where there is a two-stage process, the need for an EIA had to be considered at both stages. When the case returned to the House of Lords, their task was to apply this ruling to the facts, which meant that the procedure followed by Bromley Council had to be declared unlawful, so Mrs Barker won her case. Moreover, to avoid the risk of subsequent infraction proceedings for having national rules that did not properly implement EU law, the planning regulations had to be, and were, changed, to reflect the interpretation of the law given by the European Court.

A key point to note is the time that the case took. It was first heard in an English court in April 2000, was referred to Luxembourg by the House of Lords in June 2003, was decided there in May 2006 and the final decision in the House of Lords was given in December 2006. It is clear that enforcement of EU law is not a rapid process, whether through infraction proceedings by the Commission or through a preliminary ruling sought by the national courts.

OTHER REMEDIES

This account has been phrased in terms of implementing a Directive, but the same processes apply for any alleged breaches of EU law. In addition, the European Court has held that in certain limited circumstances the provisions of the Treaties or a Directive can be given "direct effect", in other words they can be regarded as creating enforceable legal rights and obligations within a member state even though no national implementing measures have been adopted. Also, if a member state's failure to comply with EU law reveals a "manifest and grave" error, then in some circumstances a party who has suffered a loss as a direct result of this failing may be able to recover compensation.

CONCLUSION

The EU legal system provides ways of trying to ensure that member states do properly obey EU law. Nevertheless the process is slow and therefore member states can get away with non-compliance for years, even if the Commission identifies the failing and decides to take action. Individuals have no right to go directly to the European Court and cases that start in the national courts may lead to a request for a ruling from Luxembourg, a process that adds further to the cost and delay of seeking judgment. The imposition of penalties for continued non-compliance does give the EU some sanctions against member states that are not doing what they should be, but at times all states appreciate the 'wriggle room' given by the inefficiencies of the enforcement mechanisms. ES

Colin Reid is Professor of Environmental Law at the University of Dundee and has taught environmental, constitutional and administrative law for many years. He has written widely on environmental regulation, biodiversity law and the impact of devolution on environmental law in the UK and frequently gives evidence to legislative and law reform bodies.

SOURCES

1. Directive 85/337 EEC, amended most notably by Directive 97/11/EC and now replaced by Directive 2011/92/EU
2. Arts 258-260, Treaty on the Functioning of the European Union (TFEU)
3. Commission v France (C-304/02)
4. Commission v Ireland (C-279/11); Commission v Ireland (C-374/11)
5. Commission v UK (C-37/05)
6. Art.267, TFEU
7. R (Barker) v Bromley London Borough Council 2000 WL 544117; [2001] EWCA Civ 1766; 2003 WL 21491809; (C-290/03); [2006] UKHL 52

The role of European environmental regulatory networks within the EU

Simon Bingham puts forward the advantages of belonging to a network.

As both a regulator and a member of the Board of a European network of regulators you might expect me to view the role of such a network in a positive way, and indeed, I can find very few negatives to try to make a balanced argument. In my opinion European environmental regulatory networks have a very positive role to play in the implementation and enforcement of environmental regulation.

A key aspect of the network's role is the common implementation of European environmental regulation at both an operational and a strategic level. This role has four key pillars:

- to ensure a level playing field;
- to raise standards;
- to generate common tools; and
- to support developing organisations and accession or potential candidate states.

Together these serve to enhance the protection afforded to the environment.

SHARING RESOURCES

Without formal networking there is limited opportunity to look at best practice and share experience between regulators, senior managers and policy-makers in the disparate member states. Pooling the limited resources available maximises effectiveness and inspires members to different approaches and new ideas.

Since the recent financial crisis started in 2008, it has become even more important to increase efficiency and effectiveness in regulation while maintaining compliance with European legislation and, ideally, going beyond this to improve environmental quality. Many regulators have been financially squeezed (along with the industry they regulate) and there is considerable pressure to reduce regulatory burden to support economic growth. Accession or potential candidate countries may find they have considerable improvements to make to meet European Directives, and the implementation of new legislation can require innovative approaches or the establishment of existing practices that are commonplace elsewhere in Europe.

Important strategic environmental networks within Europe include the Network of Heads of European Conservation Agencies, the European Network of the Heads of Environmental Protection Agencies, and the European Union Water and Marine Directors. These networks are made up of senior management and have been developed to facilitate high-level dialogue on critical issues surrounding the implementation of environmental policy. The benefits of being able to pick up a phone and contact a colleague at any level of another organisation cannot be overstated.

IMPEL

The largest regulatory network within Europe is the European Union Network for the Implementation and

Enforcement of Environmental Law (IMPEL). At the time of writing IMPEL consists of 47 members from 33 countries, including three members from the UK: the Scottish Environment Protection Agency (SEPA), the Environment Agency of England (EA) and the Northern Ireland Environment Agency (NIEA). The 33 countries comprise all EU Member States, Iceland, the Former Yugoslav Republic of Macedonia, Norway, Switzerland and Turkey. IMPEL was initially formed in 1992 as an informal network, and later became an international non-profit association in 2008. In contrast to the more strategic networks, IMPEL primarily caters for the operational level, made up of active regulators and technical contributors.

IMPEL is based in Brussels and is run by a Board and full-time secretariat. Most of IMPEL's work is done through projects that are identified and delivered by its members. There are two informal technical forums known as 'clusters', one of which deals with improving implementation of EU environmental law (permitting, inspection, enforcement and smarter regulation) known as 'cluster improving implementation'; the other deals with improving the enforcement of the EU Regulation on trans-frontier shipment of waste. Project ideas are taken to these clusters for discussion, and on-going projects are reviewed. Project reports are approved and disseminated via the General Assembly, which meets twice yearly. Projects receive funding from a combination of membership fees and LIFE+ funding (a European Union financial instrument that supports environmental and nature conservation projects).

As co-chair of the cluster on improving implementation, I sit on IMPEL's Board and take part in the management of the association and the implementation of the decisions of the General Assembly. However, as SEPA's Development Unit Manager, my real interest lies in the projects. High-quality projects share good practice, build capacity and deal with thorny issues of implementation.

CLUSTER IMPROVING IMPLEMENTATION

This cluster currently has several projects dealing with areas of implementation of new legislation. Many of these projects have the new Industrial Emissions Directive at their core. Current subject areas include:

- how to deal with substantial change at a permitted facility;
- how to carry out environmental inspections of industrial installations in accordance with the Directive; and
- the development of a common risk-assessment methodology.

Although all of these topic areas could be developed in isolation by each of the member organisations, a shared understanding will help to deliver a level playing field when it comes to implementation at a substantially reduced cost.

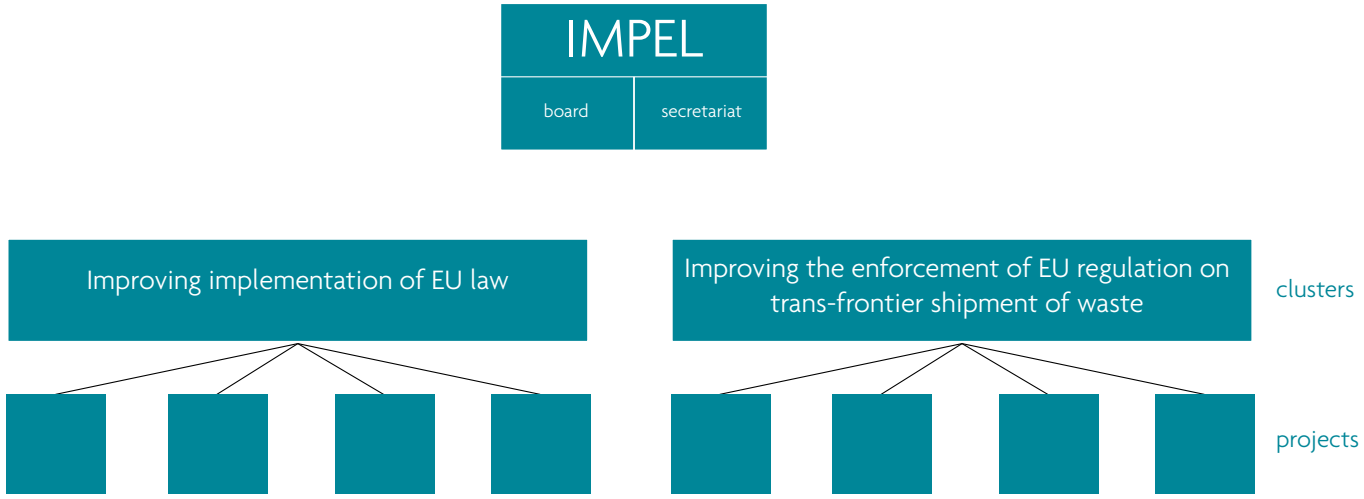
IMPEL works closely with the Commission, and through this has developed project areas where poor levels of implementation of existing legislation have been identified. Currently there are projects looking at eliminating illegal killing, trapping and trade of birds, and aspects of the Water Framework Directive covering diffuse pollution. Sharing ideas on regulation where poor implementation exists does lead to beneficial outcomes for the environment.

In a network of environmental scientists and engineers you would expect to find projects on technical subjects, and you would not be disappointed in this assumption. IMPEL currently has projects looking at the inspection of landfills and energy efficiency in permitting, for instance. It is perhaps projects on technical areas such as these where environmental benefits can be most easily realised through, for example, the reduction in methane released from landfills.

Projects looking at better or smarter regulation have always had an important emphasis within IMPEL, and with the current economic climate opportunities to develop smarter forms of implementation that both lessen the burden on the regulated and regulator are important. Some of IMPEL's most important projects of the last few years have explored how regulators can have assurance in a site's level of compliance between inspections. Projects have included:

- work on complementary approaches to inspection and when to use them;
- research into the level of confidence given by an operator's compliance management systems; and
- the use of supply chains to reduce environmental impact.

These project areas would be difficult to develop as an isolated authority.



▲ **IMPEL organisational chart**

REVIEWING ENVIRONMENTAL AUTHORITIES

One of IMPEL's most important programme of projects is the review of environmental authorities in IMPEL member states, so as to identify opportunities for development and areas of good practice. This project is known as an IMPEL Review Initiative (IRI) and was developed to help implement the European Parliament and Council Recommendation (2001/331/EC) providing for minimum criteria for environmental inspections. A team from other member organisations reviews the practices, procedures and systems of the host authority. These reviewers bring together a wealth of experience from a diverse range of authorities in terms of size, tradition and geo-politics. Importantly, this is not an audit: the focus is not on minutiae but on whether the systems and procedures are in place and, importantly, whether they are fit for purpose.

Having been on the receiving end of a review I can confirm that the level of scrutiny you face by opening your doors to a group of knowledgeable experts from a similar background is high. Viewing my agency with external eyes has been extremely important to me in my current role and has led me to be an evangelist in respect of this particular project. I have taken part in the review of six environmental authorities since SEPA's review in 2007, identifying areas of good practice that could be adopted in my own agency and potentially shared with the wider IMPEL community. It is easy to become complacent and assume that regulations are never implemented to the same degree in other countries and that you can't learn anything from your neighbours; this assumption is clearly wrong.

One area in which the UK could learn lessons from its European counterparts would be in embracing of new technology, especially when it comes to obtaining information from operators or supplying information to the public. Recent examples of good practice have come from Italy and Iceland. The Lombardy region of Italy has the ability to check industrial emissions from its incinerators remotely, allowing observation at any time. The Icelandic environment agency's website provides electronic copies of permits, inspection results, monitoring data, a summary of the permit and what the site does, for each of the sites that they regulate and all in non-technical language.

At the time of writing, 19 authorities from 19 states have been reviewed as part of the IMPEL review initiative process. At each review a similar number of opportunities for development are usually identified. In every review in which I have taken part, the basic regulatory framework to carry out permitting and inspection activities has always been in place. As a regulator I am keen that we do not 'gold plate' the regulatory requirements that we pass on to operators in Scotland, and conversely that regulators in other parts of Europe are applying European legislation consistently.

From the benchmarking opportunities these projects have afforded me, I have a high degree of confidence that, although there are opportunities for development, legislation is being broadly implemented to similar standards. Many of the regulatory organisations of 'newer' member states appear to be advancing faster than those in more established states. As part of a

network, 'newer' member states are able to benefit from the sharing of established learning and use emerging technology to bridge, or jump ahead of, any gap.

CLUSTER ON TRANS-FRONTIER SHIPMENT OF WASTE

This cluster is also very active. Projects are targeted at different points of the process (such as the waste sites projects that target the source of waste streams or the joint inspections projects targeting illegal shipment) and work with prosecutors for better enforcement of legislation against illegal activities. The cluster has also developed waste-specific projects on topics such as end-of-life vehicles. As environmental problems are global, there is often a need to look further afield: this cluster also looks at the illegal movement of waste to Africa and Asia, and has developed collaboration projects with countries in these regions. It would be very difficult for individual member organisation to carry out such projects, and the effectiveness would be lessened. Many IMPEL members also work with the International Network for Environmental Compliance and Enforcement (INECE) to build legal capacity in developing countries.

Being in a network brings opportunities that are not so readily accessible to an individual environmental authority. This may include access to officials in the Commission, from desk officers dealing with the development of individual regulations to directors overseeing the development of large swathes of environmental law. The network therefore has the opportunity to influence the development and recast of legislation to ensure its practicability and enforceability.

NETWORK NEGATIVES

So, what are the negative aspects of being in a network? Developing consensus can be difficult at times, but as we are not a political entity or lobbying organisation disagreements are rare because we are all there with a common aim. There is obviously a cost to pay in terms of time away from the desk, travel and of course the emission of carbon in travelling to distant meetings. Personally, I think these are easily outweighed by the benefits described above, through the generation of new ideas or ways of working for my own authority. Hopefully the knowledge I have been able to share with other authorities has led to improvements in the implementation of their own regulations. IMPEL has entered into a new phase of development and is now actively trying to evaluate the benefits of its projects. I am optimistic that soon we will be able to demonstrate exactly how we have made a difference to environmental improvement or financial efficiency.

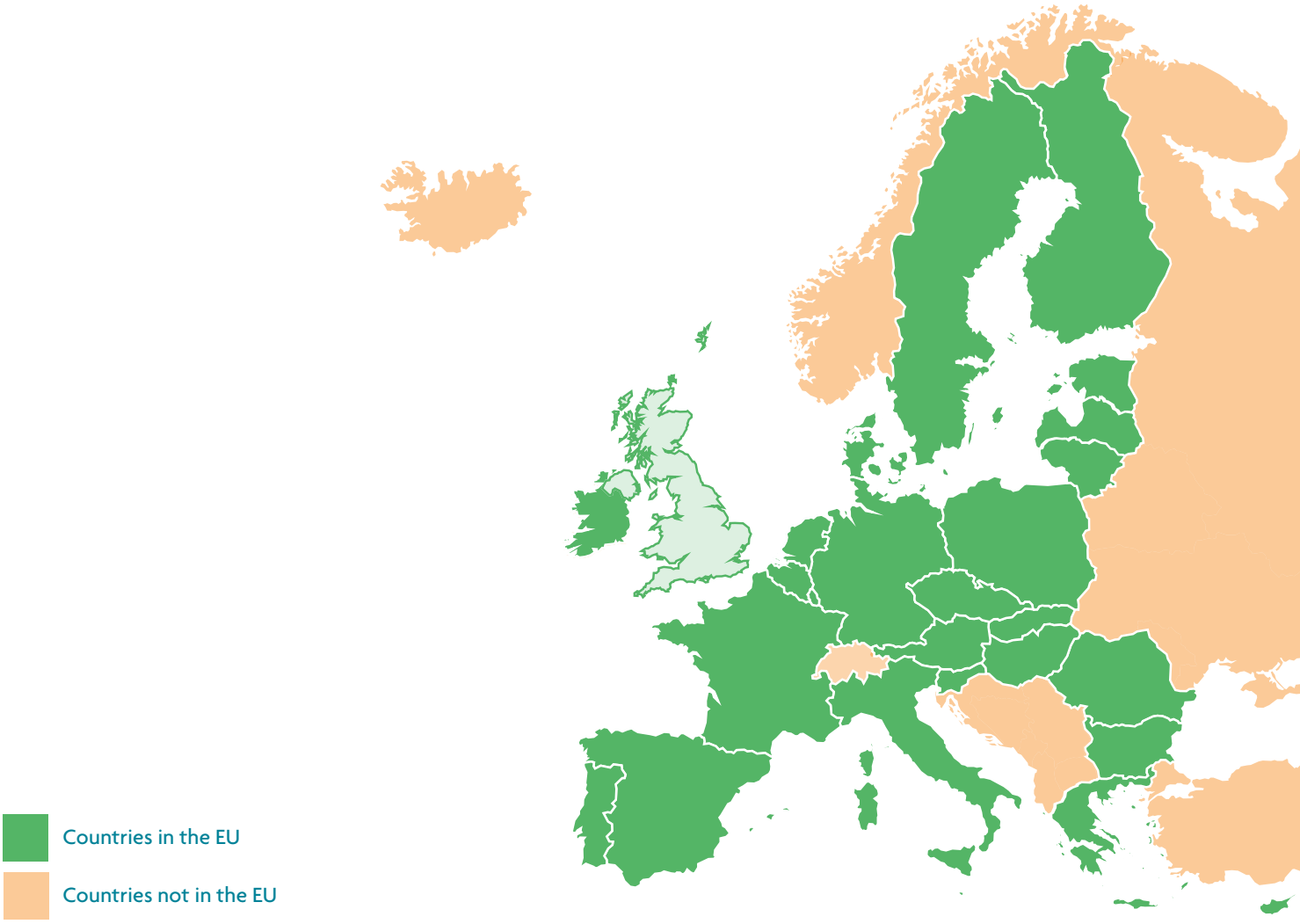
Regardless of whether you are pro- or anti-European Union, the ability to share experiences with other regulators facing common problems is very important. The pooling of resources and experience facilitates the development of consistent approaches, capacity building, benchmarking and common implementation. Regulators' networks, in my experience, are definitely an example of the whole being greater than the sum of its parts. **ES**

Simon Bingham has been a regulator for over 20 years, specialising in regulatory framework design. He is currently the Development Unit Manager of the Scottish Environment Protection Agency's Operations Directorate and an IMPEL Board member (sbingham@sepa.org.uk).
www.impel.eu

In or out? The environmental impact of leaving the EU

The IES contacted the major political parties in the UK and asked them: "What would be the environmental impact of leaving the EU?"

Editor's note: environmental SCIENTIST contacted the Labour and Conservative parties and offered them the opportunity to contribute but they declined the invitation.



Green Party

The debate over the UK's place in Europe is set to rage until the next general election at least. As part of any discussion over the UK's future in Europe it is worth looking closely at the ways in which European legislation has affected the environment in which we all live and work.

In many ways the EU is the perfect body for creating environmental legislation as the protection of our environment simply can not be done by countries acting alone. All EU member states share seas and breathe the same air, our rare birds do not need a passport to travel, the sewage spilt on beaches in Germany does not disappear when currents carry it into Poland, and climate change simply cannot be tackled by any one country by itself. And it is not only in theory that the EU is the right body to create environmental law – it has been doing well in practice too.

Take, for example, the huge environmental and health issue of air pollution. In the UK alone 27,000 people die every year as a result of the noxious gases in our air, and without EU legislation that number would be even higher. The Air Quality Directive has been incredibly successful in forcing EU member states to act in order to bring down pollution levels of sulphur dioxide and, in some places, nitrogen dioxide. For those of us who continue to breathe bad air we now have the ability to put pressure on local authorities and the UK government to clean up air pollution hotspots. The UK Government, which has been trying its very best to avoid acting on air pollution, is being forced to protect the health of its own citizens because of EU law.

As well as ensuring the protection of our air the EU has also brought in forward-thinking policy that protects our precious seas and beaches. The EU Bathing Water Directive, which obliged member states to change the way they treated sewage, has paved the way for a big improvement in the state of our beaches. These clean beaches are more likely to attract tourists, provide a haven for birds and boost local economies.

On top of legislation protecting our physical environment the EU has also produced legislation that, though not as strong as some of us might have liked, gives us a continent-wide approach to tackling the most pressing issue of modern times: climate change. With at least 11 per cent of global greenhouse gases coming from the EU, it is vital that we work together to lower our emissions to have a fighting chance of avoid catastrophic climate change.

The legislation I have outlined above is just a snapshot of some of the environmental protection that the EU has afforded to us all. Over the years environmental legislation has often been opposed by the British government, and Conservative MEPs continue to try to undermine climate change proposals, but the EU has forced us to clean up our act.

The EU is far from perfect, but a UK exit would risk environmental disasters. In the run up to any referendum Greens will be campaigning for a more democratic, less corporate-driven EU that puts the protection of our environment at its core.

Keith Taylor is the Green Party Member of the European Parliament for the South East region. Prior to becoming an MEP Keith spent 11 years as a city councillor in Brighton, striving for improvements in the everyday quality of life for local people.

LIBERAL DEMOCRATS

STRONGER ECONOMY. FAIRER SOCIETY.

'Shallow' and 'ignorant' are words that describe the British debate about the country's role in Europe. Generalities prevail, along with grumbles about rules and regulations, but environmental issues are a happy hunting ground for those of us determined to ensure that the UK continues to play a lead role in EU decision-making. Most people appreciate that pollution has no respect for national boundaries. Most people welcome EU initiatives to raise air quality, improve the management of waste, and ensure the safety of chemicals. Few people attack the EU's environmental role, except perhaps environmentalists who would like it to be more ambitious.

Environmental improvements may in time have been introduced by a British government without reference to the EU, but the EU law-making machinery has often strengthened the hand of an environment minister dealing with arch enemies in the Treasury. It is harder to resist the call for money to be spent on improvements when there is a legally enforceable EU agreement requiring them. But in many instances measures agreed in Brussels could never have been adopted by one member state alone.

Take as an example the improvements in fuel efficiency and reductions in CO_2 emissions being achieved by new cars. Details of the EU law, proposed initially by the European Commission, were thrashed out and agreed by MEPs and ministers from across Europe. The standards it imposes apply to every car manufactured within the EU and to every car manufactured abroad and imported here. How could the UK, with its car plants sometimes shipping the majority of vehicles to the continent, apply different standards of its own without cutting its competitive throat?

Here is the rub. If Britain were to pull out of the EU the environmental impact would be minimal. That is not because the EU makes no difference, but because we would continue to sign up to virtually every piece of environmental law that comes out of Brussels. The only alternative would be not only to leave the EU but also to leave the EU single market, and all but a handful of Europhobic loonies recognise that this would be economic madness.

True, we could leave the EU and join the European Free Trade Association (EFTA), sitting alongside Norway, a country so 'independent' that it has incorporated 250 EU environmental laws into its own statute book. In fact Norway has adopted the entire EU library except for our laws on nature protection which are not regarded as having an economic influence. Norwegian experts get consulted when the Commission is drafting a new environmental law but the country's ministers have no vote and no place around the tables where the decisions are made. Failure to apply the law would result in the country being taken to the EFTA court. That is the price to be paid for belonging to the single market.

This, then, is the brave new world offered by those who want a proud, independent Britain to pull out of the EU. We sign up to laws made by others. Some pride! Some independence!

Chris Davies MEP is the Liberal Democrat environment spokesman in the European Parliament.

In the area of environmental policy, the EU has had a revolutionary impact on the UK. The EU's first Environmental Action Programme was agreed in 1973 and stipulated that "The protection of the environment belongs to the essential tasks of the Community". At that time, with the highest sulphur dioxide emissions in the EU, the UK was the 'dirty man of Europe'. Despite this, in 1983, the Thatcher government refused to sign up to a protocol to reduce 1980 levels of sulphur dioxide by 30 per cent. The UK's environmental policies were reactionary rather than preventative. The UK government had a voluntary approach. If the already low targets were breached, it was rare that action was taken against the offenders. Despite this, between 1990 and 2009 sulphur dioxide levels in the EU decreased by 76 per cent thanks to EU legislation. The UK has had to conform to set targets and standards and the results are clear.

Outside EU legislation, the coalition government is doing little to combat climate change. "Vote blue, go green" was the Conservatives' bold slogan during the 2006 election campaign, in an attempt to detoxify the Tory brand. In 2010, David Cameron pledged that the Conservatives would lead the "greenest government ever". However, they have since turned their back on green policies. "We're not going to save the planet by putting our country out of business" said George Osbourne at the Tory party conference in 2011.

In early June, MPs voted against an amendment to the Energy Bill for a 2030 decarbonisation target. The coalition has cut the number of people working on the UK's response to climate change from 38 to six. Meanwhile, the UK is facing a multi-billion pound bill for the costs of dealing with the effects of climate change including flooding, heat waves, droughts and extreme weather. If Labour placed more importance on the need to build a low-carbon economy, the coalition government would find it more difficult to disregard the environment. However, their silence has been deafening.

In Wales we have the potential to boost our economy by billions of pounds by investing in renewable energy. A recent report by Regeneris Consulting and Cardiff Business School shows that 2,000 jobs a year could be created until 2050 and £2.3 billion injected into in Wales through investing in wind energy alone. However, we are hampered by the fact that many environmental powers are not devolved to Wales. Outside the EU, we would be in an even worse situation.

In Wales we are committed to the sustainable development of our country. We are helped in our efforts by EU laws on requirements for bathing water quality and protection of natural habitats, for example, as well as funding for our poorest communities and rural areas. If the UK left the EU, it is unlikely that the UK government would look to develop and enforce such environmental laws. As a result, the UK would be at risk of being rebranded the 'dirty man of Europe'.

Jill Evans MEP is president of the Green/European Free Alliance Group. She is a member of the committee on the Environment, Public Health and Food Safety. She is former president of Plaid Cymru and party spokesperson for European and International Issues.

SNP
www.snp.org

As well as the challenges, climate change provides a wealth of opportunity for Scotland, given our expertise and enterprise that can bring new jobs and greater prosperity. Scotland is an energy-rich nation with centuries of experience in coal and decades in hydro, oil and gas, industries that will increasingly be augmented by our future technologies in renewables: wind and biomass as well as wave and tidal. Indeed, Scotland has hit the energy jackpot with approximately 25 per cent of Europe's tidal power and 10 per cent of its wave power, in addition to 25 per cent of European offshore wind resource potential.

The SNP Scottish Government has invested heavily in Scotland's renewables sector and we showed our commitment to developing new renewable technologies by launching the £10 million Saltire prize for innovation in marine technology. We have taken big steps forward with our zero-waste strategy and have begun major investment in low-carbon transport which will be a crucial part of our carbon-reduction efforts. And, with tens of thousands of new jobs expected to be created in the renewable sector within the next decade, we are working to build the right skills, attract new investment and ensure Scotland is recognised as the most attractive location in Europe for marine renewables and carbon capture and storage.

As EU Energy Commissioner Oettinger said recently, Scotland could be on the verge of becoming "an energy powerhouse of Europe". And Europe can help Scotland harness that potential through its policies to promote renewables, to build the required North Sea networks, and develop an integrated internal energy market that provides a level playing field to market those resources. No single member state can deal with today's energy challenges on its own, and as Scotland increases its renewable energy output we will need networks to further help us develop our export capacity and bring in revenues. In the EU, we have the political means, the economic muscle and the technology.

The UK government is doing considerable damage to our relationship with the rest of Europe: Westminster does not engage constructively with the EU and fails to promote Scottish interests, which are being damaged in the process. The UK's place in the EU is now in jeopardy. The vision of the Scottish National Party is for an independent Scotland in Europe; leaving the EU would have a detrimental environmental impact.

The Scottish Government's Climate Change Act is the most ambitious in the industrialised world and Scotland is working hard with our partners across Europe to develop green economic opportunities for Scotland and a sustainable future for our planet – we would like this to continue, and with Scotland's own voice.

Mike Weir was elected Scottish National Party MP for Angus in 2001. He is the SNP Westminster spokesperson on Energy and Climate Change.

UKIP

Let me say from the outset that I believe the EU to be thoroughly bad for the environment. The examples are legion. Not least the entirely indefensible second home for the European Parliament in Strasbourg. The ridiculous monthly trek there is hugely expensive and involves a great fleet of trucks carrying the contents of MEP offices backwards and forwards, belching fumes all the way and for no good reason. Sadly, it can never be changed because of the French veto.

Then there is Galileo, the EU's vanity project principally being done to outdo the Americans and their satellite navigation system. Galileo involves multiple rocket launches to put satellites in space at vast cost, to duplicate a system that already exists and is freely available. The environmental impact of all the chemical rocket launches required must be incalculable.

What about the EU's catastrophic failure to manage Europe's fishing waters? In a recent speech to Parliament, I demanded that the control of fisheries be returned to the nation states, such is the failure of the European Commission in this sector. Fishing stocks have been destroyed and many fishermen driven out of the business. The discard problem is still with us as the EU continues to move at a ponderous pace to end it. Countless tonnes of dead fish have been thrown back into the sea over many years.

European fishing fleets have also been hoovering up the fish in North African waters. The EU's *modus operandi* is to bully a North African state, such as Morocco, into signing up to a trade deal, which includes giving EU fishing fleets full access to their waters. Local fishermen end up with either no fish or having to venture much further out to find any.

Despite the contradictory examples above, the EU is obsessed with the unproven man-made global warming theory. This has led to an explosion in the production of biofuel crops, which are supposed to reduce greenhouse gas emissions but do exactly the opposite. Most biofuels produce more greenhouse gases than ordinary petrol or diesel. This happens because of the application of nitrogen fertilisers to these crops, which emit nitrous oxide and because of the worldwide destruction of huge amounts of grassland, wetland and forests, stimulated by this market.

The EU has also been a major impediment to the development of GM crops, refusing to do anything to encourage research and blocking many efforts to trial these crops in the member states. The irony being that genetically modified crops designed to resist insects and weeds can increase yields while dramatically reducing the need for fuel and all pesticides.

The EU is a major threat to the environment through misguided policies that are forced on the member states. The EU's recent ban on neonicotinoids, based more on green paranoia than scientific research, will have the effect of lowering crop yields in a hungry world and increasing the use of alternative but more environmentally hazardous products to protect crops.

If the UK were to leave the EU, a large part of the funding for this dangerous nonsense would be removed. The UK would also be free to pursue agricultural and environmental policies better suited to our own needs and infinitely better for the environment. ES

Stuart Agnew is the UKIP MEP for the Eastern Counties and serves on the European Parliament's Agriculture, Constitutional Affairs and Fisheries Committees. He farms in Norfolk, where he has 35,000 free-range laying hens, 500 ewes and 400 acres of arable land.

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Should harmonisation or subsidiarity prevail for the regulation of shale gas in the EU?

Frederick van Mierlo considers whether the examples of the UK and the Netherlands' regulatory attitudes to shale gas exploration should be extended throughout Europe.

The US shale gas revolution has certainly not gone unnoticed in a Europe that is increasingly dependent on energy imports. In the US, shale gas has proved to be a game-changer of epic proportions, revitalising heavy industry and providing a cheap and secure domestic source of energy. In Europe, Denmark, Germany, Hungary, Lithuania, the Netherlands, Poland, Romania, Spain, Sweden and the UK have all expressed an interest in pursuing shale gas[1]. Following the lifting of a temporary moratorium in the UK, the gas exploration company Cuadrilla looks set to make the UK one of the first to get shale gas flowing. The Dutch may well follow suit and are likely to vote on whether to lift their own moratorium in September or October.

FRACKING RISKS

A catalogue of environmental concerns over water pollution, climate change and seismicity has accompanied the interest in shale gas. If we put aside the debates and hyperbole over resource potential and economic viability, environmental risk can be seen to be at the epicentre of fracking[2]. Fortunately, extensive environmental legislation of EU origin is already in place that is applicable to shale gas[3]. These include, amongst others, the Water Framework Directive, the Mining Waste Directive, the Environmental Impact Assessment Directive, the Strategic Environmental Assessment Directive and the Regulation on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

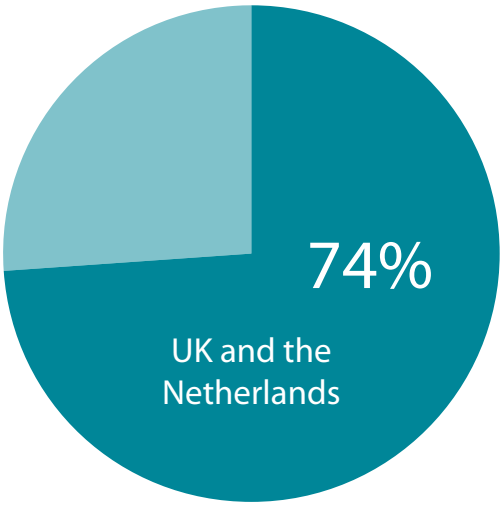
In 2012 the European Commission undertook a series of research investigations to examine the impact of shale gas on climate change, energy markets and the environment. The Environment Directorate-General of the European Commission (DG Environment) published a report that found the existence of what it considers to be significant gaps in the legislative framework. Discussions between DG Environment, DG Energy and DG-CLIMA (for climate action) on whether to initiate a proposal and what legislative instruments to use will shape the nature of regulation in Europe.

ASSESSING THE IMPACTS

Having completed the research phase, the European Commission is now at the mandatory impact assessment phase, which includes a series of steps that examine the economic, social and environmental consequences of a potential initiative[4]. The outcome of this is not yet certain, but three courses of action are being considered.

The first is that the Commission decides the environmental risks can be adequately managed using soft instruments such as guidelines on how to use existing legislation. The second is that aspects of existing legislation, such as Annex I of the Environmental Impact Assessment Directive, are amended. Annex I includes a threshold of 500,000 m^3 per day of natural gas production, below which an environmental impact assessment is not required. DG Environment believes that flow rates from shale gas in Europe may not be high enough to trigger a mandatory assessment[5]. However, opening up existing legislation to co-decision means that the Council of Ministers and European Parliament may attempt to amend other Articles and Annexes in a way that is not favourable for the environment. Both the UK and the Netherlands have previously expressed their desire to review the existing powers of the EU and

prevent so-called 'competence creep'. A third option available to the Commission would be to propose a new unconventional fossil fuels directive that clarifies or extends existing law. Any new legislation would have to take into account the legislative procedures of the EU, European Parliament elections in 2014 and a change in the college of commissioners, meaning that a new directive would not be fully transposed into national law until 2018 or 2019.



▲ The UK and Netherlands make up 74% of total EU gas production.

EC REGULATION

Whether new legislation from Brussels emerges depends to a large extent on whether the objective of environmental protection regarding shale gas can be better achieved by the EU or by the Member States. From an environmental perspective, action at the EU level could be preferable as it is usually stricter than national law[6]. The Commission cites three key reasons that could justify proposing an initiative for shale gas, an area it does not have exclusive competence for[7].

The **first** is that the environmental impacts of shale gas development are cross-cutting. Fugitive emissions of methane from well sites and the existence of

The clear disjuncture between the UK government and the Commission over which environmental legislation is relevant suggests that clarification, at the very least, is needed.

significant cross-border groundwater aquifers means regulation at the EU level could be appropriate. If, for example, Romania wanted to pursue shale gas near an aquifer shared with Bulgaria, which has imposed a moratorium, issues over environmental protection of a shared resource could prove problematic. The **second** is the 'level playing' argument, as differential national regulations could make it difficult for companies to compete within the internal market. However, the ability to 'gold-plate' legislation with extra requirements during transposition in national law, alongside the fact that permitting and licensing is done by national authorities, means companies will always have to deal on a country-by-country basis. The **third** justification for action at the EU level is that a clarification of how to apply existing law is required. The Commissioner for the Environment, Janez Potočnik, has previously argued that "we need to get a predictable environment to the business sector, because they don't know what they have to comply with"[8]. Even if a new law, perhaps similar to the Carbon Capture and Storage Directive, is not deemed necessary, some policy guidance will be[9].

MEMBER STATES REGULATION

The environmental risks could equally be left to Member States to regulate. The Subsidiarity Principle (Article 5(3) of the Treaty on European Union) states that only if an objective can be better achieved at Union level should the EU take action. The UK and Netherlands are two Member States that are keen to explore shale

gas potential. Using them as case studies, it is possible to show that they do not require EU help. Both are experienced gas producers, representing a combined 74 per cent of total EU production[10]. Since the 1970s the UK has extensively developed its North Sea oil and gas reserves. Similarly, the discovery of the Groningen gas field catapulted the Netherlands into becoming the EU's second-largest producer.

Production of conventional gas in both countries is predicted to decline steeply[11,12]. Shale gas could soften the decline, providing jobs, much-needed income for the exchequer and, if it replaces coal, a cleaner source of energy. If the UK and the Netherlands are able to show that shale gas can be extracted safely and with low environmental impacts, they could provide a blueprint for successful environmental governance.

In an online document, the UK Department for Energy and Climate Change (DECC) outlines 11 EU Directives and Regulations that it believes are applicable to the onshore hydrocarbon industry[13]. By contrast, the research carried out for DG Environment states that 19 pieces of legislation are relevant. In fact the Commission and the UK only agree on five pieces of legislation that apply to shale gas. Notable exceptions from the UK document include the Mining Waste Directive, the Waste Framework Directive, the Noise Directive, the Air Quality Directive and REACH. The clear disjuncture between the UK government and the Commission over which environmental legislation is relevant suggests that clarification, at the very least, is needed.

Despite the confusion, the British and Dutch governments are taking environmental protection very seriously. The UK recently finished its own research, published in a joint report by the Royal Society and the Royal Academy of Engineering. The Office for Unconventional Oil and Gas has also been set up to clarify the legal situation. The Strategic Environmental Assessment Directive can be circumvented to avoid the requirement to carry out an assessment if a government does not devise a national 'plan or programme'. However, in the UK a strategic environmental assessment is compulsory for

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oil and gas licensing rounds. Additionally, Cuadrilla is now undertaking an environmental impact assessment for its Blackpool site.

Meanwhile, in the Netherlands, a two-year study into the impacts on nature, the environment and humans will be published in late August (at the time of going to press the study was unpublished). The Environmental Management Act consolidates EU environmental legislation into one law. Under the 2002 Mining Act, the protection of safety and the environment is required, including the systematic management of deposits of minerals and limiting damage caused by soil movement. The General Provisions of Environmental Law 2008 further require the environment to be taken into account in the licensing phase. These examples show that Member States and good industry practice can fill gaps in EU legislation.

CONCLUSION

Whether all Member States can be trusted to implement and enforce good environmental governance is not clear. The UK and Netherlands have exemplary records when it comes to transcribing EU environmental law, while other Member States require prodding[14]. Based on the UK and Netherlands, further harmonisation may not be necessary. However, the EU is a club of 28 rather than two. Smaller Member States lacking knowledge and experience of gas production, or lacking human resources and capital, may need more help from the EU to fully protect their environment. Deciding whether Member States should retain competency or if the EU should harmonise legislation is also an inherently political question. The European Commission now has the unenviable task of balancing contrasting concerns and aims for the entire Union. ES

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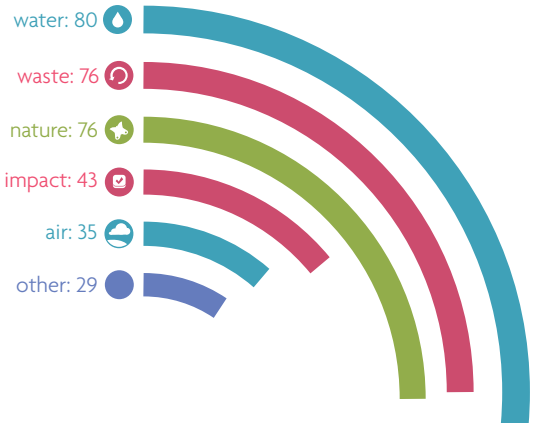
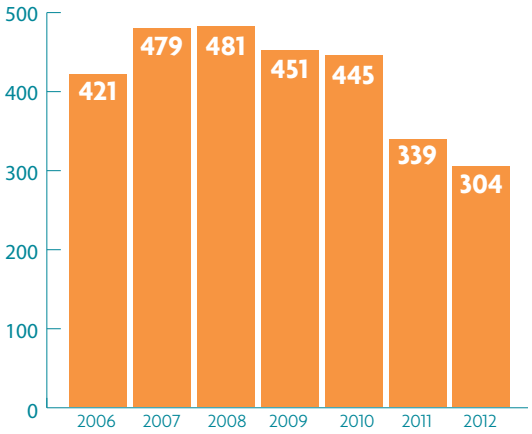
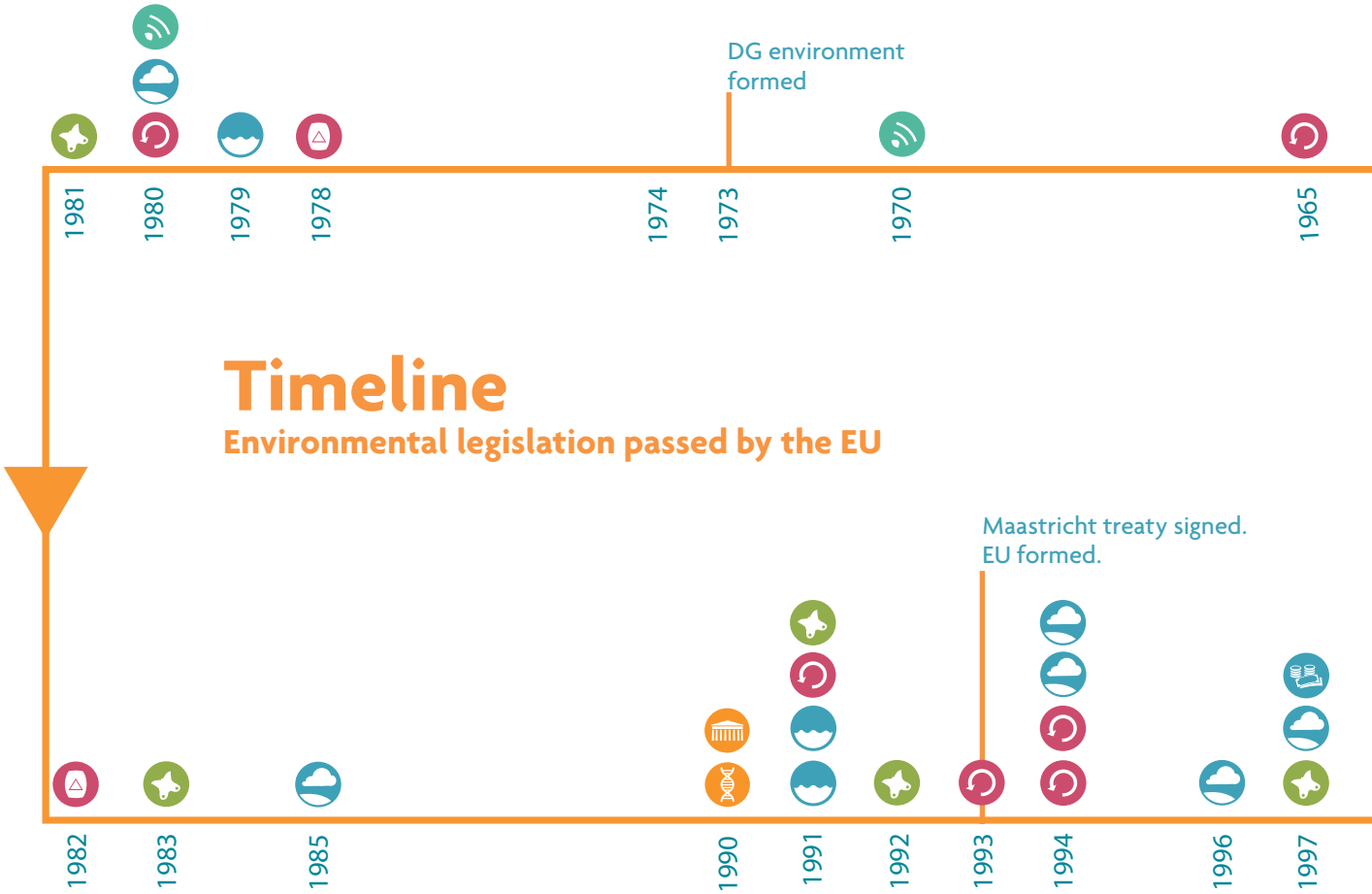
EU environmental legislation in numbers



There were 304 infringements of EU environmental legislation in 2012[1].



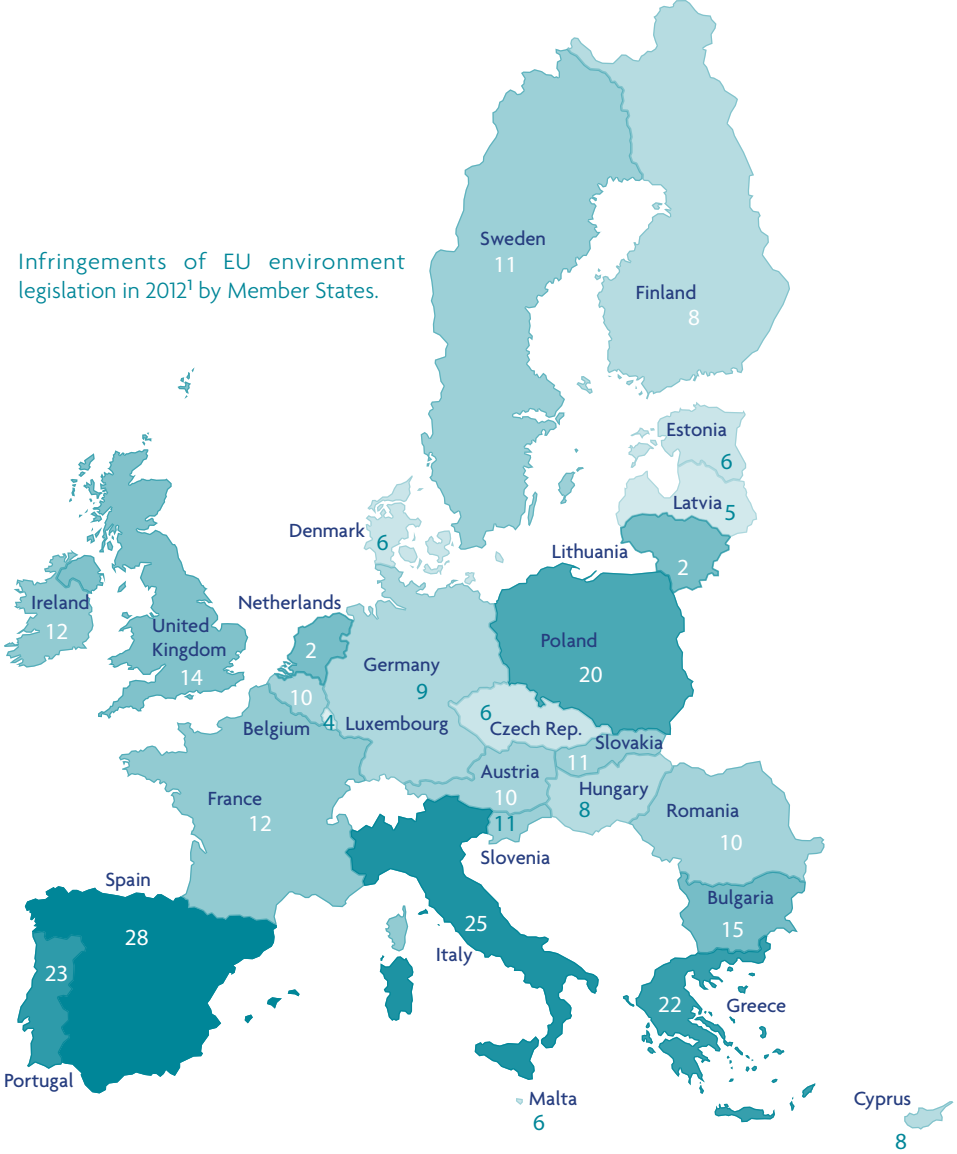
The number of infringements of EU environmental legislation has been in decline since 2008[1].



Timeline

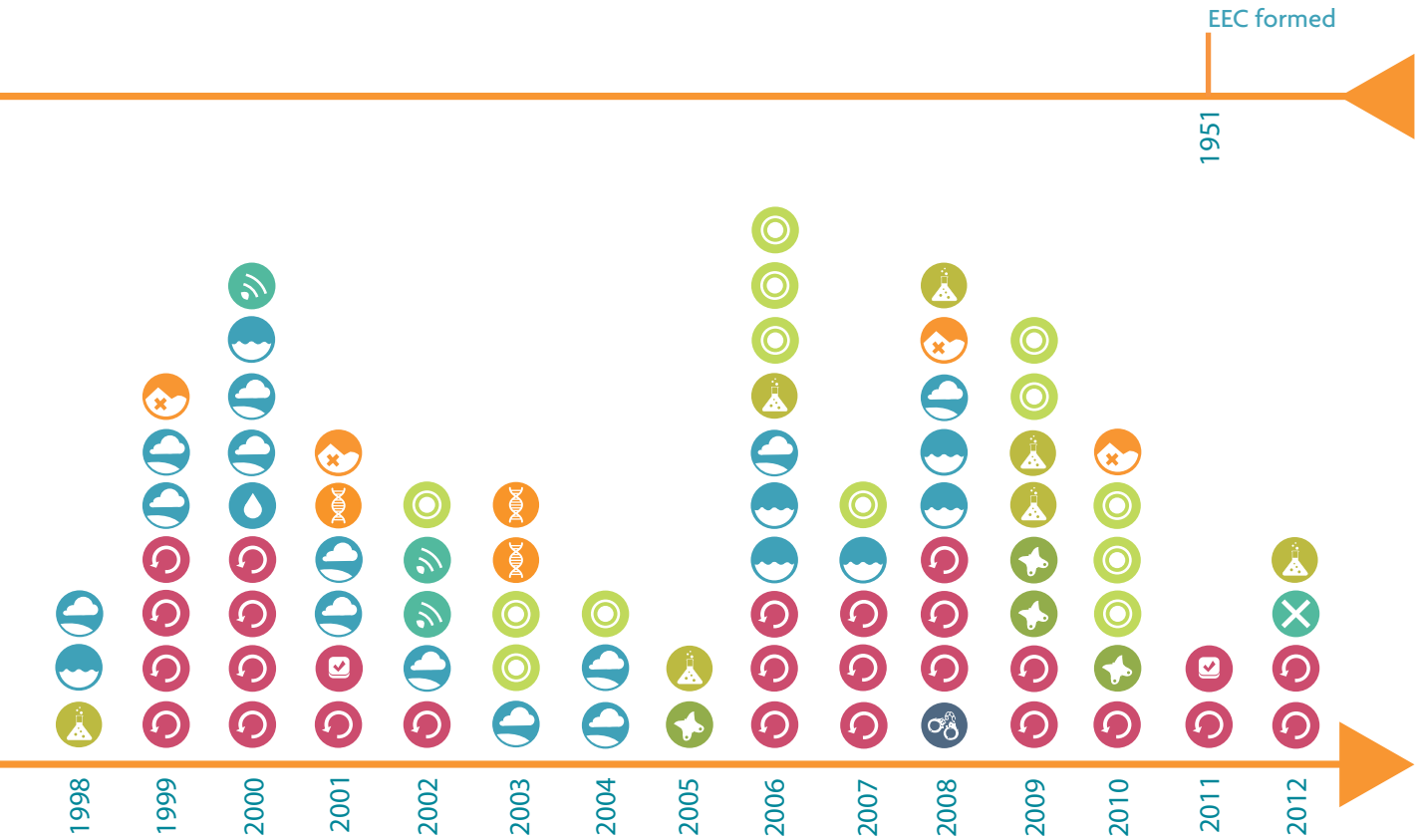
Environmental legislation passed by the EU

Infringements of EU environment legislation in 2012[1] by Member States.



Timeline key

Acoustics · Air Quality · Chemicals · Climatology · Conservation & Ecology · Contaminated Land · EEA · Environmental crime · GMOs · Hydrology · Impact Assessment · Industrial pollution · LIFE · Marine Science · Pesticides · Waste Management



SOURCES 1. Figures released by DG Environment accurate up to 19th November 2012. [Accessed March 2013].

The status of the Soil Framework Directive

Valerie Fogleman provides an overview of the ways that attempts to protect soil in European law have been stalled.

In September 2006, the European Commission submitted a proposal to the European Parliament and the Council for a Soil Framework Directive (Proposed Directive)[1]. In November 2007, the proposal had its first reading in the European Parliament[2]. The Proposed Directive has not, however, progressed since 2007 due to Austria, France, Germany, the Netherlands and the UK having formed and maintained a blocking minority in the Council. This article describes the origin and status of the Proposed Directive. It focuses on the controversial measures in the Directive to prepare national inventories of land that may be contaminated and to remediate land that poses a significant risk to both human health and the environment.

KEY THREATS TO SOIL

The Proposed Directive originated in 2002 in the Sixth Community Environment Action Programme, a key objective of which was the "promotion of a sustainable use of the soil, with particular attention to preventing erosion, deterioration, contamination and desertification"[3]. Also in 2002, the European Commission set out its approach to protecting soil in a Communication entitled 'Towards a Thematic Strategy on Soil Protection'. The Communication identified the key threats to soil as erosion, decline of soil organic matter, compaction, salinisation, landslides, contamination, sealing (covering soil with impermeable material), and decline of soil biodiversity[4].

The Commission's approach was well received by the Council, the European Parliament and other EU institutions[5]. A public consultation was held, and working groups were established to provide reports on the key threats to soil. The working groups subsequently published reports, including recommendations to the Commission. In 2005, an internet consultation resulted in 91 per cent of EU citizens who participated indicating that preventing or mitigating soil degradation in the EU was important or very important[6]. Consensus was unanimous that soil should have the same level of protection as air and water, due to the critical nature of its functions for human and ecosystem survival[7].

In September 2006, the European Commission adopted the Thematic Strategy for Soil Protection. The strategy proposed, among other things, a framework Directive to protect soil[8]. At the same time, the Commission submitted the Proposed Directive to the European Parliament and the Council. The Proposed Directive stated that member states should identify "contaminated sites", that is, sites "where there is a confirmed presence, caused by man, of dangerous substances of such a level that Member States consider they pose a significant risk to human health or the environment" taking account of their current and approved future use[9]. Each member state was to establish and publish a national inventory of contaminated sites, to be reviewed every five years[10].

POTENTIALLY POLLUTED SITES

Five years after the deadline for transposition of the Directive, each member state was to identify sites at which potentially soil-polluting activities had taken, or were taking, place[11]. The activities, listed in annex II to the Proposed Directive, were Seveso sites, integrated pollution prevention and control sites (now under the

Industrial Emissions Directive), airports, ports, former military sites, petrol stations, dry cleaners, certain mining installations, landfills, wastewater treatment installations and pipelines transporting dangerous substances[12]. Competent authorities were then to measure concentration levels of dangerous substances at sites in the inventory. If the levels were such that the competent authority believed that they posed "a significant risk to human health or the environment", the authority was to carry out an on-site risk assessment.

The Proposed Directive established the following timetable for carrying out the above tasks:

- at least 10 per cent of the sites within five years from the deadline for transposition;
- at least 60 per cent of the sites within 15 years; and
- the remainder within 25 years[13].

In order to assist in the rapid identification of contaminated sites, soil status reports were to be submitted to the relevant competent authority for sites on which potentially polluting activities had taken, or were taking, place when such sites were sold. The reports were to be prepared by the owner or prospective purchaser of such a site and were to include the history of the site, a chemical analysis of the concentration levels of the dangerous substances in the soil that linked them to the potentially polluting activity, and the concentration levels giving rise to a determination that the dangerous substances posed a significant risk to human health or the environment[14]. Following submission of the reports to the competent authority, the authority would issue them and use the information in them to identify contaminated sites[15].

REMEDIATION STRATEGY

Member states were directed to prepare a National Remediation Strategy including targets, a timetable for implementation of the above measures, and funding for them. Sites in the strategy were to be prioritised for remediation on the basis of the significance of the risk to human health[16]. The national strategies were to be prepared and published by no later than eight years after the deadline for transposition of the Soil Framework Directive[17]. Each member state was to ensure that contaminated sites in its national inventory were remediated by removing, controlling, containing or reducing contaminants so that the sites no longer posed a significant risk to human health or the environment, taking account of their current use and approved future use[18].

WHO PAYS?

The Proposed Directive did not identify the persons who would be responsible for paying for the remediation, stating that each member state should set up "appropriate mechanisms to fund the remediation of the contaminated sites for which, subject to the polluter pays principle, the person responsible for the pollution cannot be identified or cannot be held liable under [EU] or national legislation or may not be made to bear the costs of remediation"[19]. The Commission suggested that costs could be borne by land users, the polluter or the public purse, leaving the decision to each member state[20].

Further, the Proposed Directive would amend the Environmental Liability Directive (ELD) so that the discretion granted to a competent authority under the ELD to remediate orphan sites "as a means of last resort"[21] was aligned with the Proposed Directive[22]. That is, whereas a competent authority is not obliged, under the ELD, to remediate environmental damage if the operator does not do so, the authority would be obliged to remediate it under the proposed amendment.

COMPROMISE AND BLOCKING

At the first reading of the Proposed Directive, the European Parliament made amendments to provide member states with more flexibility in carrying out the measures described above[23]. Further progress of the Proposed Directive then met the blocking minority in the Council. Debates in the Council between 2007 and 2009 resulted in compromise texts of the Proposed Directive. Amendments included the streamlining of provisions and the incorporation of further flexibility for member states in their implementation of it; more specifically, the deletion of deadlines, a reduction in the list of soil-polluting activities for sites on the registers, and less information in soil status reports. The amendments failed to break the impasse because, although they met with approval from some member states, they also resulted in the Commission and other member states calling for "greater harmonisation in order to create a level playing field across the EU"[24].

The proposed Directive remains blocked by a minority of Member States on the grounds of subsidiarity, excessive cost and administrative burdens[25].

SOME SLOW PROGRESS

EU measures to protect soil and to assist in the remediation of contaminated land have, however, progressed in the absence of the Soil Framework Directive, albeit slowly. For example, in 2012, the Commission issued a report that overviewed the implementation of the soil thematic strategy. Whilst the report focused on measures to prevent soil degradation, it also mentioned the remediation of contaminated land, noting among other things that between 2007 and 2013 the EU had allocated approximately €3.1 billion to the rehabilitation of contaminated land and industrial sites as part of the Cohesion Policy, with the Czech Republic, Germany and Hungary having been allocated the most funding. The report also stated that the Commission had approved grants for remediating soil contamination by several member states (the Czech Republic, Estonia, Germany, the Netherlands, Slovakia and the UK) as being compatible with the polluter pays principle and the Treaty of the EU[26].

In addition, the Commission has included provisions to protect soil in proposed EU legislation. For example, the Industrial Emissions Directive imposes increased measures on operators to prevent soil and groundwater pollution[27]. The proposed amendments to the Environmental Impact Assessment Directive require the consideration of the effect of proposed projects and plans on soil[28].

CONCLUSION

Measures in the Proposed Directive to protect soil degradation are progressing. Measures to prepare inventories of potentially contaminated land to remediate them are, however, halted at least for the near future. The UK will almost certainly continue to oppose provisions establishing national inventories of potentially polluted land. The so-called section 143 registers of land on which contaminative activities had been carried out[29], met strong opposition in the early 1990s, leading the UK government eventually to withdraw the proposal to establish them[30]. Thus, whilst some member states have national inventories of potentially and actually contaminated land, together with national remediation programmes[31], it will probably be some time before the UK establishes a national programme to remediate contaminated land[32].

ES

◀ Biological soil treatment.

Valerie Fogleman is a Consultant at Stevens & Bolton LLP and Professor at Cardiff University School of Law. She has practiced environmental law for over 25 years and is an Honorary Member of the RICS and Vice Chair of the Planning and Environment Committee of the City of London Law Society.

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32. Part 2A of the Environmental Protection Act 1990 does not establish a national programme to remediate contaminated land. See Defra, 'Assessing Risks from Land Contamination – A Proportionate Approach, Soil Guideline Values: The Way Forward' (CLAN 6/06, November 2006) 6, para 2.6 ('Part 2A was never intended to establish a national remediation programme').

What has the EU ever done for us?

Ecotricity

What has the EU done for the environment? Clearly, the question is far too broad to cover in detail here, but what we can do is focus a critical lens on a small part of EU environmental directives: the planning system.

Ecotricity, the UK's first 'green' electricity company, has been involved in pioneering wind energy projects across the UK since its inception in 1996. We have our own in-house ecologists and whenever we select a site for a new wind farm, we take the potential risk to wildlife from wind turbines very seriously. In terms of the environmental assessments we undertake, three EU directives directly steer what we do and how we do it on a daily basis.

These EU directives provide a robust mechanism to assess the potential impacts of developments at a very early stage, which allow us to distinguish between real and perceived ecological impacts. The three directives are the EIA Directive, the Birds Directive and the Habitats Directive.

THE EIA DIRECTIVE

These are not fluffy guidelines. The EIA directive provides an overall framework that stipulates the factors that need to be taken into account when a new infrastructure project is being planned. It sets out the statutory stages and responsibilities of the developer and the planning authorities during the planning process.

An important aspect of the EIA Directive is that it also considers environmental quality and the impact on communities. This means that our team of landscape architects, planners and a technical team play a key role in these assessments. It also means that we can reassure those communities about every aspect that might initially be a concern with such large projects.

That is also an important aspect of these directives: they form a central part of our public engagement, too. At our public engagement sessions, people always want to know what work we have conducted to ensure that important local wildlife, for instance, is protected.

THE BIRD AND HABITATS DIRECTIVES

These are also invaluable to our daily work. At base, they are there to protect and improve Europe's most important habitats and species. They do this through the designation and protection of a network of land and marine habitats (called Natura 2000), and the protection of animals and plants of European importance, classified as European Protected Species.

During the site selection process, the presence or close proximity of these Natura 2000 sites means that we immediately know the need for an early assessment of any potential impact on the conservation status of the designated site.

In summary, for ecologists working in the industry, EU directives provide a robust, understandable framework with clear objectives for our work to assess potential impacts. They enable us to do our own job better, while at the same time ensuring that our projects can be judged according to very strict environmental standards and giving the general public the peace of mind that comes from knowing that we have done our job properly.

Dr Simon Pickering is a senior Ecologist at Ecotricity for over 30 years, including stints at the British Antarctic Survey and the Wildfowl and Wetland Trust.

Friends of the Earth

When I joined Friends of the Earth in the late 1980s the UK's environment was pretty grim. Our drinking water was contaminated with a cocktail of chemicals, beaches were polluted by sewage, power plants belched out acid rain gases and most of our rubbish ended up in landfills instead of being recycled.

Fast forward 25 years and there has been a remarkable environmental transformation, largely due to EU rules aimed at tackling these issues.

But with UK membership of the EU rising to the top of the political agenda, it is timely to consider the impact that our departure could have on our environment.

UK AND EU APPROACH TO ENVIRONMENT POLICY

In a paper[1] for Friends of the Earth, published earlier this year, Dr Charlotte Burns from the University of York warns that a UK exit from the EU could severely damage the UK's environment.

Highlighting the frequently strong resistance by successive UK governments to European environmental regulations, Dr Burns says Britain has for the most part only unilaterally taken action when incontrovertible damage had been proved. Generally speaking, the UK prefers to deal with environmental problems in a fragmented, *ad hoc* and inadequate way.

This contrasts markedly with the EU's precautionary approach to environmental problems, championed by more progressive countries such as Denmark, Germany, the Netherlands and Sweden which has now been enshrined in the Lisbon Treaty.

This analysis concurs with my experience at Friends of the Earth. Time after time we have had to campaign to neutralise British opposition to environmental standard-setting by the EU. Frequently we have had to fire off complaints to the European Union about UK infringements of EU law. And only this year the UK Government fought doggedly – and thankfully, unsuccessfully – against EU restrictions on neonicotinoid pesticides linked to bee decline.

NOT PERFECT

Despite the EU push for environment improvement, things have not been plain sailing. The damage caused by the Common Agricultural Policy and Common Fisheries Policy is clear for all to see. The inability of the EU to agree greenhouse gas reduction targets that are anywhere near necessary is shameful – although luckily this is an area where the UK, with its ground-breaking Climate Change Act, is leading the way.

The evidence that EU policy has driven and continues to drive environment policy in the UK is strong. If we leave the EU we may find that the land we live in is not quite so green and pleasant.

Mike Childs is Head of Policy, Research and Science at Friends of the Earth. For over 20 years he has campaigned on issues ranging from factory pollution to recycling to climate change.

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Veolia

Since 2001, European Union countries have had to implement the Landfill Directive. For the UK, this means that it must reduce the amount of biodegradable municipal waste landfilled to 35 per cent of 1995 levels by 2020.

First introduced in 1996 by Environment Secretary, John Gummer, the Landfill Tax has been the main way that the UK has sought to reduce use of landfill and make alternative treatment sources more financially attractive. This has been the catalyst for a much-needed increase in UK waste infrastructure capacity with 33 waste PFI projects awarded as of January 2013.

A case in point is our proposed new recycling and energy recovery facility in Leeds which has recently received planning permission, and which Leeds City Council have calculated will save them £200 million over 25 years compared to the costs of continuing to landfill household waste.

However, in many areas, fully integrated waste management remains to be adopted. In Hertfordshire we are in the process of gaining planning permission for a fully integrated recycling and recovery facility which is part of the strategy of ensuring the UK has sufficient treatment capacity in every region.

When first introduced, the Landfill Tax was £8 per tonne and each year it has increased in value so that it now stands at £72 per tonne and will rise to £80 in 2014–2015. It is not yet clear whether it will continue to rise or stay the same beyond that date.

DECREASE IN LANDFILL

The Landfill Tax has certainly bitten over the last few years. Landfill volumes are now in decline, and companies are pushing much more into recycling and treatment, including anaerobic digestion and energy from waste. The tipping point probably came in 2011–2012 when the Landfill Tax reached £56 per tonne, as that meant energy from waste gate fees were on a par.

As a result of Landfill Tax, the Landfill Directive, the Waste Framework Directive and others, we have seen

recycling increase from almost zero in 2001 to over 40 per cent now. There will be a review of targets as part of the European Commission's work on the Roadmap to a Resource Efficient Europe. Following this we could see bans for certain materials to landfill, more measures to increase recycling and use of the material in new products, and more measures for resource security.

Ray Parmenter is the Legislation Manager for Veolia Environmental Services (UK) Plc.

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Air Quality Consultants

2013 was designated as the Year of Air, as the EC reviewed the EU Thematic Strategy on Air Pollution and its related policies. It is thus an opportune moment to reflect on what the EU has done to improve air quality conditions in the UK.

As a first response, it is tempting to be dismissive. EU controls on vehicle emissions, the so-called Euro standards, had promised to deliver steady reductions in emissions and hence much lower concentrations of nitrogen dioxide – a key traffic-related pollutant. But as is now widely accepted, these controls have abjectly failed to deliver the forecast improvements. This is because the on-road performance of vehicles is very different from that defined within the test cycles used to determine compliance with the Euro standards. The outcome is that there are still widespread exceedences of the nitrogen dioxide limit value across the UK (three years after it was to have been achieved), and the Government now accepts that these exceedences are likely to continue into the next decade.

EU DRIVING AIR QUALITY

Despite these failings, European legislation has been the driving force behind air quality legislation in the UK, without which, the position would almost certainly be far worse.

Two principal directives (and their subsequent revisions) have proved pivotal to the development of air quality policy in the UK:

- The 1985 Environmental Assessment Directive" prescribed a list of development projects for which an environmental assessment would be required and introduced. Importantly, the outcomes of these assessments were reported in the public domain.
- The 1996 Ambient Air Quality Assessment and Management Directive set a framework for air quality limit values for a number of pollutants. These limit values are legally binding, which helps focus the mind on meeting them.

Both directives have led to air quality assessments being required for a wide range of new developments. These frequently cover traffic and industrial/energy-generation emissions. This has encouraged the introduction of measures to reduce emissions associated with new developments. It is unlikely this would have happened to the extent it has without EU legislation.

Steve Moorcroft has over 35 years' experience in the field of environmental sciences. He is the Director of Air Quality Consultants. He has contributed to the development of air quality management in the UK, and has been closely involved with the LAQM process since its inception.

RSPB

Since the EU's first serious foray into environmental policymaking in 1973 with the first EU Environmental Action Programme, the body of EU environmental legislation and policy has grown to around 300 directives and regulations concerning the environment with significant achievements including:

- Emissions of sulphur dioxide (SO_2) reduced by 70 per cent[2];
- Global wildlife trade controls promoted through stricter European controls, such as the EU ban on the trade in wild-caught birds[3]; and
- Creation of the first and still the biggest international market for controlling greenhouse gas emissions covering 45 per cent of EU emissions[4].

As one of the UK's leading wildlife conservation charities, the Royal Society for the Protection of Birds (RSPB) dedicates significant resources to influencing and promoting the implementation and development of EU environmental policy. We recognise that EU environmental legislation has a significant impact on the achievement of our objectives in the UK, but has this impact been positive?

NATURA 2000

In relation to biodiversity conservation in the EU, the key legislative instruments are the Birds Directive[5] and Habitats Directive[6]. These two directives serve as the backbone of EU nature conservation action and between them establish a policy framework for the conservation of terrestrial and marine species, and the establishment of a network of protected sites, the Natura 2000 network, designed to conserve habitats that are essential to those species or worthy of conservation in their own right. What this means in practice is that many of the UK's most beautiful and diverse areas – from moorlands to bays – are protected by international law. The terrestrial Natura 2000 network now covers 17 per cent of the EU's territory, and the protection it provides is effective. A study conducted by the RSPB showed that the Birds Directive[7] had brought demonstrable benefits to bird populations in the EU, and also showed that international policy intervention can be effective in addressing conservation issues over large trans-border geographical areas.

BALANCING NATURE AND THE ECONOMY

The Birds Directive and Habitats Directive seek to find a balance between the needs of nature conservation and the needs of economic development, and have been successful in doing this. In the midst of the current drive for economic growth at all costs, it is worth considering the impact on business of EU nature conservation legislation. The results are positive: a Defra review of the implementation of the Birds and Habitats Directives found that "in the large majority of cases the implementation of the directives is working well, allowing both development of key infrastructure and ensuring that a high level of environmental protection is maintained."[8] Furthermore, the fact that the directives are well established helps businesses by providing a stable and predictable regulatory landscape: evidence submitted by Wildlife and Countryside Link to the Defra review showed that, of the thousands of land use consultations received by Natural England each year, fewer than 0.5 per cent result in an objection under the Habitats Regulations.[9]

Recent studies have also shown that the economic benefits generated as a result of this effective approach to site conservation are considerable. Figures published by the European Commission suggest that the terrestrial Natura 2000 network of protected sites generates benefits worth €200–€300 billion per year, or 2–3 per cent of EU GDP[10]. Natura 2000 is also key for climate change mitigation and adaptation, and in pure economic terms the carbon stored in Natura 2000 sits across the EU is valued at €600–€1100 billion.

SOME DAMAGING POLICIES

The EU's achievements in these areas should not, however, obscure the fact that some EU policies have been extremely damaging in environmental terms. The EU Common Fisheries Policy has for many decades promoted and supported the unsustainable exploitation of the EU's fisheries, while evidence gathered by the RSPB and others within the framework of the Pan-European Common Bird Monitoring Scheme[11] confirms that the Common Agricultural Policy has been instrumental in driving the decline of common farmland birds throughout Europe.

The principles behind environment policy-making at EU level are sound, and RSPB has found strong evidence that in some areas these policies are delivering excellent results for Europe's environment. At the same time, there is an urgent need to reform those EU policy instruments that are still driving environmental degradation. The recent successful reform of the Common Fisheries Policy is an example of where UK leadership can be critical in improving EU legislation.

But laws are only as good as their implementation, and much remains to be done. The RSPB's *State of Nature* report leaves us in no doubt that nature in the UK remains in crisis. The EU has helped put in place the legal framework to protect it, but results on the ground will only be delivered if the necessary measures are implemented and properly resourced, and if EU legislation is enforced.

Alistair Taylor is the EU biodiversity policy officer at the RSPB. Previously he worked for the JNCC and the Natural History Museum.

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Dr Mark Everard

EU membership and EU environmental legislation divides opinion. 'Faceless Eurocrats' constraining the UK's competitiveness, or a key avenue for higher-level concerns to shape policy?

MONEY DOES NOT DEFY GRAVITY

The EU started life as a trading block to compete on a post-war stage, for which rules were set to establish a level playing field across multiple policy areas. In addition to redistributive regional structural funds and instruments such as the Common Agricultural Policy, numerous directives entered the statute books. Significant amongst these were the directives with environmental focus.

The historic economic context is important in understanding how the EU's rulebook works. Compliance with environmental directives provides common trading standards, ensuring that competition is not at the expense of the environment and the benefits it provides to people.

Arguments by UK politicians that we would be better off outside Europe have merit, but only if we regard redistribution, the rights of all in society, harmonised health and safety, the environment and the many benefits it confers upon us all as irksome obligations there purely to satisfy Eurocrats and bunny-huggers.

The reality, of course, is that 'the environment' is what we are breathing right now, the water and the food we drink, the energy flows running my computer and the waste assimilation services that will clean up afterwards. We either mine 'the environment' – surely undermining our future wellbeing including potential competitiveness – or we recognise the protection of the environment as a wise investment to secure public health, economic resources, quality of life and the resilience of society to climatic and other stresses.

It is naive to think of the economy whilst omitting its primary resources: what nature provides and what people do with it. These surely are worth protection, and the body of EU environmental legislation goes a long way towards that.

HOME GROWN

Of course, we have home-grown environmental safeguards, government departments and regulatory bodies across the devolved administration of the UK. Indeed, HM Government's June 2011 Natural Environment White Paper, *The Natural Choice*, sets a strong ecosystem-centred 'direction of travel'. But how loud would the voice of the environment be if not significantly backed up by international consensus and commitments, including those promulgated by Europe?

Furthermore, the political appetite for pro-environmental leadership is also significantly dulled in an age of austerity, 'green tape' amongst the first perceived 'constraints' to be scrutinised and slashed to ensure that city bonuses are protected. Domestic political instinct also tends to retract to protect established businesses, rather than recognising the inevitability of greater environmental challenges and thus encouraging the kind of 'sunrise' industries that address sustainable development challenges head on, and that we therefore need to incubate now to position ourselves competitively for the future. For example, the knife is being wielded to prune the Feed-in Tariff, cutting costs in the near term but also slashing investment in growth sectors that are not only needed but which could give the UK a competitive lead.

FLAWED BUT NECESSARY

In practice, the EU is no less accountable than domestic politics, themselves hardly an exemplar of the power of the common person upheld in corridors trodden by a perversely high proportion of millionaires. Both represent an executive form of democracy rather than true multi-stakeholder participation in decision-making. However, Europe has a track record of generally taking more far-sighted steps to safeguard the environment and its many services to humanity than have emerged at national level.

"the political appetite for pro-environmental leadership is also significantly dulled in an age of austerity"

For all the naivety of some early directives, they at least recognised environmental quality as a prerequisite of human wellbeing. Although measures to implement it may be unpopular, particularly with farmers, the Nitrates Directive demonstrates political courage in terms of prioritising the long-term protection of drinking water. The Water Framework Directive has changed the regulatory paradigm by focusing on ecological status and its benefits, rather than perpetuating a fragmented pressure-by-pressure approach. It is hard to see that such far-sighted approaches would emerge unilaterally from domestic politics, dictated by short-term electoral cycles.

BABIES AND BATHWATER

So, although rowing back from European commitments might harvest short-term financial rewards, it would represent a lurch back to the worst facets of Industrial Revolution protectionism that underplay the long-term and socially uneven consequences of pollution, resource over-use and future security. There are probably things all of us do not like about the EU, but the imperfect yet substantial baseline of environmental protection developed since the 1960s is too important to reject in favour of short-term gain.

Systems science tells us that we are all part of a finite, internally interdependent socio-ecological system, inescapably benefitting from or suffering the consequences of all our actions and inactions. Our baseline of environmental regulation and subsidy is very far from perfect, but it does at least enshrine decades of hard-won progress, safeguarding to some degree the most fundamental of resources across broader spatial

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Greenpeace

The European Union should be the model for a greener, more sustainable world. Or at least, a better spot than most to start trying to build it. There have been some real achievements and success stories, but the lack of transparency and accountability in European institutions is as much of a problem in environmental policy as it is elsewhere.

Where the EU works best is in raising regulatory standards. The size of the European market allows us to slam the brakes on the global 'race to the bottom' which drives down environmental protections along with employment rights, and throw that race into reverse. Higher standards can be imposed right across the richest, biggest market in the world, and everyone who wants to sell to us has to meet them. We have the EU to thank for cleaner water in our taps, our rivers and our beaches; cleaner air (although the UK government is fighting the Air Quality Directive tooth and nail), cleaner cars, more efficient electrical appliances and better nature protection. The Habitats Directive, co-authored by Boris Johnson's father, preserves the best of our landscape and the wildlife that depends upon it. And this legislation is economically beneficial to the UK, according to the Government's own assessment.

CORPORATE LOBBYISTS

But the distance between the European electorate and the EU institutions, both geographical and bureaucratic, is a gift to the corporate lobbyists camped in Brussels. Corporate capture of the EU legislative process frequently dilutes radical, transformative bills into toothless aspirational documents with no deadlines or sanctions to push forward change. Targets are weakened, as has been the case with the vehicle fuel efficiency regulations to satisfy the German makers of large cars; or implementation grinds to a halt, as happened recently with the Fuel Quality Directive, which would have restricted the use of highly polluting tar sands in the EU market - here big oil companies like Shell and Canadian Government officials have been to blame. Despite the overwhelming evidence that land use changes caused by EU biofuels mandates drive hunger and habitat loss globally, the biofuels lobby in Brussels is fighting a rear-guard action against any meaningful standards to address these problems, and they may well be successful.

VESTED INTERESTS

The over-weening influence of vested interests becomes even starker when subsidies are involved. The Common Agricultural Policy (CAP) seems impossible to reform at any meaningful speed, and may merrily continue handing tens of billions to Europe's richest landowners for no reason other than that this is what they have always done – and because the balance of power in Brussels means that our political leaders have no incentive to derail the farming gravy train. The recent scandal over false labelling of horse meat in the EU showed how perverse the system is – with factory-farmed products being shipped around Europe in an absurdly over-extended supply chain, whilst consumers are ripped off and local, sustainable suppliers are priced out of the market. Was any of this ever anyone's policy goal? Or did lobbyists move the goalposts so often that our legislators are no longer sure of which team they are on?

The Common Fisheries Policy (CFP) has had the EU sticking the ball into the back of their own nets repeatedly. With subsidies showered on the most destructive large-scale industrial operators, and quota denied to the low-impact, small-scale sector, the policy seemed designed to destroy both our fisheries and the industry that relies on them, starting with the sustainable bit. But this is beginning to change – as the people of Europe expressed their disgust at a system that encourages nearly half the fish caught being thrown back dead, the CFP started to receive a bit more scrutiny than it was used to. Thanks to that public pressure, amplified by NGOs and the media, and channelled by politicians who realised that even the fishing community (as opposed to the fishing lobby) were demanding change, we now have a CFP that, whilst still deeply flawed, is far better than it was a year ago in several important ways.

But this rare success is also a stark reminder of the general failure of EU institutions to reform even the policies that the vast majority of Europeans know to be absurd, because the contempt of their electorates means less than the attentions of lobbyists. In a transparent, responsive, accountable EU, the CAP as currently formulated would not last a week. Europe would have to institute a rational agricultural policy regardless of the interests of the major landowners, and we could enhance both biodiversity and food security, and the EU's popularity.

The EU could go further in creating globally influential standards in transport, electrical equipment and construction that would create a greener economy and save its citizens cash. Furthermore, real transparency and accountability would benefit the EU in and of itself – the democratic deficit is one of the biggest sticks used to beat Europe by the Eurosceptic press. Take it away – and the absurdities it allows – and they would be left limply waving a fictional straight banana.

Dr Douglas Parr is Chief Scientist and Policy Director at Greenpeace UK. Currently working on climate change policy in the power, heat and transport sectors, he has previously worked on a number of issues including GM crops, chemicals policy, green refrigeration, marine conservation and bioenergy. He holds a D.Phil in Atmospheric Chemistry from Oxford University.

Dr Heather Barrett-Mold

It's always difficult to second guess what might have happened had something else not existed. Without the EU other pressures on the UK Government to improve legislation may have been brought to bear. However from my early days of teaching environmental science it was apparent that the EU was making an impact on the way agriculture performed, ranging from the need for food security to food markets and environmental protection. Before the UK joined the EU the Common Agricultural Policy (CAP) was in place although it initially took little account of environmental protection. 1985 saw mainstream agri-environment schemes in the UK; with the Broads Grazing Marsh Conservation Scheme. In 1992 the McSharry Reform paid attention to reducing surpluses and providing some environmental consideration which was followed by a plethora of schemes such as set-aside, stewardship, and environmental sensitive areas. At this time I was researching chalk grassland and saw the huge benefits of set aside on biodiversity.

Later, when working in land-based colleges my greater involvement in the running of farmland and closely working with farmers made the impact of the CAP and stewardship schemes even more apparent. The stewardship schemes were difficult to get to grips with, but there was help available from various agencies and the effects on the countryside were generally positive. I moved to a college for which I had responsibility for a 275 ha organic farm. It operated the organic entry level scheme. This college had been successful in placing sustainable development at the heart of its operation; the business, curriculum, estates and it was a natural move for the farm to enter this scheme. The field margins increased and hedges were protected. Permissive footpaths were opened running across the land with walk leaflets generated to explain to the public what they would see. They offered the chance to witness first-hand the conservation measures being undertaken to maintain and enhance the rich and varied landscape of the countryside. Holders of the higher level scheme had in addition a responsibility for educating the public.

So once again we are in a period of CAP reform. Difficult as that might be, CAP has over the years moved agriculture from the post-war concerns of high productivity and intensive production to one which recognises the need for environmental protection and the role of ecosystem services. However this round is not without controversy. Subsidies for land owners remain and the 30% target for grants linked to environmental activities that promote wildlife is now "flexible" with exemptions that may allow payments for little activity.

Would it all have happened without the EU? I suspect not; well not as much. Has it made a positive difference? Yes. Is it flawed? Yes and will always need strong voices to advise and lobby for stronger environmental benefits.

ES

Dr Heather Barrett-Mold was Principal and Chief Executive of Pershore Group of College; and now is a consultant. An ecologist, specialising in the management of chalk grassland, Heather is Chair of the Institution of Environmental Sciences and a Past President of the Institute of Horticulture.

IES: New members and re-grades

Members	Occupation (M)
Neil Shawcross	SHE Officer
Leanne Liles	Graduate
Alice Doyle	Freelance Sustainability Consultant
Arshad Bhat	Scientific Officer
Simon Cahill	Land and Habitat Management- Self-employed
Diarmuid O'Sullivan	Senior Contaminated Land Consultant
Nichola Dixon	Senior Environmental Consultant
Alfredo Cardo Perez	EHS Manager
Stephen McAfee	Senior Environmental Consultant
Emily Byers	Environment Specialist
Katherine Wear	Senior Consultant
Artemis Doutsi	
Geoffrey Dowker	Environmental Protection Officer
Richard Gillard	Waste Water Scientist
Fiona Convertino-	Senior Consultant (Air Quality)
Irene Bopp	Senior Consultant
Neil Burke	Associate Consultant
Anthony Iles	Associate Director
Jonathan Bridge	Lecturer in Environmental Engineering
Deborah Henderson	Senior Consultant
Marc Blanché	Principle Consultant
Andrew Edgar	Director
Ceri Riley	Pollution Prevention and Control Regulatory
Claire Brenton-Taylor	Researcher
Katherine Franklin	Senior Geo-environmental Engineer
Robin Edwards	Senior Geochemist
Bruno Agochukwu	Scientific Officer
Jonathan Perks	Sustainability Consultant
Daniel Yupet	Project Officer
Rachael Graham	Associate
Charissa Poynton	Policy Analyst
Fiona Scott	Senior Consultant
Anita Venn	Geo-Environmental Engineer
Ruth Tunwell	Environmental Consultant
Lik Ki Mui	Consultant
Mark Lyons	Managing Director
Neil MacDonald	Contaminated Land Officer
Phillip Berry	Environmental Services Consultant
Tristan Coleman	Partner, WKC
Amanda Zillig	Environmental Scientist
Sebastian Crolla	Geo-Environmental Engineer
Robert Lewis	Project Manager
Titus Idris	HSE Risk Assessment Officer
Man Chiu	Assistant Consultant
Nancy Oakes	Course tutor and lecturer
Claire Lucas	Assistant Air Quality Consultant

Associates	Occupation (A)
Carl Lacey	Graduate
Abdikarim Hussein Abdulle	Environmental Scientist
Amelia Chilcott	Assistant Environmental Consultant
Matthew Brennen	Geo-Environmental engineer
Adrian Dale	Sales Assistant
Christine Park	Environmental Consultant
Nasreem Abdul Razack	Environmental Specialist
Stephanie Beggs	Eco-housing & Retrofit Officer
Emily Cooper	Graduate
Nduka Akaogu	PhD Student
Catherine Close	Alcohol work and Relief Hostel Worker
Harriet Knowles	Environment Manager
Henrietta Patrick	Junior Consultant
Louise Ratiffe	Assistant Consultant
Oscar Montoya Jonsson	Principal consultant - Associate
Christopher Steer	CEO
Rosemary Willatt	Sustainability Consultant
David Kerr	Liability Claims Adviser
Kirsty Payne	Graduate/Bar Staff

Affiliates	Occupation (Af)
Katarzyna Skowronska	Support Worker
Noa Tu	Self-employed
Nishchal Karki	Supply Chain Assistant (Oral health program)
Jim Camp	Administrator/Student
Darrell Tovey	Consultant
Mauricia Martínez-Sánchez	Customer Care Assistant
Dmitry Kormann	Student

Answering a new call

Andreas Baumüller explains how WWF changed to support the Habitats Directive.

The late 1980s and early 1990s was not only a period of political change for the European Union – it was a period of seismic change in environmental policy. European Member States started to realise that many of the common environmental challenges faced could only be solved if nations worked together and created a 'european approach': the tools of the past were insufficient in this era of collapsing borders and economic uncertainty.

From the point of view of WWF, one significant evolution of environmental policy was the adoption of the Habitats Directive in 1992, which created one of the biggest, most effective networks of protected natural reserves: Natura 2000. Two decades later, close to 26,000 sites covering one million square kilometres of Europe's natural space have become Natura 2000 protected areas. This is a successful, modern and flexible system that ensures the conservation of Europe's rich natural wildlife.

However, Natura 2000 protected areas differ significantly from the traditional concept of protected no-go areas for humans. Instead a balance is struck between human activity and nature, such as in the Karaboz Natura 2000 site in Bulgaria where sheep graze the floodplains of the Northern Danube and create the necessary conditions needed for flora and fauna.

When considering the wellbeing of an environmentally sensitive area, the law holds that nature's requirements must be paramount if workable compromises cannot be found. The construction of the Polish 'Via Baltica' highway that was originally intended to pass through the Natura 2000 Network was rerouted as it would have caused considerable damage to the protected area.

ADAPTING TO A NEW ERA OF NATURE CONSERVATION

With these changes, WWF looked closely at our own structure and how best we could support the concept of

Natura 2000. We realised that our work was going to have to change. Our different offices were originally set up as distinct national offices where much of the work was done in the national capitals. In the 1980s, WWF opened a political office in Brussels to influence the European institutions where many of the regulations are made.

This European orientation made sense on several levels, the most important of which was that Brussels is the centre of influence for so much EU environmental policy. In fact it is often said that 80 per cent of environmental legislation in Member States starts its life in Brussels. The new WWF European Policy Office (EPO) was given an enhanced capability through a pooling of national investments that had not previously existed. In 1990, a WWF European and Middle East programme came into effect, with national offices promising to transfer 10 per cent of their national conservation expenditure into a common European pot.

Secondly, WWF started to look at problems on a transnational basis. New subregional programme offices like the WWF Danube-Carpathian Programme Office and the Mediterranean Programme Office opened. They address cross-cutting issues relating to the natural values their respective regions. The geographical landscapes and features, rather than the political borders, delineate the natural issues faced in a region.

WWF has also adopted a consultative approach to working on Natura 2000. We try to talk to as wide a group of people as possible so that we can propose solutions that are acceptable to all. This not only includes public administration but also professional specialists, the public, local academics and civil society groups (such as hunters, fishermen and local businesses). If a Natura 2000 site is to be truly sustainable it needs to have widespread support.

WWF IDENTIFIES THE VALUE OF GREEN INFRASTRUCTURE

One of our most important roles is sharing best practice in the selection and management of Natura 2000 sites with national governments, Members of the European Parliament and the European Commission. Our advocacy work constantly reminds them of the benefits of natural green infrastructure and in many cases convinces them to consider natural infrastructure in instead of an artificial solution.

Not all policy makers are aware of the tremendous benefits Natura 2000 delivers. With an annual cost of €5.8 billion, Natura 2000 provides an estimated return of €200–300 billion. These include services like water provision and purification, national hazards prevention, carbon sequestration and storage, tourism and recreation.

Conservation work in Europe has changed significantly in the last 20 years. As partners in the development of the Natura 2000 Network, we need to constantly look at evolving when policy changes so that we can continue to be influential advocates for real progress. Overall WWF is proud of the contribution it has made to the development of Natura 2000, and supports the 'EU Approach' in this dimension. ES

Andreas Baumüller is based in WWF European Policy Office (WWF EPO) and has headed the unit on Natural Resources since July 2011. He and his team work on biodiversity, forests, freshwater and marine environments and consumption (especially sustainable diets). Between 2004 and 2011 he lead the EU policy work on biodiversity in WWF EPO with a focus on Natura 2000. His background is in forest science with a Masters degree in the management of protected forest. Between 1995 and 2004 he worked for WWF Austria on site designation and Natura 2000 management.

▲ Restoration of Yellow Waterlily *Nuphar lutea* in Persina Nature Park. Image credit: Konstantin Ivanov.