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Balancing Nature and Renewable Energy

Prof. Colin T. Reid, University of Dundee

Once upon a time life was simple in the environmental world. On the one side there was nasty, dirty industry, destroying nature and spewing into our air and waters pollution that was instantly visible and offensive to all our senses. On the other side was the green and beautiful countryside, to be preserved and left on its own to flourish. The Goodies and the Baddies were easy to identify. Now things are more complex. Not only does the law rely on scientific definitions and equations that defy ready comprehension,¹ but the Goodies and Baddies are less clear. Expanding renewable energy production is an environmentally desirable goal to pursue - until it threatens biodiversity. Renewable energy can help to save us from the worst extremes of climate change, but hydro dams can drown whole landscapes, wind turbines can kill birds, and marine operations can disturb whales and other species. What is the environmentally correct choice in these “green on green” conflicts? Who are the Good Guys now?

These conflicts between different environmental objectives not only create difficult challenges for decision-makers, and sometimes odd alliances among those campaigning for or against particular developments, but also lead to tensions in the law.² Both the conservation of nature and the development of renewable energy generation are clear policy goals embodied in increasingly strong legal measures and the resolution of the conflicts that emerge is not easy. This paper aims to explore some of the issues that arise in this context.

The biodiversity goal is well known in EU and domestic law. In particular the Habitats (92/43/EEC) and Birds (2009/147/EC) Directives set out clear rules for the protection of nature, aiming to ensure the conservation both of the Natura network of Special Protection Areas and Special Areas of Conservation and of a wide range of species. The objective of developing renewables can be illustrated by considering the Renewable Energy Directive (2009/28/EC). This sets a target for the share of energy from renewable sources that is used in each Member State of the EU by 2020. For the UK the target figure is 15% of the energy used.³ In considering this it is important to realise that the target is set for energy, not just electricity, and the key definition is:

‘gross final consumption of energy’ means the energy commodities delivered for energy purposes to industry, transport, households, services including public services, agriculture, forestry and fisheries, including the consumption of electricity and heat by the energy branch for electricity and heat production and including losses of electricity and heat in distribution and transmission.⁴

The target figure is thus based not on the generation of electricity from renewable sources, where the UK is already achieving a figure of almost 15%,⁵ but on all uses of energy,

¹ See, for example, the equations in Annex II of the Renewable Energy Directive (2009/28/EC) for accounting for electricity produced by hydro and wind generation.

² A. Pillai, C.T. Reid & A. R. Black, “Reconciling Renewable Energy and the Local Impacts of Hydro-electric Development” (2005) 7 *Env. L. Rev.* 110; L. Warren, “Habitats, birds, renewables and tidal power – energy versus species” (2010) 22 *ELM* 233.

³ Within this, a separate target of 10% is set for transport; Dir. 2009/28/EC, art.3 and Annex I.

⁴ *Ibid.*, art.2(f).

⁵ Department of Energy & Climate Change/ National Office of Statistics, *UK Energy in Brief* (July 2014), p.30, giving figures for 2013.

including for heating and transport, which sets a much more demanding challenge. The need to expand further renewable energy generation is thus clear.

Impact of Renewable Sources

All sources of renewable energy create at least the potential for adverse impacts on biodiversity,⁶ and a broad outline is conveniently presented in a paper produced by BirdLife International in 2011.⁷ Some technologies are likely to have little impact, e.g. rooftop solar installations,⁸ but others may have significant effects. In many cases, careful siting, good design and proper operation can greatly reduce the risks of harm,⁹ whilst the indirect impacts vary hugely depending on the details of particular schemes.

Wind: All wind turbines can disrupt the flight paths of flying animals (birds, bats and insects), displace them from foraging areas and create a risk of collisions with blades. Onshore wind farms require significant groundworks and roads that may disturb fragile habitats in remote areas and disrupt drainage patterns, whilst offshore ones create an artificial intrusion into the ocean which (based on experience of oil platforms) will have varying effects of different species.

Hydro: The construction of a hydro-power dam and consequent flooding of the landscape obviously has a dramatic effect on the environment as well as on the wildlife that relies on the flowing river and the ability to move up-and down-stream for breeding etc. Even schemes that rely more on the natural flow of the river will create obstacles and disrupt natural flows of sediments and species.

Tidal: Schemes based on tidal flows, with underwater turbines, pose the same threats to marine creatures as wind turbines do to aerial ones, whilst the controversy over various proposals for a Severn Barrage has shown the massive impacts of such schemes in altering, if not destroying, the rich inter-tidal habitats which are used by many species.

Wave: Wave energy installations again create obstacles in the sea and the risks of collision and entanglement, whilst the increase in marine traffic for any offshore technology risks pollution, collisions and the spread of non-native species.

Solar: The fear of aquatic birds mistaking large solar arrays for bodies of water appears largely unfounded (although insects that lay eggs in water have been found depositing eggs on arrays), so that the major impact will be habitat change, which may be positive or negative for biodiversity depending on what was there before and how a site is managed.

Biomass: Although the transport of bulk materials and emissions will always be issues, the impact of biomass depends largely on the source of the feedstock materials. Cutting down

⁶ The following examples do not take account of the effects of manufacturing the equipment required nor of extracting and processing the raw materials concerned in such manufacture.

⁷ BirdLife Europe (I. Scrase and B. Gove, eds), *Meeting Europe's Renewable Energy Targets in Harmony with Nature* (RSPB, 2011).

⁸ Although even those might displace the birds such as oystercatchers that sometimes nest on urban flat roofs.

⁹ See, for example, *Wind Farms and Birds: An Updated Analysis of the Effects of Wind Farms on Birds, and Best Practice Guidance on Integrated Planning and Impact Assessment* (Council of Europe, T-PVS/Inf (2013) 15).

first-growth forests, digging large areas of peat or converting undeveloped habitat to intensive cultivation to feed biomass boilers would obviously have very serious consequences for biodiversity, whereas using materials that are otherwise waste or are sustainably produced in an ecologically responsible way may be much more benign.

Biofuels: The same applies to biofuels, with the potential for serious impacts if these are produced from crops grown unsustainably and in ecologically damaging ways or locations, with the risk of valuable habitats being destroyed by land being brought into intensive production.

Biogas (e.g. landfill, sewage): To the extent that such schemes are simply capturing what would otherwise be atmospheric emissions from existing plants, the impact is positive, but the financial value of such emissions may hinder the development of more sustainable options for reducing or redirecting waste.

Whatever technology is used, there will be added environmental disruption during the *construction* phase, e.g. there is major concern over the impact on many species, including cetaceans, of the noise made by piling operations for offshore installations and a major loss of freshwater pearl mussels (leading to a £11,000 fine for the contractors) occurred as a result of construction works for a hydro scheme on the River Lyon in 2013.¹⁰ The *operational* phase is likely to involve traffic and continuing disturbance whilst *decommissioning* again is likely to create a surge in disturbance from the activity, as well as the problems of restoring the environment. Electricity *transmission* is also a concern, with the effect of construction works, birds hitting power lines and the little explored impacts on fish, especially sharks, sensitive to the electrical currents created by undersea lines.

In all of this, though, there are considerable uncertainties. Even onshore, where these things can be studied with relative ease, we do not have a full understanding of the distribution and movement of species, the interactions between them and how they will react to disturbance.¹¹ Offshore, where so much of the emphasis is today, we often have very little idea of even the basic data of where species gather and move when out of sight of land.¹² We are not sure how physical objects, noise, vibration and electrical currents will affect marine species, nor the effectiveness of any proposed mitigation measures. On top of that, what little we do know may be undermined by the effects of climate change, already apparent in the seas surrounding us. Important and long-term decisions are therefore having to be taken in the face of considerable uncertainty.

This litany makes the picture look bleak for renewable energy if biodiversity concerns are to be taken seriously. Yet it must be remembered that all technologies have the potential to have negative impacts for biodiversity. The landscape scars of open-cast coal mines, the devastated shorelines from wrecked oil tankers, the cumulative emissions from “clean” gas-powered plants and the impact of shipping and storage facilities for hydrocarbon fuels are none the less substantial and potentially devastating for being more familiar. Indeed every

¹⁰ See <http://www.copfs.gov.uk/media-site/media-releases/95-environmental-criminals-fined-15-000-for-major-water-pollution>

¹¹ Projects such as the Scottish Wind Farm Steering Group are trying to fill the gaps in our knowledge; see <http://www.swbsg.org/>

¹² For example it is only in the last few years that tracking projects have begun to reveal where the basking sharks seen in summer off the west coast of Scotland spend the rest of the year; see <http://www.snh.gov.uk/about-scotlands-nature/species/fish/sea-fish/shark-tagging-project/>

building poses some risks to birds that may be more likely to fly into windows and struts than into turbine blades, and our society is full of other risks as well.¹³ A sense of proportion must be maintained in considering the negative aspects of renewable technologies and the comparative impacts of different options assessed.¹⁴

Decision-making

Despite the policy drive to develop renewable energy, conservation concerns are not being completely squeezed out and can indeed be the decisive factor in decision-making. In the past this was not the case. Looking at the proposals for hydro-electric schemes in Scotland in the middle of last century it is clear that concern for nature was not a significant consideration. Other than a brief mention of landscape, the only element of nature given any attention was salmon and then only from the perspective of private fishing rights, not biodiversity.¹⁵ This has now changed, influenced by the need for environmental impact assessment and the effect of EU conservation law. In 2004 a hydro scheme at Shieldaig was refused because of the impact on pearl mussels and black-throated divers.¹⁶ In 2008 a huge windfarm on Lewis was refused permission because of its impact on Natura sites.¹⁷ Earlier in 2014 plans for offshore wind generation at the Argyll/Tiree Array were put on hold in part because of concerns over the effect on basking sharks and diving birds.¹⁸ Conservation does sometimes win.

The place of the law in setting the framework for such decisions rests largely on three measures which are derived from EU law, Environmental Impact Assessment (EIA), based originally on Directive 85/337/EEC,¹⁹ and the Habitats and Birds Directives. A further consideration worthy of note is the role of wildlife crime offences, especially since one aspect of this is currently exercising the Law Commission in England and Wales.

In considering the legal approach, note must be taken of the prevailing judicial attitude in such matters. This is very much to leave matters as far as possible in the hands of the bodies formally vested with responsibility for taking decisions and assessing the consequences of proposals for nature. This is typified in *R (Morge) v Hampshire County Council*²⁰ where the Supreme Court expressed the view that where Natural England, the body with primary responsibility for ensuring compliance with the Directives, has expressed itself satisfied that a proposed development will be compliant, then others are entitled to presume that that is so.²¹ Similar judicial reliance on the conclusions of the statutory conservation body or the decision-making body, once satisfied that it has asked itself the right question and

¹³ Hence the “cat-and-trade” scheme proposed on April 1st 2013, whereby turbine operators could offset the likely bird deaths resulting from their turbine by “surrendering” a number of domestic cats, which are also responsible for a large number of bird deaths: see <http://www.rstreet.org/news-release/r-street-proposes-cat-and-trade-offset-system-for-wind-power/>

¹⁴ See the very last sentence of this paper.

¹⁵ C.T. Reid, “Things were Simpler Then: Environmental Controls on Early Hydro-Electric Dams in Scotland” (2002) 13 Water Law 382; C.T. Reid, A. Pillai & A.R. Black, “The Emergence of Environmental Concerns: Hydro-electric Schemes in Scotland” (2005) 17 JEL 361, 373-375.

¹⁶ A.Pillai *et al.* (note 2).

¹⁷ See <http://www.scotland.gov.uk/News/Releases/2008/04/21102611>

¹⁸ See http://www.scottishpowerrenewables.com/pages/argyll_array.asp

¹⁹ Now Dir.2011/92/EU, recently amended by Dir.2014/52/EU (revised rules to be implemented by May 2017).

²⁰ [2011] UKSC 2.

²¹ *Ibid.*, Lord Brown at [30].

addressed the relevant issues, is shown in a series of other cases.²² Where a contrary view is taken, such as at first instance in the *Sustainable Shetland* case discussed later, it is not because the court takes a different view after a detailed examination of the contentions, but because it is not able “to identify any meaningful engagement by the respondents” with the relevant provisions in the law.²³ It must be remembered, though, that the obligations under EU law are not as procedurally-focussed as the traditional approach to judicial review. The Birds and Habitats Directives are concerned with outcomes, not just processes. The obligations are not just to consider various factors, but to achieve certain results in terms of the conservation of sites and species. It is not enough that the decision-maker looked at all the relevant considerations, the acceptable outcome must be delivered, and the tension between these two approaches is a factor in much of the litigation.

Legal Requirements

The requirement to carry out an EIA is fundamental to taking account of biodiversity issues, ensuring that these cannot be overlooked in the way that they were for the older schemes. This is emphasised in the text of the revised Directive, recently approved, which elevates biodiversity to a separate factor to be considered in the assessment, as opposed to being in the general category of “human beings, fauna and flora”.²⁴ Energy projects fall within the categories of project requiring an EIA under Annex II of the Directive and any substantial works will meet the test of being “likely to have significant effects of the environment”. This brings into play all the standard procedures and requirements, which can offer fertile ground for dispute over screening, mitigating measures etc. At the policy level, Strategic Environmental Assessment will also be necessary,²⁵ and the requirements of the Aarhus Convention must also be borne in mind. The UK has been criticised by the Aarhus Compliance Committee for inadequate public consultation on the National Renewable Energy Action Plan.²⁶

If a Natura site is to be affected, whether a Special Protection Area under the Birds Directive or a Special Area of Conservation under the Habitats Directive, then an “appropriate assessment” must be carried out to identify the likely impact on the site.²⁷ Projects should only proceed if they are not likely to “affect the integrity of the site”, a conclusion to be reached on the basis of a precautionary approach.²⁸ The detailed rules here continue to generate considerable case-law. A recent High Court decision in England has taken a narrow approach to the objectives of protecting sites. In *RSPB v Secretary of State*

²² Recent examples include: *R (Corbett) v Cornwall Council* [2013] EWHC 3958, *R (Kavanagh) v Carmarthenshire* [2013] EWHC 4560, *R (Prideaux) v Buckinghamshire County Council* [2013] EWHC 1054, *Bagmoor Wind Ltd. v Scottish Ministers* [2012] CSIH 93.

²³ *Sustainable Shetland v Scottish Ministers*, [2013] CSOH 158 at [290]. In the Inner House the court was satisfied that there had been sufficient consideration of the issue; [2014] CSIH 60.

²⁴ Art.3(1)(a) of Dir.2011/92/EU; art.3(1) of the EIA Directive as amended by Dir. 2014/52/EU (to be implemented by 16 May, 2017) reads: “The environmental impact assessment shall identify, describe and assess in an appropriate manner, in the light of each individual case, the direct and indirect significant effects of a project on the following factors: ... (b) biodiversity, with particular attention to species and habitats protected under Directive 92/43/EEC and Directive 2009/147/EC.”

²⁵ Under Directive 2001/42/EC.

²⁶ Case ACCC/C/2012/68; C.T. Reid, “Aarhus Complaint Partly Successful” (2013) 160 *Scottish Planning and Environmental Law* 126.

²⁷ Dir.92/43/EEC, art.6(3).

²⁸ *Landelijke Vereniging tot Behoud van de Waddenzee, Nederlandse Vereniging tot Bescherming van Vogels v Staatssecretaris van Landbouw, Natuurbeheer en Visserij* (C-127/02) [2004] ECR I-7405.

*for Environment, Food and Rural Affairs*²⁹ Mitting J determined that the focus of decisions must be the effect solely on the integrity of the site, not the wider conservation objectives that lie behind the designation. In Luxembourg the European Court has given more emphasis to conservation, noting in *Sweetman* the need to be alert to the risk of the cumulative effect of minor incursions and seeking to prevent “death by a thousand cuts”.³⁰ More recently in *Briels* it has noted the distinction between measures genuinely aimed at limiting the impact on the integrity of a site and those which seek to compensate for harm done. Only the former can be relevant in determining whether the integrity of a site is being affected and there is a need to ensure that taking “compensatory” measures is not used to claim the absence of an overall adverse impact and thus as a means of by-passing the strict tests in art.6 of the Directive for when damaging projects can nevertheless be approved.³¹

Even if there is an adverse effect on a Natura site, a project may proceed, but only if there is no alternative solution, there are imperative reasons of overriding public interest to justify the project, and compensating measures are taken.³² These tests may be met for some renewable energy projects, but providing the compensating habitat may be difficult and expensive, as shown by the litigation involved in acquiring land to provide inter-tidal habitats to compensate for those lost by the establishment of the Cardiff Bay barrage.³³ In practice, therefore, developers are likely to avoid Natura sites for all but exceptional projects, although given that matters are still developing in the offshore environment, in terms of the designation of sites, the understanding of impacts and the effectiveness of any mitigation and compensation measures, there is more to be learned in handling such sites at sea.

The species provisions of the Habitats Directive also come into play, e.g. in relation to bats and wind turbines, and otters and hydro projects, with the potential for many species to be affected by construction works in undeveloped areas.³⁴ Again, the marine environment is likely to throw up significant challenges and potentially disputes, with the protected species (including all cetaceans) ranging over wide areas and being susceptible (to an unknown degree) to disturbance by noise and other intrusions into the sea, during construction and operational phases. Licences authorising disturbance can be issued,³⁵ but only so long as the actions will not be detrimental to maintenance of the population at favourable conservation status. The fairly broad licensing criteria here are a contrast to the narrower grounds available under the Birds Directive.

Special Protection Areas under the Birds Directive are, of course, governed by the rules in the Habitats Directive but other provisions also come into play. Some of these were discussed recently in *Sustainable Shetland v Scottish Ministers*.³⁶ This has proved a controversial case because of Lady Clark’s decision that the developer/operator must have a generating licence under the Electricity Act 1989 before being eligible for consent under the Act to build and install new generating equipment. This threw the renewables industry into some disarray since it did not match the way in which responsibilities and legal formalities have been divided between developers and operators, potentially rendering invalid many

²⁹ [2014] EWHC 1645.

³⁰ *Sweetman v An Bord Pleanála* (C-258/11), CJEU 11 April, 2014; the phrase is used by Advocate General Sharpston at [67] and [74].

³¹ *Briels v Minister van Infrastructuur en Milieu* (C-521/12) CJEU 15 May, 2014.

³² Dir.92/43/EEC, art.6(4).

³³ E.g., *Waters v Welsh Development Agency* [2004] UKHL 19.

³⁴ Dir.92/43/EEC, arts.12-16.

³⁵ *Ibid.*, art.16.

³⁶ [2013] CSOH 158.

recent and pending consents. A contrary legal view was expressed in another Outer House case,³⁷ and subsequently confirmed by the Inner House when it upheld the appeal against the first instance decision in *Sustainable Shetland*.³⁸

The case, however, is also significant because of what is said about the Birds Directive. The proposed windfarm in question, the Viking scheme on mainland Shetland, would have an effect on the local population of whimbrel,³⁹ which is a rare and declining species in the UK (even though fairly abundant elsewhere). At first instance Lady Clark concluded that the decision-makers had paid insufficient to article 2 of the Directive:

Member States shall take the requisite measures to maintain the population of the species referred to in Article 1 at a level which corresponds in particular to ecological, scientific and cultural requirements, while taking account of economic and recreational requirements, or to adapt the population of these species to that level.

This, it was held, imposes a legal obligation, not just an aspiration, with regard to population levels.⁴⁰ There is room for the Member State to determine how this is to be achieved, but the obligation is there, to maintain sufficient numbers of the species concerned to be capable of survival and reproduction. Economic factors may have a role in determining the specific measures to be adopted, but cannot be used to circumvent the core obligation to achieve this result, an obligation that was a never properly taken into account in this case by those determining the application. Lady Clark's approach can be contrasted with that of Mitting J in *RSPB v Secretary of State for Environment, Food and Rural Affairs*,⁴¹ where he dismissed an argument based on this obligation of this "obscure" provision, saying that "[article 2] stipulates a level of population ... without making it possible to discern what that level should be."

On appeal in *Sustainable Shetland*, a rather different approach was taken. The Inner House accepted that the Birds Directive may present "certain difficulties in its interpretation and application" but held that the fundamental question that affected the legality of the Ministers' decision to approve the project was whether it was "likely to have a materially adverse effect on one or other of the wild bird populations that the Directive is intended to protect."⁴² There was ample evidence to support the Ministers' conclusion that there was no such effect here and that the Directive had been considered and therefore there was substantive compliance with the duties under EU law. There was no need for a thorough preamble considering the precise nature of those duties and setting out every step of the Ministers' reasoning, and Lady Clark had been wrong to focus on that rather than the essentially factual question the Ministers had to answer.

These decisions leave us rather unclear on where we stand in relation to the general obligations under the Birds Directive and future discussion in court can be expected. Where activities interfering with birds are to be taken, it must be remembered that the grounds for a licence under the Birds Directive⁴³ are narrower than those under the Habitats Directive and

³⁷ *Trump International Golf Club Scotland Ltd v Scottish Ministers* [2014] CSOH 22.

³⁸ [2014] CSIH 60.

³⁹ *Numenius phaeopus*, similar to the curlew.

⁴⁰ [2013] CSOH 158 at [265].

⁴¹ [2014] EWHC 1645 at [8].

⁴² [2014] CSIH 60 at [27].

⁴³ Dir.2009/147/EC, art.9.

do not include a general category of overriding public interest which can potentially be used in relation to renewable projects for European protected species under the latter Directive.⁴⁴

Wildlife Crime

A further legal issue comes into play in relation to possible criminal liability. EU law prohibits the “deliberate” killing of protected birds and animals⁴⁵ and in *Commission v Spain*⁴⁶ it was held that this covers not just those who act “intentionally” but also covers those who “accept the possibility of such killing” in their actions. To an English lawyer this will sound like the test for recklessness in criminal law, based on a person who knowingly takes a risk of harm being caused,⁴⁷ so that it would appear not just desirable but necessary to extend the current criminal offence from just intentionally killing birds⁴⁸ to include reckless acts as well. Yet if this is strictly applied there is a potential liability for the operator of a wind turbine. If the assessment before it is built identifies a risk of the turbine causing collisions which kill protected birds, but its construction is approved and the operators proceed to operate the turbine and fatalities occur, then the operators appear to be meeting the test for recklessness and thus would be committing an offence – carrying on even though they are aware of a risk of the relevant harm being caused. Is the turbine operator in these circumstances a criminal? This argument has been raised in the Court of Appeal where it was said that there was “no realistic prospect” of conviction in such circumstances,⁴⁹ but it has considerably exercised the Law Commission in their review of Wildlife Crime south of the border. We are awaiting their formal proposals, but they have suggested that there should be a special provision to qualify the breadth of recklessness to exclude the possibility of liability in such cases.⁵⁰

In Scotland the relevant offences already include reckless killing,⁵¹ but recklessness is usually defined in a more objective way, often described as taking an “unacceptable” risk, one “which the reasonable person would not have taken”.⁵² How this might apply in these circumstances has not been explored, but if the “unreasonable” element is given weight, then it may be that an operator working fully within the terms of a valid consent issued after proper completion of the proper procedure is not doing something which is unreasonable, even though some bird deaths are foreseen. If this interpretation is followed, then, for once, the objective view of recklessness may actually be narrower (and some would say fairer) than the subjective one.

⁴⁴ Dir.92/43/EEC, art.16(1)(c).

⁴⁵ Dir.92/43/EEC art.12 and Dir.2009/147/EC art.5.

⁴⁶ [2006] ECR I-4515, at [71].

⁴⁷ *R v G* [2003] UKHL 50, which resolved a long running dispute in favour of a subjective, rather than an objective, meaning of recklessness.

⁴⁸ Wildlife and Countryside Act 1981, s.1 - the provision on killing European protected species uses the word “deliberately”; Conservation of Habitats and Species Regulations 2010, SI 2010 No.490, reg.41.

⁴⁹ *Eaton v Natural England* [2013] EWCA Civ 628 at [7].

⁵⁰ Law Commission: *Wildlife Law Interim Statement* (October 2013), available through <http://lawcommission.justice.gov.uk/areas/wildlife.htm>

⁵¹ Wildlife and Countryside Act 1981, s.1, as amended by Nature Conservation (Scotland) Act 2004; Conservation (Natural Habitats, &c.) Regulations 1994, SI 1994 No.2716, reg.39.

⁵² P.R. Ferguson and C. McDiarmid, *Scots Criminal Law: A Critical Analysis* (2009, Dundee Univ. Press) pp.150-151.

Conclusion

In thinking about securing the future of biodiversity, the underlying propositions here are straightforward. Firstly, climate change will be harmful to biodiversity, therefore we need a big push to develop renewable energy. But secondly, renewable energy projects can be harmful to biodiversity, and harmful development should be prevented. Good design, siting and operation can limit the harm caused and therefore help to reconcile these conflicting goals, but difficult questions remain. How far should we sacrifice some biodiversity today to create the chance for there to be some future for nature in the decades to come? Stopping renewable energy projects in order to preserve hill-tops for the mountain hare and the ptarmigan is pointless if changing climate means an end to snowy winters and the conditions they need to thrive. But if climate gains can be won only at the expense of devastating our biodiversity, that too seems pointless. The real tragedy, perhaps, is that we are being forced into taking such difficult choices when so little is being done to achieve the blindingly obvious alternative of achieving greater efficiency and reduced demand for energy.