

Green on Green: Planning for Wind Energy

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1 Introduction

1.1 This paper explores the background to, progress of, reasons for, and the planning experience of a form of development which, save for experimental forays and earlier traditional windmills, was new to the UK until only 15 years ago.

1.2 The paper acknowledges, however, that a properly rounded appreciation of a new experience is the province of a more leisurely and no doubt better informed retrospective which is not yet possible. We are still in the throes and the heat of a first generation experience which will last a while yet, and those who seek mature reflection must await the application of the patina of time.

1.3 Those who have been at the cutting face of wind energy development since the late 1980s are probably too close to that face to see much beyond immediate planning, regulatory and commercial challenges in a perhaps overheated market. However, this paper will attempt to explore the policy and development issues which surround the topic, and it will look forward to what may happen in the next five years or so.

1.4 The paper will concentrate on onshore wind energy development, but will pay some regard to what is happening offshore in UK waters and outside the territorial seas. Additionally this paper considers England, Wales and Scotland. It does not cover Northern Ireland, partly because the planning system is a little different, and partly because the market for renewable energy in Northern Ireland is vastly smaller than in the three other countries of the UK.

1.5 Finally, by way of introduction, the author's experience over 16 years of planning for renewable energy development has almost wholly been in onshore wind energy, and always on behalf of the promoters of projects. Additionally the author is Vice Chairman of the British Wind Energy Association. Therefore while total objectivity will be attempted, that attempt will fail at intervals, and forgiveness is sought.

2 Where are we now?

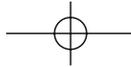
Early days

2.1 The world's first experience of commercial wind energy development was substantially in Denmark and in the United States in the early and mid-1980s. That first flush had come to a demonstrable halt in the USA by 1990 for a variety of reasons which are beyond the scope of this paper. Development in Denmark continued through the end of the 1980s, but at a slower pace.

2.2 Early development in the USA was driven by fiscal incentives, supported in turn by a political drive within California to generate substantial quantities of electricity from renewable sources. Development in Denmark can be traced back to a determination, following the oil crisis of the 1970s, to achieve security of domestic electricity supplies so far as might be possible. The progress of development in Denmark was further stimulated by the growth of a manufacturing industry for wind turbines which in turn sought successfully to exploit the early US market. However, the end of the first phase of development in the USA, to quote an early pioneer, Jim Dehlsen, "drove wind

[89]





energy developers from the corporate jet back to the bicycle”, and in turn drove the Danes back to their domestic market.

2.3 Climate change and other reasons for wind energy development will be explored in s.3 of this paper. However, the immediate stimulus for the beginnings of commercial wind energy development in the UK can be traced immediately to the privatisation of the electricity generation, supply and distribution industries through the Electricity Act 1989. While incentives of a sort had encouraged the production of wind energy by independent generators (or indeed by utilities who were, however, not really interested) as early as the Energy Act 1983, the commercial playing field was such that in practice no independent generators could afford to play. The freeing up of the generation market through privatisation produced a slightly more level playing field.

2.4 However, it was a by-product of privatisation which finally kicked off development of any scale. Privatisation led to the creation of Nuclear Electric plc (in which the Government had a golden share), but in the new freer market Nuclear Electric was going to be unable to compete due to costs of production. With the sanction of the Competition Directorate in Brussels the UK Government addressed this difficulty by introducing the Non-Fossil Fuel Obligation (“NFFO”) which enabled additional, production-based, payments to be routed to Nuclear Electric. To his eternal credit, or perhaps this was the intention all along, a senior civil servant in the Department of Energy realized that the Non-Fossil Fuel Obligation could also be used to benefit renewables.

2.5 The Obligation was a framework: it was brought into effect by a series of Orders¹, and the first Order was made in early 1990. It benefited the nuclear industry, and also enabled the first round of onshore wind farms. To bring this theme to an end four further Orders² were made under the Obligation between 1990 and 1995, none of which further benefited the nuclear industry, but all of which enabled a large tranche of renewables projects. Technologies that benefited included hydro-electricity (small-scale), landfill gas, a small selection of biomass projects, and onshore wind energy. Contract lengths for the first two Orders were limited to the period of the derogation granted to the UK Government by the EC, ending in 1998. The remaining three Orders had longer contract periods, the last expiring in March 2013.

2.6 Following through the theme of enabling legislation before turning to development which was enabled, the Non-Fossil Fuel Obligation was replaced under the Utilities Act 2000 by the Renewables Obligation (“RO”)³. The details of the current Renewables Obligation are not for this paper: the principal difference of relevance from the Non-Fossil Fuel Obligation is that qualifying projects under the Renewables Obligation qualify by virtue of intending to generate from a renewables resource. In comparison, projects under the Non-Fossil Fuel Obligation were competing with similar projects for a defined slice of support, banded according to technologies. In the broadest terms this meant that those projects with the best resource won the competition. In terms of onshore wind energy this led to a preponderance of projects in high wind resource areas, being the hills of Wales, Cornwall, and areas around the Lake District. As will be seen in s.4 this gave rise to planning difficulties which, whatever may be said by Government, eventually nearly crippled the continuing deployment of new wind farms. The RO suffers from no such defects, although clearly developers will always seek the best available resource in order to maximise returns.

¹ These are the Statutory Instrument 1990 Nos 263 and 1859, respectively.

² SI 1991/248; SI 1994/3259; SI 1997/248; SI 1998/2353

³ SI 2002/914



2.7 The caption to the above is that the first two Orders under the Non-Fossil Fuel Obligation applied to England and Wales. Only in 1994 did Scotland benefit, through the Scottish Renewables Obligation, now the Renewables Obligation (Scotland)⁴.

Development to date

2.8 The first wind farm built in the UK was at Delabole in North Cornwall, comprising ten 400kW machines, serving roughly 1,000 homes. Permission was granted without any appeal, but elsewhere (in Powys and South Lakeland) schemes were called in, perhaps to allow the Secretaries of State to further explain emerging renewables planning policy. In all cases within this first phase permissions were granted.

2.9 There are now over 125 wind farms on land and in the territorial seas, supplying the equivalent of 1,035,851 homes, and saving on an annual basis about 4,186,911 tons of CO² emissions. Table 1 shows these totals in terms of numbers of projects and developed capacity⁵.

2.10 There has not only been significant build of wind farms, but a significant increase in the physical size and capacity of the machines being deployed. The first 10 or so wind farms used machines with a nameplate, or installed, capacity factor of 250–400kW. By 2000 the industry standard was about 1MW. In 2006 it is not uncommon to see projects which propose 3MW machines. Offshore there are now 5MW prototypes, with the first 7MW prototype machine expected in the next two or three years.

2.11 In terms of physical size the 250–400kW machines have an overall height of about 55m. The current generation 3MW machine has grown to about 125m. The offshore machines, which it can be said with a level of confidence are unlikely to be deployed onshore, may have a blade tip height of as much as 180m. Of relevance to planning control is that, although the size of wind turbines has grown enormously, the rotational speed of the blades has declined very noticeably. The blades of a 250kW machine may rotate at up to 30rpm: those of a 3MW machine will not rotate at more than 18–20rpm. For good or bad, when new generation machines are seen in the same view as those of 15 years ago, the differences in size and rotational speed are dramatic.

2.12 For a new industry it can be said that growth in the UK has been rapid, but it has been slow in comparison with the growth in other countries since 1993 or thereabouts. Table 2 shows deployed

Table 1. Operational Wind Farms

	Projects	MW
England	52	244.92
Scotland	36	858.03
Wales	25	301.20
Northern Ireland	12	106.60
Total	125	1,510.75

⁴ SI 2002/163

⁵ The wind does not always blow, and capacity factoring is required if wind energy is to be compared with technologies which are always able to generate to the market. The resultant figure is known as declared net capacity, produced in the case of wind energy by multiplying the nominal capacity by a factor of 0.43. By way of comparison large scale hydro-electricity operates on a capacity factor of about 30%, while coal produces on a capacity factor of under 40%.

Table 2. Operational Wind Farms (Global)—(selected countries)

No.	Country	MW
1.	Germany	18,100
2.	Spain	9,825
3.	USA	8,957
4.	India	4,225
5.	Denmark	3,129
6.	Italy	1,711
7.	UK	1,337
8.	Netherlands	1,219
Total Globally		56,813

capacity on a global basis at the end of 2005. (Note the increase in UK capacity by Spring 2006; Table 1.)

2.13 The reasons for the slower growth rate in the UK will be explored in s.4: factors include the response of the planning regimes, whether or not there is recognized manufacturing industry in the country concerned, and also the reasons for the emergence of a market. For example, on this last point, while the European renewables markets were initially driven by environmental concerns the Indian market has always been based on an absolute need for energy in a country with a weak centralised grid system. It is of interest (explored further in para.3.8) that the rationale for the UK market may now be as much concerned with security of domestic supply as with climate change factors.

2.14 Looking into the future there is no doubt that onshore wind energy is a hot market. Table 3 shows the number of current proposals for wind farms in England, Wales and Scotland. It can be seen that some of these are consented (but not built), some are the subject of applications to local authorities or to central Government for consents, while some represent scoping stage proposals (under the relevant EIA regulations).

2.15 As an aside it would be wrong to assume that consented projects will immediately be built. In the last two or three years there has been a growing stock of unbuilt permissions in all three countries. The reasons for this stockpile, which is regrettable, include a growing difficulty in sourcing turbines in a globally active market, an unresolved need for grid reinforcement to enable some developments to be connected, and the wish on the part of some developers to seek amendments to planning permissions so that larger machines than originally envisaged (but now available) can be

Table 3. Wind farms consented and in planning

	Consented		In Planning	
	Projects	MW	Projects	MW
England	36	541.70	50	938.270
Scotland	32	1,089.75	74	4,995.90
Wales	4	26.60	16	228.78
Northern Ireland	6	51.30	28	590.95
Total	78	1,709.35	168	6,754.90

accommodated. The trend is worrying, and it has to be said not fully or even largely the fault of public systems. Lack of foresight on the part of developers when seeking permission for a particular size of wind turbine, and lack of foresight within the global industry in ensuring a continuing supply of wind turbines, must be noted. The public, and planning authorities, are unlikely to continue to sanction ever increasing capacities of wind energy unless there is some evidence of a continuously active build programme.

Offshore

2.16 Turning to the offshore market this was jump-started in 2001 with the announcement by the DTI and Crown Estate (the latter obviously as landowner) of a competition for the award of contracts and options for leases. Unfamiliarity with offshore development on the part of manufacturers and developers led to understandable caution in terms of acceptable water depth and distance from shore. However, eighteen contracts were awarded, and seventeen have been progressed or are being progressed. Table 4 shows the progress with Round 1 offshore wind developments.

2.17 It can be seen that progress has not been fast, despite the availability of capital grants to assist in managing commercial risk. The expectation is that of the Round 1 projects about ten will ultimately be built.

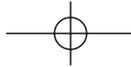
2.18 A proposal for a second round of offshore wind farms was announced by the DTI in 2003. Sites were to be awarded contracts on the basis of a competition to be judged by the DTI and Crown Estate. The factors to be taken into account in the competition were technical, commercial and environmental.

2.19 However, the DTI were mindful of the coming into effect of the Strategic Environment Assessment Directive⁶ in July 2005. Additionally, surveys carried out by developers of Round 1 sites for EIA purposes had revealed unexpectedly large migrant bird populations using the air space and the water in the area of projects, sufficient in at least three cases to warrant acceleration of JNCC's deliberations on the creation of offshore SPAs, and consequentially the assembly of a list

Table 4. Offshore wind farms—October 2006

Country	Projects	MW
Operational Wind Farms		
England	4	243.80
Wales	1	60
Wind Farms under Construction		
England	1	90
Consented Projects		
England	4	396
Scotland	2	180
Wales	2	189
Schemes in Planning		
England	10	4,283

⁶ European Directive 2001/42/EC



of candidate SACs. While the RSPB in particular, but also English Nature, have engaged in a remarkably constructive dialogue with Round 1 developers, in circumstances which, if onshore, would have certainly led to objections to projects, these bodies and others persuaded the DTI of the need to carry out an SEA of Round 2 before any contracts were awarded.

2.20 An SEA was carried out—in four months. Following the competition for sites thirteen contracts were awarded together with options for leases. To take account, rightly or wrongly, of onshore visual sensitivities, Round 2 sites may not be less than 8kms from shore. In fact some are beyond the territorial seas. All but one of the Round 2 projects are much larger than those in Round 1, with an average capacity of 250–750MW. Two projects have an intended capacity of 1,000MW or more.

2.21 A number of the Round 2 projects are currently being prepared for consents submissions, and six applications for consents have been submitted. There are as yet no consented schemes, although at least one is expected shortly. What has been revealed is that the desk top SEA carried out in only four months was little more than useless in revealing potential environmental sensitivities. Even more than with Round 1, Round 2 ornithological studies to date have discovered fairly massive migrating bird populations which will certainly lead to offshore Special Protection Area designations. It may be said that, despite these ornithological discoveries (only made possible because of boat and aerial surveys not previously carried out—which there was no previous reason for) RSPB and the English and Welsh nature conservation bodies continue to engage very constructively in discussions with developers. Indeed developers can have no complaints about the positive engagement of any of the consultees in the offshore process.

2.22 As an aside, there were Round 1 projects in Scottish and Northern Irish waters, but none of the Round 2 SEA areas go beyond English and Welsh waters. It may also be said that Scotland in particular, but also England and Wales, are strongly encouraging other marine renewables technologies such as wave and tidal power. The economics of these projects are at present very uncertain, but political will and enhanced funding will doubtless ensure prototype or even commercial developments by 2010 or thereabouts.

2.23 Therefore offshore wind energy development is proceeding. However, it is currently hampered by some severe commercial difficulties. These arise from insufficient support from the Renewables Obligation (there are currently proposals to remedy this) and from difficulties and delay in determining the basis on which the grid will be extended offshore. That is another very lengthy topic which cannot be covered in this paper. However, on the basis of The Energy Challenge⁷ (see s.3) there is clearly powerful political support for such offshore development. Again, it would seem that the major utilities have a level of confidence in the future not obviously justified by reading the commercial runes, since a number are investing very large sums of money in consenting Round 2 sites. It is, on balance, probable that in the next five years or so some very large developments will be built in, and possibly outside, the territorial seas.

In summary

2.24 In summary onshore wind energy development has seen an initial rush, followed by a period of little activity in the mid and later 1990s, followed in turn by a period of very considerable development from about 2000. Not until 2005 did wind turbines generate more than 1,000MW of

⁷ DTI; Energy Review, July 11, 2006



capacity. The signs are that 2000MW of capacity will be reached by 2007, and 3000MW by about 2010.

2.25 As to offshore development the start has been patchy, and belaboured by funding and grid concerns. However, given the extremely strong political will propelling development of both wind and other technologies offshore, it seems likely that the difficulties briefly explored will be sufficiently addressed to enable a leap forward in the next three to five years.

3 The rationale for renewables

Climate change

3.1 It requires no authority to underpin a statement that Government policy on any given matter is capable of being a material consideration in planning control. In turn Government policy on renewable energy is the ultimate driving force behind the deployment of renewables technologies. This part of the paper will explore the rationale for wind energy development in terms of, first, the background to Government policies and, second, an exploration of those policies. Whether or not the Government's appreciation of climate change and domestic security of supply issues is correct is firmly beyond the scope of this paper. Although it may be said with little expectation of a more than passing reference in the ultimate decision the issue is frequently visited at public inquiries by those opposed to onshore wind projects.

3.2 Climate change is regarded as one of the most serious threats facing the world's environment, economy and society (Climate Change—the UK Programme 2006 Chapter 1, opening statement). A consensus of scientific opinion presented to world governments by the Inter-Governmental Panel on Climate Change⁸ is that there is a link between man's actions and a variety of climate-related impacts such as rising sea and air temperatures, rising sea levels, and changes in the pattern and severity of a range of meteorological conditions. The IPCC advice is that the world's population should act on the basis that climate change is occurring, that its impacts may be far from benign, and that actions now should seek to address those factors which can be identified as most likely to cause current and future problems.

3.3 The second assessment report of the IPCC⁹ predicts increases of between 1 °C and 3.5 °C over the next 100 years (based on average global temperatures), in comparison to only 0.5 °C in the 20th century. This effect is traced back in substantial measure to the burning of fossil fuels, for transport or for energy production. A third assessment report (2001)¹⁰ noted the frequency and intensity of phenomena such as El Nino, and attributed such phenomena in the following terms:

“Since the pre-industrial era, the atmospheric concentrations of greenhouse gases have increased due to human activities, reaching their highest recorded levels in the 1990s, and most of them continue to increase.”

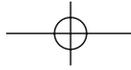
3.4 Closer to home the UK Climate Change Programme 2006 recorded four of the five hottest ever years since the 1730s in the last ten years.

3.5 Indicators published by the UK Government demonstrate the adverse effects of the likely hotter, drier summers and milder winters: increases in pests and diseases, the need for irrigation, and threats

⁸ IPCC—First Assessment Report 1990

⁹ IPCC—Second Assessment: Climate Change 1995

¹⁰ IPCC—Third Assessment: Climate Change 2001



to crop yields. Again, quite apart from a rise in sea levels climate change will affect natural habitats, wildlife and landscape. Climate change, it is advised, needs to be seen not just in terms of wider effects on the natural environment, a position endorsed by a joint paper published by Scottish Natural Heritage and the Countryside Agency (Topic Paper 9, 2002¹¹).

3.6 No doubt influential in the attitude of the RSPB to wind energy development is its own message on the effects of climate change which can be found on the RSPB's website¹², based on the findings of a climate change conference in 2003. The website notes that:

“If global warming is not constrained to a 2°C rise by 2010, the outlook for birds, other wildlife and people will be bleak and costly.”

3.7 The background to, and in substantial part the reason for, the current drive to increase the use of renewable sources of energy therefore has its roots in the recognition that the burning of fossil fuels has an adverse effect on the climate of the world. International, European and UK policies have, over the last sixteen years, become increasingly focused on concerns about the malign effects of greenhouse gas emissions. A plethora of policies and statements has focused on the use of renewable resources as a key part of a sustainable solution to the forecast difficulties, alongside increasing energy efficiency and conservation.

3.8 It was noted in para.2.13 that there are further benefits of using renewable sources. A current, and increasingly important issue is security of domestic energy supplies, sources not liable to interruption by the actions of foreign governments or others. A threat by the Russian government to slow or stop the flow of Siberian gas to Western Europe has recently focused attention on this factor, and it is unlikely to recede in the Government's consciousness. Thus, while climate change factors will always be an important driver to the increased use of renewable sources, the absolute desirability of minimising the UK's exposure to unpredictable and uncontrollable political events elsewhere has come to the fore. This additional recognition of the importance of UK sources of energy including renewables has been reinforced by the re-emergence of the UK as a net importer of oil for the first time since the 1970s, a psychologically important moment the significance of which has hardly been noted in newspaper coverage.

3.9 Responses to issues of climate changes, if not notably issues of security of supply, can be traced through a series of Conventions, EC Directives, and policy statements at international, European and national levels over more than fifteen years. By way of example:

- (1) Earth Summits. A series of Conventions took place in Rio de Janeiro, Kyoto and Capetown which sought to commit developed countries to a reduction in emissions of harmful gases. The Kyoto Agreement of 1997 was strongly endorsed by the UK and came into binding force in February 2005 following Russian ratification. The absence of the USA from this process is notable.
- (2) European Union. A series of Communications and White Papers has resulted in a 2001 Directive requiring member states to meet 22.1 per cent of their total electricity consumption from renewable sources by 2010. The Commission Communication of June 2004 envisages the placing of an obligation on member states to meet Kyoto targets even

¹¹ Landscape Character Assessment: Climate change and natural forces—the consequences for landscape character.

¹² www.rspb.org.uk/climate/



if other major contributors to worldwide harmful gaseous submissions fail to meet, or to seek to meet, the terms of the Kyoto Agreement.

- (3) The following paragraphs trace some important recent statements of policy by the UK Government.

3.10 A first statement of renewables policy was made in the Department of Energy Paper 55 (1988), heralding the advent of commercial renewable energy development following the privatisation of the UK electricity industry under the Electricity Act 1989.

3.11 A plethora of statements on renewables, and policy documents including DTI's Energy Paper 62 (1994) increasingly emphasised the importance attached to the exploitation of renewable resources, although it has to be said that the declining days of the Conservative administration brought an increasing nervousness about rural onshore wind energy when it came to approving called in applications or granting Secretary of State permissions on appeal.

3.12 The step change in the push to renewables announced by Labour's first Energy Minister John Battle in 1997 proved to be just that. Since roughly 1998 there have been a series of initiatives to progress renewables and indeed there have been so many Ministerial statements on the topic that the rest of this paper could be absorbed in rehearsing them. Therefore this paper will briefly address the two most important current UK Government policy statements: the White Paper on Energy: Our Energy Future—Creating a Low Carbon Economy (2003) and the Green Paper, The Energy Challenge (July 2006)¹³.

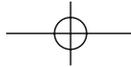
3.13 The 2003 White Paper confirmed (not for the first time) the target of 10 per cent of UK electricity supply coming from renewables by 2010, and an aspirational target of 20 per cent by 2020. Overall the direction of the paper identified the means by which the UK should seek to reduce CO² emissions by 60 per cent by 2050, a long term aim indeed. Part of the explicit background to the paper was that by 2007 the UK would be a net importer of oil and by 2010 of natural gas. (We can start to see in this White Paper the real emergence of the security of supply basis for an active and positive renewables policy).

3.14 The Paper noted that the energy supply system would have to adapt to accommodate more renewables, stating that:

“In this White Paper we set the ambition of doubling renewables' share of electricity generation in the decade after that [i.e. after 2010]. . . . In reducing carbon dioxide emissions our aim is to strengthen the contribution of energy efficiency and renewable energy sources. This White Paper sets out the policies we believe are necessary to achieve that. This means energy efficiency and renewables will have to achieve far more in the next twenty years than they have until now. We believe that such ambitious progress is achievable.”

3.15 The White Paper also noted that in order to achieve 2010 targets the rate of build of new renewable plant would need to be in the region of 1250MW a year for the seven years then remaining until 2010, making it clear that the UK must “scale up substantially our deployment of renewables in order to secure economies of scale and reduce costs significantly”. The Paper explored a series of renewables build scenarios up to 2020; in every one onshore wind remained a key element of renewable strategy, with offshore wind emerging after 2010 as a major player.

¹³ DTI, Energy Review: The Energy Challenge—2006



3.16 The Energy Challenge is the latest statement of the Government's thinking on energy issues. It has been heralded as a nuclear paper, and indeed the paper does have a lot to say about the potential for new renewable energy. However the Green Paper is very much more than a paean to nuclear power (if indeed it is that). In the Prime Minister's forward, in bold, Tony Blair says "But we now face two immense challenges as a country—energy security and climate change". In the author's view it is this paper that sees the coming of age of energy security as a fully fledged twin pillar of support for renewables (and perhaps nuclear) with climate change factors.

3.17 The paper, running to over 200 pages of reasonably dense text, is at least in this author's view, a very thoughtful and a seminal contribution to the energy supply's debate.

3.18 The Energy Challenge will be re-visited at the end of this paper in looking forward to the future of wind power. Of interest to this conference, apart from clear re-statements of support for renewables, is what is said about planning for large scale energy infrastructure. The following points in particular emerge:

- Striking a chord with all those involved in planning for renewables para.7.6 notes that:

"Individual energy projects are part of large national systems that provide the benefits enjoyed by all communities. The areas in which they are located share in these benefits, and may also gain some economic advantage, for example, in terms of employment. But the benefits to society and the wider economy as a whole are much larger. These larger, wider benefits are not always visible to the specific locality in which energy projects are sited. Therefore, local opposition can often be strong. For certain energy developments, e.g. gas storage facilities, there are some geological or environmental reasons for the siting of the facilities. Without a clear Government policy highlighting the strategic national need of a particular type of development, it is difficult for an Inspector to give sufficient weight to the national benefits when balancing these against local views. As a result, public inquiries can become embroiled in debates about national issues, rather than focusing on local issues relating to siting of the proposed development. For example, at the Sizewell B inquiry, only 30 of the 340 inquiry days were devoted to local issues".

- Paragraph 7.8 notes that over the next two decades it is likely that the UK will need around 25GW of new electricity generation capacity. At the same time para.7.10 records that a recent report by Ernst & Young¹⁴ on the relative attractiveness of the UK for investment in renewables found that the UK's position had fallen because of industry concerns about planning issues.
- Paragraph 7.12 records that the Government "is committing now" to introducing fundamental changes to the planning system in England and Wales for major energy projects, once the findings of the other Reviews are clear later this year. The next paragraph records a commitment to "New and more efficient procedures for the consenting regimes to enable streamlined inquiries to focus on the relevant issues".
- There follows an entire section on the Scottish planning system in which the Planning etc (Scotland) Bill 2006 is particularly noted as a modernising force.
- In the section on renewable generation (starting at para.7.22) planning delays come in for criticism. From industry sources the paper notes an average of 21 months to secure planning

¹⁴ Renewable Energy Country Attractiveness Indices, Ernst & Young LLP, winter 2006.



permission under the Electricity Act regime, and local decision periods under the Town and Country Planning Act system of around ten months (England) and twenty-seven months (Wales).

- Paragraph 7.26 records that wind farm proposals “tended to attract controversy” and issues such as visual impact, impact on bird populations, and cumulative impact are recorded. The same paragraph notes that “Government believes that there is a need to set a clear context for all wind farm applications, whether under the Electricity Act or Town & Country Planning Act consent regimes”. It is not entirely clear how that context will be set for renewables. Perhaps the Government does have something in mind beyond the statement of need for renewables set out in Annex D to the paper. The position is clear, in comparison with advice on what may be required to enable nuclear power (para.7.34 and following). In its discussion on nuclear power the paper records that potential developers have made it clear that without action to improve the planning process they will not consider investments in new nuclear power stations. The Green Paper seeks views on the policy framework in which national strategic and regulatory issues “are most appropriately discussed through processes other than the public inquiry” which “should focus on the relationship between the proposal, the local plans and local environmental impacts”, weighing up local issues against already established national strategic or regulatory material considerations.

3.19 In relation to the well accepted need for upgrades in the transmission, and probably also the distribution systems (i.e. the grid), the Government clearly has in mind that applications for new generating stations and grid upgrades should, where practicable, be considered at the same time. Paragraph 7.39 notes that “generating assets should neither be stranded, nor should grid upgrades become superfluous”. It is clear that the Government intends to produce changes in the way in which new grid proposals are considered, where those proposals are related to applications for consents for new generating capacity.

3.20 Further action is envisaged by the Government in connection with the way that the s.36 system works (see comments in this paper on this topic in s.4). The changes envisaged will address timetabling for inquiries, the timing of the process towards a decision, and the appointments of “a high-powered Inspector, for example a senior judge or Q.C., for the most complex and controversial proposals”. While the proposed changes relate to England and Wales the Green Paper notes that the Scottish Executive are taking a similar approach. This paper observes what the Government has said about the appointment of high-powered Inspectors without comment!

3.21 Reverting to a discussion purely about renewables Annex D to The Energy Challenge seems to the author to only emphasise that which is already a matter of policy, save for the observations already rehearsed in relation to the way in which the wider benefits of renewables should be viewed in the planning process. Having said this Annex D does advise that:

“Renewable energy as a source of low-carbon, indigenous electricity production is central to reducing emissions and maintaining the reliability of our energy supplies at a time when our indigenous fossil fuels are declining more rapidly than expected. A regulatory environment that enables the development of appropriately sited renewables projects and allows the UK to realize its extensive renewables sources, is vital if we are to make real progress towards our challenging goals”.



The UK's renewables performance in context

3.22 Until the last two years statistics show (see Table 2 in this paper) that the UK's performance in securing renewables deployment has seriously lagged behind that of some other countries, notably Denmark and Germany. Denmark now supplies nearly 20 per cent of the country's total generating capacity from wind energy, while Germany had an installed wind energy capacity of over 17,000MW by the end of 2005, having increased its capacity at the rate of well over 1,000MW per year in the previous three years.

3.23 In comparison the installation rate for wind energy in the UK was less than 50MW per year through 1990s. However, from roughly 2004 onwards the rate of installation has increased (240MW in 2004 and 527MW in 2005).

3.24 The UK's performance in the deployment of renewables has been reviewed by a number of committees and publications:

- In 2004 the House of Lords Science and Technology Committee addressed meeting renewables targets and reached a number of robust conclusions, including:

“The Government's projections show that the bulk of the new renewable generating capacity between now and 2010 is expected to be in the form of wind energy, both onshore and offshore. In practice there appears to be little alternative. The United Kingdom has a huge potential wind resource and the technology for converting wind energy to electricity, at least onshore, is mature and reliable.

Achieving development on the scale envisaged by the Government represents a huge task for the wind energy industry. Onshore, we have little doubt that it is technically and physically possible to manufacture and install sufficient numbers of wind turbines to meet the Government's targets. The constraints on onshore development are not primarily technical, but environmental. . . . The White Paper describes offshore wind power as ‘about to take off’. In spite of the Danish experience we are less sanguine. Offshore development is still largely a step into the unknown and potential investors face serious technological and commercial risks. The next few years will be crucial, and it remains to be seen whether offshore wind power can fulfil the vital role assigned to it within the Government's energy strategy.”

- In Scotland a report¹⁵ from the Enterprise and Culture Committee of the Scottish Parliament noted that, while the Executive was expected to meet its (Scottish) 18 per cent target for 2010 this would be almost entirely due to a contribution from onshore wind.
- A report by the National Audit Office in February 2005 expressed concern that, based on performance to date, only 7.5 per cent of electricity generation from renewables was likely to be achieved by 2010.

3.25 The previous paragraph has recorded only a sample of thoughts from Government and from other sources on the performance of the renewables industries and the prospects of achieving the 10 per cent 2010 target. It is fair to say that no reports believe that this target will be easily met, and most agree more or less with the conclusions of the National Audit Office.

¹⁵ Enterprise and Culture Committee, 6th Report, 2004—Renewable Energy in Scotland





3.26 In a planning context the first bespoke advice on renewables was issued as PPG22 in 1993 (although the draft PPG was published in late 1991). In retrospect, and perhaps not surprisingly, PPG22 gives some advice that, with increasing experience of renewables and in particular wind energy, requires moderation. For example, some bold claims were made that wind turbines could be sited as close as 350m from dwellings without adverse noise effects. That might have been true, but even by the date of issue of the PPG the physical size of wind turbines was increasing. Certainly by the mid-1990s issues of physical domination of nearby residents had emerged, and very few developers were willing to seek permissions for wind turbines much closer than 600m or so from dwellings (although local circumstances then and now might justify lesser separation distances).

3.27 PPS22 replaced PPG22 in 2004 and it is accompanied by an extraordinarily lengthy Companion Guide. The PPS requires no rehearsal in this paper: it faithfully reflects the approach to renewables already discussed in the context of Government energy policy. Of particular importance within the PPS are the eight key principles set out by Government. Most of the key principles are those which would be naturally expected, and only three warrant exposure in this paper:

- “4. The wider environmental and economic benefits of all proposals, whatever their scale, are material planning considerations to be given significant weight in deciding whether to grant consent.
5. Plans should not make assumptions based on technical issues in identifying generalised locations that may be suitable.
6. Small-scale projects can make a valuable contribution to overall needs and should not be rejected on grounds of small output.”

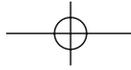
3.28 It can be seen from the key principles rehearsed that as a general principle, the Government does not favour the targeting by local authorities of sites suitable for renewable energy development within development control policies. This advice reflects a rather obvious point: that the economic viability of a renewables project, particularly wind energy, depends on the availability of natural resource. And only the promoters of projects are in a position to accurately measure the economic suitability of that resource from site to site.

3.29 Key principle 6 has been particularly welcomed by wind energy developers since local planning authorities are often tempted to take the view that small projects are not worth the effort, and do not justify perceived local environmental disadvantages.

3.30 Overall PPS22 gives very strong encouragement to the development of renewables, including onshore wind and, in spirit if not by application, to offshore wind. As to the Companion Guide, if any of those reading this paper have the energy to plough through it they will find a useful commentary on wind energy technology and some highly pertinent advice on specific issues. Nonetheless, whether a document of nearly two hundred pages is required to articulate what is required is somewhat doubtful.

3.31 In Scotland NPPG6: 2000 preceded PPS22 (which applies only in England). NPPG6 is possibly the most powerful positive advice in favour of any form of development that the author has read, and it is accompanied by Planning Advice Note 45 which, despite the intention that it should simply be a technology guidance instrument, strongly reinforces the positive messages of the NPPG on the siting of onshore wind energy developments. It is not an exaggeration to say that the concentration of developer effort on Scotland since 2000 has directly reflected the approach of the NPPG, regarded as giving a strong welcome to new development in comparison with the then current PPG22 and advice in Wales.





3.32 NPPG6 is about to be replaced by SPP6, published as a consultation draft in early July 2006. The SPP gives more encouragement than might be expected to the creation of broad areas of search for onshore wind, gives cautionary advice on the issue of cumulative effects, expresses concern about the need to match projects to the available grid, and gives advice that would not be expected in an English context on the need to generate benefits to communities which might go beyond those which could be regarded as a material consideration. In addition, the draft SPP makes it clear that Scottish jobs and other economic benefits are expected in return for the grant of planning permissions. This is a key current topic in Scotland which is further addressed in the final section of this paper.

3.33 Advice on renewables in Wales was until quite recently extremely cautious. National planning guidance devoted almost no attention to renewables, while Technical Advice Note 8 (1996) was visibly reticent to the extent that policy advice was given within it. However, TAN8 (2005) represents a new strong drive by the Welsh Assembly Government to achieve its own renewables target (within the overall 10 per cent UK target). Of direct relevance to this paper TAN8 sets an onshore target of new capacity from wind energy of 800MW by 2010. Here, however, Wales departs from Scotland and England in the approach taken to the siting of new plant. TAN8 envisages seven strategic areas, mapped in the TAN, within which larger scale wind energy development will exclusively take place. Only much smaller projects are envisaged as appropriate outside the Strategic Search Areas. TAN8 mapping of the Strategic Search Areas is in the course of being refined to local Supplementary Planning Guidance through a series of consultant-led studies which, in the way of things, are taking longer than expected.

3.34 It is doubtful that the Welsh Assembly Government will achieve its 800MW target by 2010. This is for at least three reasons: the time that is being taken to refine TAN8 capacity advice at a local level, the need to plan for and execute some contentious grid upgrades in mid-Wales, and the need for the Forestry Commission (the major SSA landowner) to go through a tendering process with developers. Nonetheless, it would be churlish not to strongly welcome the Welsh Assembly Government's brave and ambitious initiative, and this paper does so.

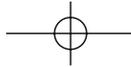
Overall thoughts

3.35 This section of the paper has tried to paint on a very broad canvas. Fifteen years ago a single page would have been sufficient to summarise Government renewable energy policy, and progress to fulfil that policy. In 2006 policy statements have emerged virtually weekly, and the national and local presses miss not a day in covering a number of renewables stories. The renewables industries (mainly onshore and offshore wind) employ many people, and there is virtually nobody without some knowledge of renewables and an opinion to accompany that knowledge. The canvas is getting broader and more complex by the month.

3.36 The support of the Government for renewables in an energy policy and planning policy context has been consistent and strong, particularly since 1997. These policies have strongly stimulated not only development activity, but the emergence of a well-organised and well-funded wind energy industry which is more than capable of rising to the challenges set by the 2003 White Paper and The Energy Challenge.

3.37 Nonetheless, it must be recognised that onshore and offshore wind energy can only ever be part of the solution to the climate change and security of supply challenges which we face. The deployment of renewables must be seen as part of a package of essential measures including energy





efficiency and emerging proposals for micro-generation, a topic covered in the last section of this paper.

3.38 Proposals for onshore wind energy development in particular have generated wide-ranging debates about the reality of climate change, the worth of renewables in tackling the climate change challenge, as well as intense and often very heated local debates about particular proposals. Quite understandably, if frustratingly from the perspective of developers and perhaps also Government, local authorities have undoubtedly found it difficult to accommodate their perception of what is good for their area to renewables planning advice, and as a result there have been a substantial number of public inquiries.

3.39 Nonetheless, and in the full knowledge of the intensity of local debates, the Government has not drawn back from its position of support for all renewables, including onshore wind energy. That much is very clear from The Energy Challenge, and from the statement of need for renewables at Annex D to that document. Where renewables will go within the next few years is a topic tackled at the end of this paper, but it is clear that the debate will not go away, and much ground still needs to be covered before it can be said that renewables, and perhaps in particular onshore wind, have become accepted as part of the mainstream electricity generation mix of the UK.

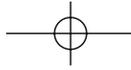
4 Planning for onshore wind energy

4.1 This paper arrives at last at the reason for its title. Not just, but perhaps particularly for onshore wind energy, it is constantly articulated by opposition groups that renewables are a good thing, “but not here”. It is also almost a universal truth that where two or three English people are gathered together a protest group will form, accompanied by a catchy acronym. However, the author is not among those who would label local protestors as NIMBYs: indeed the very term is perhaps an insult to those who feel strongly protective of their local physical environment and who feel under assault by a type of development which in their view will damage that local environment. Equally there are very many people, and on the evidence of public attitude surveys a majority, who not only welcome the principle of wind energy development, but who would support such development close to their homes. While it is true that all forms of proposed development will attract visible opposition much more than visible support a distinctly emerging trend in the last two or three years has been the extent to which a very substantial middle ground of opinion recognises that renewables developments must proceed for climate change and security of supply reasons even if intrinsic visual and other qualities of wind turbines cause some difficulty.

4.2 However, there are no universal truths about reactions to wind energy development, which vary enormously across the UK. Later in this section some observations will be made about reactions in Scotland, Wales and England, but first some general observations are offered on the basis of 16 years of planning for wind energy development:

- (a) Support is more likely in areas where the population is still dependent on the land for a living, and where the owners of sites proposed for wind farms are connected by family or other ties to the wider local population. Developments can bring substantial incomes to landowners over the 25 year (or so) lifetime of a project. There will also be substantial economic benefits during construction, degrees of economic benefit through employment during operation, and of course community benefits (which may or may not be material planning considerations).
- (b) Conversely, schemes are more likely to attract opposition where the local population have jobs elsewhere, and where there is very little connection between the economic interests





- of landowners and those of the wider local populace. This generic observation will be no surprise.
- (c) In remoter areas, particularly in the uplands outside villages, local support based on perceptions of economic benefit is very often matched by visceral opposition from those who have moved into the area in search of paradise. Such incomers understandably wish to preserve a local environment in the state that they found it when they arrived. Conversely, such incomers are often natural supporters of renewables and understand the climate change and security of supply challenges advocated in Government policy. The resultant debates are truly of the green on green variety, and perhaps it is precisely because of a natural affinity with the philosophy of renewables that often retired or second-home owners who may have recently arrived in an area can become the most intense opponents of particular projects (along the lines of supporting renewables, but not here).
 - (d) Rural communities divided by pre-existing issues are very often difficult territory for developers. Such communities are pre-disposed to fundamental differences of opinion, and frequently divide quickly into camps supporting and opposing a wind energy project.
 - (e) While this section concentrates on onshore wind energy development it may be said that offshore development is not immune from strong objections based on visual concerns from coastal communities, particularly where there is a preponderance of second homes and retired people.
 - (f) National opposition groups have sophisticated methods of influencing local opinion. Their websites present the “facts” of wind energy development in terms that are difficult to displace at project level. Fears are easily generated, but difficult to dispel. Most of the fears canvassed on websites can be objectively disproved. However, a natural and universal distrust of developers make it difficult to convey that the often pernicious myths propagated on websites are myths and have no justification in fact or experience. That is not to say that wind energy development does not present landscape, visual, and potentially acoustic difficulties which need to be carefully addressed. But however early a developer engages with a local population the hypnopædic effect of website information can make it very difficult for the promoters of projects to receive a fair hearing. Again, however, it was always thus with most types of development and wind energy developers can expect no special treatment in this respect!

4.3 The previous paragraph explored some generic factors in reactions to wind energy developments. Some general observations have been made, but it is also worth devoting some space to differences of experience in Scotland, Wales and England.

4.4 The intensity of activity in Scotland has already been noted. At the time of writing this paper 74 applications for development (whether under the local planning system or the Electricity Act 1989 remain undetermined for a total of 4,995MW). The following thoughts are offered on factors which have been encountered in planning for onshore wind energy in Scotland:

- (a) Because of the space available it has been possible to achieve some very large projects which are nonetheless a considerable distance from settlements and even from any dwellings at all.
- (b) NPPG6, as already noted, has strongly stimulated developer activity through its positive advice.
- (c) Outside the central belt there is often a connection between local landowners and the wider population which can serve to reduce local opposition. However, this factor can



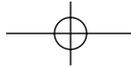


work the other way in the case of very large landowners, especially in the Highlands, where local relationships have historically not always been easy.

- (d) There is a strong expectation by the Scottish Executive, and by local authorities, that onshore wind energy should bring jobs. The point has already been touched upon, and it must be noted that the wind energy industry has so far almost wholly failed to deliver the jobs which have been expected. To be sure, civil engineering contracts have brought local benefits, but Scottish expectations are much wider and not surprisingly extend to thoughts of manufacturing, and a strong Scottish content within the construction supply chain. Until recently it has been relatively easy for developers to plead the requirements of the Utilities Directive¹⁶ in terms of procurement. Now that the requirements of that Directive do not extend to the procurement of wind turbines a prop, which was always somewhat suspect, has been removed. The prop was suspect because it was always possible to indulge in a pre-procurement exercise during the planning process so as to give greater assurance of local content. It is the author's view that developers in Scotland have for a long time been living in last chance gulch in terms of entirely justifiable expectations of jobs and wealth creation through development. Draft SPP6 reinforces the point, and it is the author's view that if wind energy is to continue to enjoy support from the Scottish Ministers then the industry, perhaps against the odds in terms of what may realistically be possible, devote some serious attention to this topic.
- (e) Scottish planning attitudes to the securing of community benefits to the planning process differ markedly from attitudes in England and Wales (particularly the former). Only in Scotland are planning policies found which advocate community benefits which could never be said to relate to planning considerations. Several Scottish planning authorities have now published policies which effectively demand community benefit funding in return for development permissions, even if lip service is paid in planning advice to the non-materiality of such benefits. Whether or not such an approach is justified in planning terms it is entirely understandable in Scottish rural areas which have historically suffered from depopulation, in some cases to a critical degree. Since the publication of draft SPP6, and this perhaps makes the point that developers could have done more before, there has been a move to a drafting of development protocols, to be secured within planning agreements, which commit the developer to a process of ensuring that maximum local and Scottish benefit is built into the implementation of permissions.
- (f) Whilst Scotland has since 2000 experienced a rapid growth in onshore wind energy development it is now evident that the major appropriate opportunities have been substantially explored. It is fully expected that the rate of growth will slow over the next two years.
- (g) There is a need to enhance the grid infrastructure. There are already a number of planning permissions north of the central belt which cannot yet be implemented for lack of a grid connection. Scottish and Southern Electricity has now applied to upgrade the north-south grid, but because of local authority objections this project will go to inquiry later this year and it is unlikely that any consented upgrade to the grid will be constructed before 2009 at the earliest.

¹⁶ European Directive 93/38/EEC





There are further proposals to provide a grid infrastructure to enable connections to the Western Isles. The route of any such connection, and the timing of it, are matters still to be resolved, and it seems very unlikely that any new grid infrastructure to enable such development will be in place much before 2011. The cost of these grid upgrades, and who should pay for them, is a subject beyond this paper, but the strength of Scottish Ministers' support for renewables can be gauged from their willingness to consider a socialisation of grid costs, i.e. a cap at an appropriate marginal level. Without such a cap no wind energy development could proceed in the Western Isles or indeed Orkney and Shetland beyond small schemes capable of being connected at the most local level.

- (h) SPP6 will have its impact in the same way as NPPG6. The advice in draft SPP6 is markedly more cautious than that in its predecessor, and the promoters of projects will note this when making investment decisions with a UK-wide basis.

4.5 Turning to England an early spurt of growth in the 1990s was followed by a period of relative inactivity until roughly 2003. The resurgence of interest in England three years after increased activity in Scotland was as a result of a variety of factors, perhaps especially a resource concentration by developers in Scotland as a result of NPPG6, lower expectations of a welcome in the shires (for reasons already generically given) and perhaps certain ambiguities of approach within PPG22. By 2003 draft PPS22 had been published, and forecast a clearer future.

4.6 There is now a great deal of development activity in England. Schemes are on the whole smaller than those in Scotland, and most are promoted through the local planning system. Here again we can see a comparison with Scotland. Taking into account what has already been said about Scotland the following additional factors appear to apply to the English context:

- (a) For reasons already explored generically local planning authorities are less positive in their approach to wind energy than in Scotland, and there is a higher expectation of local refusals.
- (b) Rightly or wrongly it is clear that the overt availability of community benefits (very often unrelated to planning considerations) has positively influenced some Scottish decisions. The view taken of community benefits in England is much more restrained. Again, the essentially commuter base of the English rural population makes it difficult for developers to ascertain what would be truly beneficial for a particular area, and there is less coherence within communities in terms of engaging with developers on this topic.
- (c) Conversely the grid system in England is better able to accept new development, given especially the denser population throughout the country. The grid poses fewer challenges than in Scotland.

4.7 Overall development activity is expected to increase in England until at least 2009, and possibly beyond. However, a particular feature of the emerging English market has been an interest in self-supply from large businesses and proposed development on brownfield sites.

4.8 As to Wales there was an extremely high level of initial activity in the early 1990s, especially in Powys. However, from about 1993 there was a visible backlash against new development which brought activity in Wales almost to a halt until the resurgence in the last two or so years based on the now issued advice in TAN8 (see para.3.33). The reasons for this pattern of development can perhaps be seen among the following factors:

- (a) The early intense level of activity was, in retrospect, not sensitively pursued by developers. Developers were in a hurry to get on with their projects, because contracts which they





enjoyed under the Non-Fossil Fuel Obligation lasted only until 1998. From the time of the award of the contracts, every moment wind turbines were not generating was money lost, and this led to a somewhat insensitive approach in some cases to local communities and planning authorities. It was of no surprise to the author that this led to a visible and sometimes extreme backlash, the effects of which are still with us.

- (b) There is an historic weakness in the central Wales grid system which is only now being addressed in the context of the TAN8 proposals. This weakness has historically restricted both the number and size of projects in a large part of mid-Wales.
- (c) Areas of former mining activity in south Wales have historically been very difficult territory for developers. Attitudes to developers hailing from outside the former mining areas have, perhaps entirely understandably, often been hostile, and there is a palpable feeling that, the environmental damage of coal-mining having been very successfully addressed through restoration and remediation schemes, there should be a resistance to what is regarded as another industry which will not benefit local populations. This attitude is understandably difficult to displace.

Planning regimes

4.9 This section briefly examines the planning regimes for onshore and offshore wind energy development, and includes some thoughts on the fitness for purpose of s.36 Electricity Act 1989.

Onshore

4.10 The system of planning under the Town and Country Planning Act requires no explanation to the readers of this paper. However, s.36 of the Electricity Act 1989 is a regime only encountered in the context of electricity generation, although increasingly used for the purposes of onshore and offshore wind energy.

4.11 Section 36 is phrased in terms that the construction, operation or extension of a power station with a capacity of more than 50MW may not proceed without the consent of the Secretary of State. The jurisdiction of s.36 is wholly devolved to the Scottish Ministers, but reserved to the Secretary of State (DTI) in Wales. There are two exceptions to the 50MW threshold (which can be altered by the Secretary of State (but not by the Scottish Ministers)) by Order: the threshold for the application of s.36 is 1MW in the case of hydro-electric schemes in Scotland and in the case of any offshore development.

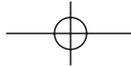
4.12 Applications for consents under s.36 have historically incorporated a request for a Direction that planning permission be deemed to be granted.

4.13 Use of s.36 of the 1989 Act to enable onshore wind energy was initially a very rare experience: in the early days commercial wind turbines would have the capacity of about 250kW, so that it would take 200 machines to achieve 50MW. The position is now very different: if a 3MW turbine is proposed then only 17 machines are required for the developer to enter the s.36 jurisdiction. Indeed the majority of capacity consented and proposed in Scotland is being addressed under s.36.

4.14 In the mid-1990s the s.36 regime was felt to be a panacea for the evils of the local planning regime for at least two reasons:

- the increasingly high refusal rate of local applications, and the belief that the Secretary of State or the Scottish Ministers were more likely to reach a positive decision; and





- a belief that the s.36 process would operate more quickly than local planning jurisdiction.

4.15 These arguments were always flawed. The perception that the Secretary of State (DTI) or the Scottish Ministers were more likely to grant consents might well have been correct, but Sch.8 to the Electricity Act provides for an automatic public inquiry if there is a local authority objection within the prescribed four-month consultation period. Again, the prospect of local authority opposition might (but not always) be increased by the perception that what should be a local decision has been taken by central government. That is not to say that all, or even the majority, of s.36 applications have led to a public inquiry. Rather, if there is local authority objection there is likely to be an inquiry (or at least some kind of national determination process) whatever jurisdiction is selected. It must, however, be acknowledged that following an inquiry an unconstrained energy Minister might be more likely to make a positive decision than a planning Minister, but since in either case the Minister would be seriously constrained by the terms of an Inspector's or a Reporter's report the author also has doubts about this possible line of argument.

4.16 As to the argument that the s.36 process would operate more quickly than that under the Town and Country Planning Acts this too has been proved to be flawed. At the outset it might have been true that permissions came through more quickly under the s.36 process. That is now certainly not the case: the s.36 system in Scotland is truly clogged by the number of proposals, while that in England and Wales certainly operates no more quickly. In addition it is the author's view that the s.36 jurisdiction suffers from a number of fundamental deficiencies and difficulties which can be summarised as follows:

- (a) Once an application to the Secretary of State or the Scottish Ministers is made progress is entirely at the discretion of the decision-maker. Since the application has been made to a Minister there can clearly be no right of appeal. Once the four-month consultation period for a local authority view has expired progress is entirely at the discretion of the Minister. And the history of numerous applications tells us that those operating the respective Consents Units in Glasgow and Westminster will expect to see a process of discussion between an applicant and consultees with a view to resolving difficulties before any recommendation will be made for a decision. In comparison, Planning Officers in local authorities are well used to and expect to have to make judgement calls based on differences of opinion. Whatever the qualities of the civil servants who operate the s.36 Consent Units their minds do not work in the same way.
- (b) Developers frequently forget that the s.36 decision-maker has three options: to grant consent without an inquiry, to order an inquiry, or to refuse consent without an inquiry. It is the last of these three options which can give rise to difficulties for a developer: the discretion of the Minister has been held by the court on two occasions (involving wind energy development) to be very wide. If a Minister decides to refuse permission without an inquiry (a process which is after all only designed to bring further essential information to the decision-maker's attention) then an application to the Court for judicial review is overwhelmingly unlikely to be successful. A refusal at first instance therefore is likely to be the end of the story.
- (c) Once the s.36 consent is granted it cannot be varied. This restriction does not apply to the deemed planning permission issued with the s.36 consent, so that conditions imposed on the deemed planning permission can be the subject of variation applications. However, both the capacity of a development and its physical dimensions will be specified in the s.36 consent. Therefore if a developer wishes to increase the capacity of a project or





to alter the physical elements of the development a new application under s.36 will be required, involving the payment of a new and substantial fee and the provision of a new Environmental Statement.

- (d) The discipline of a planning application form, which should ensure that all relevant issues are addressed and that the development is adequately described, is absent from the s.36 process. An application for consent is made by letter, and the detail of the letter is entirely contained within as much supporting material as the developer chooses to provide, including the Environmental Statement. Experience of a large number of s.36 applications reveals that all too often the precise nature of a proposal is an elusive concept.
- (e) There are fundamental and unresolved questions about the logic of s.36 itself. The intention of the provision is to regulate access to the grid for reasons of grid security. However, issues relating to the grid are in practice dealt with under two other regimes:
- applications for new overhead lines are made to the Secretary of State under s.37 Electricity Act 1989, and are not covered under s.36 at all; and
 - before any development with a capacity in excess of 50MW may generate the operator of the scheme must obtain a Generation Licence from the DTI (for all three countries) or obtain an exemption from the requirement for a Generation Licence.

Therefore, s.36 is effectively a planning regime with serious deficiencies, and which achieves little else.

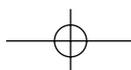
4.17 It was noted in para.4.3 that the s.36 regime had historically been used for projects with a capacity of more than 50MW. In recent months wind energy developers have been discussing the always available option of applying for planning permission for schemes subject to the requirements of s.36, and leaving it until after planning permission has been granted to apply for the s.36 consent itself. The reason for this new tactic relates to the issues of control of process already noted, and to delays within the s.36 Consents Unit. This trend may accelerate with the coming months.

Offshore

4.18 The onshore planning regime is at least well-known, and operates on the basis of a one-stop shop. Such cannot be said for the offshore planning regimes as they apply to electricity generation. The following paragraphs briefly explore how wind energy developers have approached offshore developments.

4.19 There are three consents that will always be required for offshore schemes:

- (a) Consent under s.36 of the Electricity Act 1989 will be required for the construction and operation of developments. If s.36 is also used for the onshore elements of the development deemed planning permission may also be sought through a Direction by the Secretary of State (England and Wales) or by the Scottish Ministers.
- (b) A consent will be required under s.34 Coast Protection Act 1949 for any development below mean high water springs which is likely to obstruct or cause a danger to navigation. This jurisdiction is operated by the Secretary of State in England, by the Welsh Assembly Government, or by the Scottish Ministers.
- (c) A Licence is required under s.5 of the Food and Environment Protection Act 1985 for any development on the sea bed. Responsibility for the granting of this consent is also wholly devolved in Wales and Scotland.





4.20 In addition a consent under s.37 of the Electricity Act 1989 will be required for new overhead lines, if required. Other consents are likely to be needed, for example under s.109 of the Water Resources Act 1991 for works in main rivers, but this paper will concentrate solely on the principal environmental consents under the jurisdictions already described.

4.21 However, in England and Wales it is also possible for the promoters of schemes to use the jurisdiction of s.3 of the Transport and Works Act 1992. Whilst this regime is concerned with the authorisation of offshore generating installations consenting authorities can accept applications which also seek the authorisation of ancillary onshore development. If the use of the Transport and Works Act is selected then the requirement for a consent under the Coast Protection Act is disapplied. Additionally an Order under the 1992 Act can specifically disapply ss.36 and 37 of the Electricity Act. In theory there is no reason why the jurisdiction of the Food and Environment Protection Act 1985 should not also be disapplied, but in practice this has not been done.

4.22 Factors which have influenced promoters of offshore projects in their selection of a particular consenting package have largely revolved around the following issues:

- (a) Until its amendment by the Energy Act 2004, s.36 of the Electricity Act 1989 did not address issues relating to the public right of navigation and fishing. The 2004 amendments enable the Secretary of State to extinguish rights of navigation and fishing on the rights of renewable energy installations (Electricity Act 1989, s.36A) and to regulate the common law rights through the creation of safety zones around renewable energy installations (s.95 of the Energy Act 2004).

Prior to the 2004 amendments developers were driven to the jurisdiction of the Transport and Works Act if they wished to achieve the extinguishment or regulation of rights of navigation or fishing. That stimulus to use the 1992 Act has now been removed except for two special cases. Firstly, the 2004 amendments do not enable the extinguishment or regulation of navigation rights in respect of cables serving offshore wind farms (perhaps a mistake in the drafting of the Energy Act 2004). However, in practice developers have so far felt able to proceed without access to the additional powers available through the Transport and Works Act.

Secondly, in some cases it has proved necessary for the promoters of projects to consider the need to compulsorily acquire proprietary fishing rights. While compulsory purchase powers can be obtained by operators of developments as statutory undertakers through the grant of a Generation Licence (under s.6 of the Electricity Act 1989) such powers (at least this is the better view) are unlikely to be effective in respect of the statutory rights enjoyed by the proprietors of fisheries. In such a case only compulsory powers granted under a Transport and Works Act Order are likely to avail.

- (b) Developers will always have to make a tactical decision about the authorisation of the onshore elements of development. It is possible to use s.36 of the 1989 Act, but it is equally possible to apply for planning permission to local authorities for all development above mean low water springs. The routes taken by developers have varied, and have largely related to the perceived wish on the part of local planning authorities to have a sense of ownership of the onshore elements of the project. Such local authorities may well feel disenfranchised by the use of s.36.

4.23 This brief exploration of regimes in play for the consenting of offshore developments would not be complete without a further reference to Scotland. The Transport and Works Act does not apply





in Scotland, and, should developers feel that issues of navigation and fishing require more (especially for cables) than the powers available to the Scottish Ministers under the Electricity Act 1989 and the Energy Act 2004, the only way forward may be through a Private Bill in the Scottish Parliament. This approach has already been used once for an onshore wind farm in the Solway Firth.

4.24 Finally, it has already been noted that offshore wind energy development is starting to venture into areas outside the territorial seas. Amendments made to s.36 of the Electricity Act 1989 by the Energy Act 2004 extend the application of s.36 to the UK Continental Shelf, although not the jurisdiction of the Transport and Works Act. Applications for consents for one offshore wind energy development outside the territorial seas have already been made, although not yet determined.

Key issues in onshore development

4.25 In this section the paper explores very briefly some of the key issues in planning for wind energy. In terms of nuts and bolts devising an onshore wind energy scheme and preparing it for a planning submission involves the consideration of many more inter-dependent factors than encountered with most other forms of development. On any scheme there will be a need to take into account landscape and visual effects, birds, ecology, cultural heritage, noise emissions, interference with transmission systems, reflected light from blades and shadow flicker, aviation, and hydrology and related issues.

4.26 For offshore schemes the concerns to be addressed will include landscape and visual effects, marine biology, birds, coastal processes, marine archaeology, fish and fisheries, construction noise (underwater), navigation and safety, and aviation. And since offshore schemes come ashore somewhere a lot of the onshore issues canvassed in para.4.16 will also come into play.

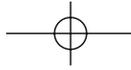
4.27 Perhaps thankfully, Environmental Impact Assessment applies to almost all schemes. Given the number of inter-dependent variables the disciplinary framework of EIA is vital to enable a coherent presentation of the issues.

4.28 Many contentions about the adverse effects of wind energy development are extensively reported on the websites of opposition groups. The phrase "I read it on a website" makes a frequent appearance at public inquiries. However, it is not the purpose of this paper to exhaustively explore specific onshore planning issues: the canvas selected has been deliberately extensive. Suffice to say that the sophistication of techniques to address novel issues has developed rapidly and intensively over the last 16 years. One example will be given: assessing the risk of collisions between birds and wind turbines.

4.29 In the early 1990s the risk of birds colliding with wind turbines was addressed unscientifically, discursively, and usually unproductively. However, a series of inquiries in Scotland in the mid-1990s, relating to interactions between Greenland White-Fronted Geese and proposed wind turbines, stimulated the production of a now further developed and widely used mathematical model enabling calculations to be made of likely collision risk. Clearly the value of the model depends on the quality of the input data, but this method of mathematical assessment is now in regular use and is fairly well-respected. Clearly behavioural factors have to be applied to the results of the model (i.e. the degree to which birds will avoid turbines through commonsense, experience or fear) and that is where arguments mainly focus. At least there is now a reasonably firm basis on which to construct the behavioural arguments.

4.30 It would be possible to give other examples of methodologies of assessment which have been carefully worked out since the early 1990s. For this author the experience of planning for wind energy has been an extraordinary learning curve.





5 Looking to the future

5.1 One of the pleasures of wind farm inquiries has been that the same opposition have been met frequently, and some have become good friends. During a discussion with one regular opponent the observation was made by him that the advent and experience of planning for onshore wind farms was comparable with the experience of afforestation in Wales and Scotland in the late 1940s or indeed with the building of hydro-electric stations in Scotland in the 1930s. Disregarding obvious differences between these types of developments there is no doubt that onshore wind energy development has had a profound impact on many communities, for better or worse. For the first time in England and in most of Wales, if not Scotland, electricity generation has been decentralised in a highly visible form.

5.2 In these areas there is nobody who does not have a strong opinion. There is almost no middle ground. Other forms of development, such as new volume housing, excite intensive debate, but in the author's experience nothing so violent and emotional as discussions about wind energy. Why this should be may already be clear to some readers, or may have become clearer following the discussions in s.4. Whatever the reasons for the emotions which wind turbines excite there is no doubt that they are here to stay, and rather than indulging in a probably inaccurate and pointless retrospective this paper will now go on to venture some thoughts about the next five or so years.

5.3 There is still ample scope for new onshore wind energy development in Scotland, England and Wales, and the market for such development will remain active for some time to come. However, a slowing of the pace of new development can already be observed in Scotland as the major opportunities disappear. However, England and Wales are likely to see a period of intense activity over at least the next three or four years.

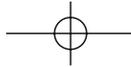
5.4 So far as offshore wind energy development is concerned the view has already been given that a mixture of political will and the Government's commitment to this technology will eventually enable the large-scale exploitation of the offshore resource. Beyond Round 2 there are some fascinating prospects. The Irish development company Airtricity has now started to promote the concept of a European offshore super-grid, linked to and by very large offshore wind farms, perhaps 10,000MW or more. Such a form of development may still be some years away, but is already starting to look a realistic concept. Again, the next few years may see the development of hydrogen cracking technologies, enabling offshore wind farms to deliver hydrogen to shore through redundant North Sea gas or oil pipes. The author is thoroughly unfamiliar with the hydrogen cracking technology, but it is clear from discussions that there is huge potential.

5.5 There is no doubt that other renewable energy technologies, especially wave and tidal power, will be exploited within the territorial seas. Onshore, biomass power stations may, after many years of discussion, be developed, utilising wood wastes and energy crops.

5.6 Nearer in time and much closer to home the Government is strongly promoting the possibilities of micro-generation. It is clear that the next few years will see active proposals for regeneration of power by householders, using photo-voltaic systems, solar panels and the like. And of course there are existing moves to compel increased energy efficiency in the construction of houses.

5.7 And what of nuclear? In a House of Commons Select Committee in 1993 the author, when pushed by a member of the Committee, acknowledged that the fifty year future was probably a mixture of nuclear and renewables. His view is still the same. Acknowledging the difficulties that arise in terms of nuclear waste management it is clear that renewables cannot provide all the electricity that the UK needs. Equally, arguments relating to climate change and security of supply point firmly





away from the use of fossil fuels. The clear, if uncomfortable, logic is that the Government is probably right to envisage a fresh start for nuclear power. And it should certainly not be thought that most of those who support renewables necessarily oppose the concept of new nuclear generation.

5.8 One point is clear. It will take all of the measures just discussed, in the UK and in all other countries able to so organise matters, to meet the climate change challenge, if the prognostications of the IPCC, the forecasts of the UK Climate Change Programme, the fears of RSPB and most scientists, and the convictions of those promoting renewables are correct.

5.9 But even if some of the climate change forecasts are wrong is it such a bad thing to plan in any case for a cleaner future? Even if Professor David Bellamy is right that what we are witnessing is a climate cycle, not necessarily anthropogenically influenced, is it not sensible to manage our affairs without blowing filth into the atmosphere?

5.10 And therefore ultimately the real debate is not about onshore and offshore wind energy: they play perhaps a small, but nonetheless essential role in meeting the climate change and security of supply challenges. In retrospect it may perhaps be thought that onshore wind energy will have made its greatest contribution as much by stirring public consciousness and debate as by generating clean electricity. Whatever the truth may be, the author has been extremely privileged to be part of what has happened over the last sixteen years.

