

## A DORSET CPRE RESPONSE TO RENEWABLE ENERGY ISSUES IN THE DORSET COUNCIL LOCAL PLAN OPTIONS CONSULTATION

### EXECUTIVE SUMMARY

Dorset CPRE wishes to draw attention to the following issues concerning renewable energy in the Dorset Council Local Plan Options Consultation:

1. Dorset Council has been aware for some time of the Government's requirement for local authorities to identify suitable sites for the deployment of large scale onshore wind turbines that can be supported by local communities. A single site has yet to be identified in Dorset and a methodology to identify such sites has yet to be proposed. Clearly urgent action is needed to fulfil this Government requirement.
2. For the second time within the last ten years, by avoiding Government guidance to include landscape constraint at the local level and to take into account adverse cumulative effects, Dorset Council has suggested a gross overestimate for Dorset's ability to generate renewable electricity from large onshore wind turbines. It is misleading to publicise such estimates without a full explanation of why they are impracticable.
3. The Council took into account renewable energy generated by installations of National Significance when, in March 2012, it set its local 2020 renewable energy targets. The consultation documentation is not clear that this policy remains in place. It is suggested that the influence it can have on the setting of a 2050 and intermediate local targets is significant, even more so than it was in 2012. This issue is not considered further in this response.

### 1. METHODOLOGIES FOR ASSESSMENT OF WIND ENERGY RESOURCE

1.1 Since 18 June 2015 Dorset Council has been aware of the Government's requirement to identify suitable sites for the deployment of large scale onshore wind turbines that can be supported by local communities<sup>1,2</sup>. The purpose of this requirement is to eliminate speculative proposals. Not only would this be to the benefit of local residents but to landowners, developers, planning officials and politicians alike. It would reduce wasted time and resources and the resultant stress, anger and frustration experienced on all sides when unsuitable sites are proposed. Since a single site has yet to be identified and a methodology to identify such sites has yet to be proposed, it is suggested that this policy gap be given urgent attention.

1.2 Twice in the last ten years<sup>3,4</sup>, Dorset Council has commissioned consultants Wardell Armstrong to carry out and report on the results of a GIS based site identification exercise with the aim of identifying potential suitable sites for large wind turbines. In the more recent report<sup>3</sup>, issued 4 December 2020, it is stated that potential sites would be '*Subject to detailed feasibility, then be tested fully for suitability through the planning and potentially Environmental Impact Assessment process.*'

1.3 The exercise used to identify potentially suitable sites did not include landscape constraint outside the excluded Dorset AONBs and Heritage Coast and the report submitted to the Council does not contain results for any 'detailed feasibility', such as landscape constraint assessment. It can be concluded from these observations that no specific site has been identified in the Wardell Armstrong report that would satisfy the Government requirement.

1.4 The report identifies about 90 potentially 'suitable' sites outside the Dorset AONBs and Heritage Coast with a total area of 120.3 km<sup>2</sup> (assuming a benchmark of 9 MW km<sup>-2</sup>) that could accommodate a capacity of 1,082.8 MW. The report suggests this could be distributed amongst 271 turbines: 8 x 850 kW, 13 x 2 MW and 250 x 4.2 MW. On the advice of Natural England and the Dorset Council Ecologist, some initially identified sites were deemed unsuitable. Those remaining are shown on Ordnance Survey maps, colour-coded to indicate a potential requirement for more ecological study.

1.5 The earlier Wardell Armstrong report <sup>4</sup>, published 7 July 2010, was commissioned by the Dorset Energy Partnership to estimate large scale wind resource for the Bournemouth, Dorset & Poole Renewable Energy Strategy to 2020. Its conclusions are similar to those stated above for the more recent report. Again without landscape constraint, it identified in the now Dorset Council area about 100 sites outside the Dorset AONBs and Heritage Coast with a total area of 99.4 km<sup>2</sup> that could accommodate a capacity of 895 MW (Appendix, Table 1).

1.6 Nine hundred megawatts was proposed as a 2020 Target for Greater Dorset (the area covered by Dorset County Council, Bournemouth and Poole) <sup>5</sup>. With an assumed load factor of 0.27, annual electricity generation was estimated to be 2,129 GWh. This represented 66.3% of Greater Dorset's total estimated renewable energy generation from all resources <sup>6</sup>. The 2020 Target for large scale wind was received with incredulity by Dorset CPRE but justified as an '*ambitious aspirational target*' that '*may help to maintain the credibility of the area as a leader and champion in the field*'.<sup>7</sup>

1.7 The GIS methodology used by both Wardell Armstrong reports is based on an SQW Energy/Land Use Consultants report on renewable energy capacity methodology commissioned by the Government in September 2009. Published in January 2010, **the report provides detailed advice and guidance specifically for assessment of the opportunities and constraints at the level of the English Regions together with appropriate advice and guidance for assessment at the Local Authority level** <sup>8</sup>.

1.8 In order to assess the potential for renewable energy deployment within internationally and nationally recognised landscape and nature conservation areas, SQW/LUC suggested that a 5-step approach could be applied <sup>9,10</sup>. Presumably following this advice, the Wardell Armstrong reports conclude that large scale wind turbines should not be deployed in the internationally designated Ramsar Site 'Chesil Beach & the Fleet' and nationally recognised Dorset AONBs and Heritage Coast.

1.9 Areas without international and national designations were not included in the SQW/LUC constraint procedure for the English Regions because if they were *'it may lead to the practicable resource being heavily constrained to the extent that national renewable energy targets could not be met'*<sup>11</sup>.

1.10 This was a political decision. A Local Authority, as opposed to a Regional one, was considered to be the more appropriate body to protect unique or exceptional local natural assets from unacceptable damage. SQW/LUC suggested that a methodology based on landscape character and sensitivity assessment could inform criteria-based policy and the setting of targets<sup>11</sup>. This remains Government policy.

1.11 Further, SQW/LUC were clear that although it was not appropriate for cumulative effects of wind farms on landscape to be considered at the regional level, it was appropriate to undertake a landscape sensitivity analysis to inform appropriate distances between wind farms for the purpose of setting targets. It is not clear that any consideration has been given to the distance between any of the sites shown on the site location maps.

1.12 During the eleven years from publication of the SQW/LUC report in January 2010 to 31 December 2020, the end of the Target Year, not a unit of energy was generated in Dorset from large wind turbines. This suggests that any credibility for leadership the Dorset Energy Partnership might have gained by its ambitious aspirational target has been significantly reduced as a result of this outcome.

1.13 The determination and perseverance of communities to prevent unacceptable damage to Dorset's landscape is reflected in the historical planning record: From 1 August 2003 to the present there have been 10 proposals for large wind turbine installations. These have led to 3 resubmissions, 4 withdrawals, 4 refusals and 2 appeals (Appendix, Table 2). The surviving Alaska proposal (PA 6/2010/0082), permitted on 6 July 2012, has yet to be constructed.

1.14 It would be informative to compare the OSGR site locations of these historical proposals (provided in Table 2) with the site locations identified as suitable in the more recent Wardell Armstrong maps.

1.15 Dorset is not alone in its objection to large scale turbines. 46% of 1,869 proposals in the UK during the last 30 years have been initially refused planning permission. The corresponding figures for England, Scotland, Wales and Northern Ireland are, respectively, 58% of 682, 39% of 830, 43% of 163 and 29% of 194 (Appendix, Table 3).

1.16 The nature of the documentation on renewable energy put forward for consultation suggests that the Council is not happy with the absence of large scale wind turbines in the Dorset countryside, blaming "planning and economics". As far as planning is concerned, it should be remembered that planning policy is arrived at through a well-trying democratic process that reflects a census of public opinion that cannot be arrived at by asking members of the public to respond to a bureaucratic tick-box questionnaire. It should also be remembered that the current status of large scale wind turbine deployment in Dorset is not inconsistent with the Council's long held corporate aim to safeguard Dorset's unique environment.

## 2. METHODOLOGIES FOR LANDSCAPE CONSTRAINT

2.1 Methodologies for landscape constraint have been available for many years and continue to be developed. Landscape constraint based on landscape character was used extensively in a previous South West regional and sub-regional wind energy resource assessment, published in 2005<sup>13</sup>. For each landscape character area in the region it took into account wind turbine size, wind farm size, the distance between wind farms and the overall landscape sensitivity of an area to wind farm development.

2.2 When this methodology was applied to Dorset at that time it resulted in a practicably accessible large wind resource equivalent to 30 2.5 MW turbines<sup>14</sup>. It can be noted here that Pete West, Renewable Energy Development Officer, Dorset County Council and Joint Executive Secretary, Dorset Energy Partnership, quoted the same figure when he expressed his views at Dorset County Council's Cabinet Meeting (Item 10), on 4 April 2012, endorsement day for the Final Draft of the Strategy.

2.3 At the instigation in November 2012 of Dorset CPRE Trustees, CPRE CEO Shaun Spiers and West Dorset MP Oliver Letwin, Christchurch Borough Council and East Dorset, North Dorset and Purbeck District Councils commissioned LUC to determine the sensitivity of their areas to the deployment of wind turbine and ground-mounted solar photovoltaic installations. A report based on landscape character was published by LUC for each area in April 2014<sup>15, 16,17,18</sup>.

2.4 It is suggested that it might also be informative if the sites identified in the latest Wardell Armstrong maps were to be superimposed on the OS landscape sensitivity maps prepared by LUC.

2.5 It is unfortunate that reports on the landscape sensitivity to deployment of large scale wind turbines and ground-mounted solar photovoltaic installations in West Dorset and Weymouth & Portland are not yet available

2.6 Perhaps the assessments set out in the LUC reports published in July 2018 on 'West Dorset and Weymouth & Portland Strategic Landscape and Heritage Studies' could form the basis for such reports<sup>19,20</sup>.

2.7 However, the magnitude of the objection to large wind turbines in Dorset suggests that even 30 is too many. A paper published in 2017 throws some light on a not too surprising reason why this should be. The paper presents a geospatial multi-criteria decision analysis that integrates not only technological and legislative constraints but additional social-economic constraints to determine suitable sites for onshore wind turbine development<sup>21</sup>.

### 3. THE FUTURE FOR GENERATION OF RENEWABLE ENERGY FROM ONSHORE AND OFFSHORE WIND TURBINE INSTALLATIONS

3.1 The effect on turbine deployment in England of the Government's decision to allow large onshore wind to participate in Contract for Difference (CfD) auctions this year has yet to be established. Participation will still require planning consent and support from the local community. What is established is the continuing dominance of Scotland, its mainland and its islands, in current operational and potential deployment of onshore wind in the UK. The reasons for this are clear. Scotland has more land, coupled with a lower population density, higher and more sustainable wind speeds and a lower application refusal rate. The magnitude of the dominance is set out in Appendix, Table 4.

3.2 In contrast, England is dominant in current operational and potential deployment of offshore wind in the UK. The magnitude of this dominance is set out in Appendix, Table 5. The Government's continuing commitment to offshore deployment is recognised in Round 4 of the CfD by a separate Pot 3.

3.3 In addition, floating offshore wind is allowed to compete in Pot 2, reserved for newer technologies including remote island wind. Floating installations can operate in deeper water further from the shores of Scotland, Wales and the South West where the wind is stronger.

3.4 The current and potential installed capacity of 29.3 GW for offshore wind is just 15% higher than the 24.8 GW for onshore wind. The corresponding figures for annual electricity generation are 99.7 TWh and 57.7 TWh, a 42% difference, reflecting a higher load factor <sup>22</sup>.

3.5 The Crown Estate has recently announced six new offshore wind proposals in waters around England and Wales with a total installed capacity of 7.98 GW and a potential to generate an annual 27.2 TWh by the end of the decade <sup>23</sup>. This is equivalent to the annual electricity generation of 3,888 3 MW onshore turbines installed on 1,296 km<sup>2</sup> or a square of side 36 km (22 miles) <sup>24</sup>.

### 4. DORSET CPRE POLICY ON RENEWABLE ENERGY

4.1 Dorset CPRE is fully supportive of renewable energy development in Dorset but not at any price. It is opposed to proposals that would do anything other than minimal harm to Dorset's exceptional and highly valued landscape, heritage, agricultural and amenity assets.

4.2 It is particularly opposed to industrial scale wind turbines and ground-mounted solar photovoltaic installations that can be damaging to Dorset's prevalent small-scale landscapes.

4.3 It supports the deployment of solar photovoltaic panels on domestic, commercial, public and industrial roofs, including those that can be built over car parks.

4.4 It favours smaller scale ground-mounted solar photovoltaic installations with a maximum capacity of 5 MW (20,000 panels) that can be well-screened from surrounding view points.

4.5 It does not object to small-scale wind turbines close to buildings.

4.6 It hopes that the Council will be successful in promoting community-owned renewable energy installations of all kinds and wishes to provide support in any way it can through its network of members across the Council area.

## REFERENCES

1. National Planning Policy Framework, Draft text for consultation, Planning for climate change, Section 14, para. 157(b), footnote 53, p.46, Ministry of Housing, Communities & Local Government, 30 January 2021.

Except for applications for the repowering of existing wind turbines, a proposed wind energy development involving one or more turbines should not be considered acceptable unless it is in an area identified as suitable for wind energy development in the development plan; and, following consultation, it can be demonstrated that the planning impacts identified by the affected local community have been fully addressed and the proposal has their backing.

2. Planning for Onshore Wind, p.14, Briefing Paper Number 04370, House of Commons Library, 13 July 2016.

3. Strategic Identification of Wind Farm Sites, Wardell Armstrong, 4 December 2020 (commissioned by Dorset Council)

4. Wind Resource Assessment for the South West Following SQW Energy Methodology, Wardell Armstrong, 7 July 2010 (commissioned by Regen SW/Dorset Energy Partnership).

5. Bournemouth, Dorset and Poole Renewable Energy Strategy to 2020, Final Version, Dorset Energy Partnership, January 2013.

6. Renewable Energy Resource Assessment for Bournemouth, Dorset & Poole, Regen SW, Amended March 2012.

7. Refreshing the Renewable Energy Strategy for Bournemouth, Dorset & Poole, p.35, Issue Number 14: Failure to meet proportion of national renewable energy generation target, Regen SW, May 2011.

8. 'Renewable and Low-carbon Energy Capacity Methodology: Methodology for the English Regions', commissioned in September 2009 by the Department of Energy and Climate Change and the Department for Communities and Local Government published by SQW Energy and Land Use Consultants, January 2010.

9. Ibid., Table 3-1, Parameter 6, p.10.

10. Ibid., paras.3.27-3.28, pp.24-25.
11. Ibid., Annex A, Landscape character/sensitivity assessment, para.4, p.A-4.
12. Ibid., Annex A, Cumulative impact, para.8, A-4.
13. REvision 2020, Final Report to GOSW and the South West Regional Assembly, Annexes 1, 3 & 4, June 2005.
14. REvision 2010, Final Report to GOSW and the South West Regional Assembly, Annex 15, p.202, June 2004.
15. Landscape Sensitivity to Wind and Solar Energy Development in Christchurch, LUC, April 2014.
16. Landscape Sensitivity to Wind and Solar Energy Development in East Dorset District, April 2014.
17. Landscape Sensitivity to Wind and Solar Energy Development in North Dorset District, Land Use Consultants, April 2014.
18. Landscape Sensitivity to Wind and Solar Energy Development in Purbeck District, Land Use Consultants, April 2014.
19. West Dorset, Weymouth and Portland Strategic Landscape and Heritage Study Stage 1 Assessment, LUC, July 2018.
20. 'West Dorset, Weymouth and Portland Strategic Landscape and Heritage Study Stage 2 Assessment', LUC, July 2018.
21. 'Identifying suitable locations for onshore wind turbines using a GIS-MCDA approach', Michael Harper, Ben Anderson, Patrick James and Abu Bakr Bahaj, Proceedings of the 17<sup>th</sup> International Conference on Sustainable Energy Technologies, July 2017, Bologna Italy.
22. Load factors for schemes operating on an unchanged basis for the five years 2015-2019, DUKES 2020, Table 6.5, published BEIS 30 July 2020. (Appendix, Table 6)
23. <https://www.thecrownestate.co.uk/en-gb/media-and-insights/news/2021-offshore-wind-leasing-round-4-signals-major-vote-of-confidence-in-the-uk-s-green-economy/>
- 24 The estimates of 3,888 turbines and an area requirement of 1,296 km<sup>2</sup> are based on load factors of 0.2662 and 0.3889 for onshore and offshore wind, respectively and 9 MW km<sup>-2</sup> installed capacity per unit area for the onshore turbines.

13<sup>th</sup> March 2021

<https://dorset-cpre.org.uk/>

## **Appendices**

**Table1 REGEN SW /WARDELL ARMSTRONG FILTER PROCESS 2012**

WIND RESOURCE																		
No.	Authority	Natural Wind Resource MW	After Filter 4 MW	Difference MW	% Reduction of Natural Resource	After Filter 5 MW	Difference MW	% Reduction of Natural Resource	After Filter 6.1 MW	Difference MW	% Reduction of Natural Resource	After Filter 6.2 MW	Difference MW	% Reduction of Natural Resource	After Filter 8 MW	Difference MW	% Reduction of Natural Resource	Total % Reduction of Resource
1	Bournemouth	416	91	-325	-78.1	2	-89	-21.4	1	-1	-0.2	1	0	0.0	0	-1	-0.2	-100.00
2	Christchurch	453	276	-177	-39.1	19	-257	-56.7	18	-1	-0.2	18	0	0.0	3	-15	-3.3	-99.34
3	East Dorset	3,189	2,790	-399	-12.5	1,005	-1,785	-56.0	951	-54	-1.7	296	-655	-20.5	59	-237	-7.4	-98.15
4	North Dorset	5,483	5,068	-415	-7.6	1,992	-3,076	-56.1	1,981	-11	-0.2	1,127	-854	-15.6	268	-859	-15.7	-95.11
5	Poole	583	215	-368	-63.1	42	-173	-29.7	25	-17	-2.9	25	0	0.0	2	-23	-3.9	-99.66
6	Purbeck	3,639	3,120	-519	-14.3	1,690	-1,430	-39.3	1,279	-411	-11.3	660	-619	-17.0	208	-452	-12.4	-94.28
7	West Dorset	9,733	9,030	-703	-7.2	4,621	-4,409	-45.3	4,512	-109	-1.1	1,202	-3,310	-34.0	358	-844	-8.7	-96.32
8	Weymouth & Portland	376	220	-156	-41.5	26	-194	-51.6	21	-5	-1.3	6	-15	-4.0	2	-4	-1.1	-99.47
9	Dorset County	22,873	20,504	-2,369	-10.4	9,353	-11,151	-48.8	8,762	-591	-2.6	3,309	-5,453	-23.8	898	-2,411	-10.5	-96.07
10	Greater Dorset	23,872	20,810	-3,062	-12.8	9,397	-11,413	-47.8	8,788	-609	-2.6	3,335	-5,453	-22.8	900	-2,435	-10.2	-96.23

  

LAND RESOURCE																		
No.	Authority	Natural Land Resource km <sup>2</sup>	After Filter 4 km <sup>2</sup>	Difference km <sup>2</sup>	% Reduction of Natural Resource	After Filter 5 km <sup>2</sup>	Difference km <sup>2</sup>	% Reduction of Natural Resource	After Filter 6.1 km <sup>2</sup>	Difference km <sup>2</sup>	% Reduction of Natural Resource	After Filter 6.2 km <sup>2</sup>	Difference km <sup>2</sup>	% Reduction of Natural Resource	After Filter 8 Residual km <sup>2</sup>	Difference km <sup>2</sup>	% Reduction of Natural Resource	Total % Reduction
1	Bournemouth	46.17	10.10	-36.07	-78.1	0.22	-9.88	-21.4	0.11	-0.11	-0.2	0.11	0.00	0.0	0.00	-0.11	-0.2	-100.00
2	Christchurch	50.43	30.73	-19.70	-39.1	2.12	-28.61	-56.7	2.00	-0.11	-0.2	2.00	0.00	0.0	0.33	-1.67	-3.3	-99.34
3	East Dorset	354.46	310.11	-44.35	-12.5	111.71	-198.40	-56.0	105.70	-6.00	-1.7	32.90	-72.80	-20.5	6.56	-26.34	-7.4	-98.15
4	North Dorset	609.22	563.11	-46.11	-7.6	221.33	-341.78	-56.1	220.11	-1.22	-0.2	125.22	-94.89	-15.6	29.78	-95.44	-15.7	-95.11
5	Poole	64.75	23.88	-40.87	-63.1	4.66	-19.21	-29.7	2.78	-1.89	-2.9	2.78	0.00	0.0	0.22	-2.55	-3.9	-99.66
6	Purbeck	404.42	346.74	-57.68	-14.3	187.82	-158.92	-39.3	142.14	-45.68	-11.3	73.35	-68.79	-17.0	23.12	-50.23	-12.4	-94.28
7	West Dorset	1,081.53	1,003.41	-78.12	-7.2	513.49	-489.93	-45.3	501.37	-12.11	-1.1	133.57	-367.81	-34.0	39.78	-93.79	-8.7	-96.32
8	Weymouth % Portland	41.75	24.43	-17.32	-41.5	2.89	-21.54	-51.6	2.33	-0.56	-1.3	0.67	-1.67	-4.0	0.22	-0.44	-1.1	-99.47
9	Dorset County	2,541.81	2,277.51	-264.30	-10.4	1,039.34	-1,238.17	-48.9	973.66	-65.68	-2.6	367.71	-605.96	-23.9	99.79	-267.92	-10.6	-96.45
10	Greater Dorset	2,652.73	2,312.47	-340.26	-12.8	1,044.23	-1,268.24	-47.8	976.55	-67.68	-2.6	370.60	-605.96	-22.8	100.01	-270.58	-10.2	-96.23

**FILTERS APPLIED**

- Filter 3: Removes areas of low wind, defined as 5 ms<sup>-1</sup> at a height of 45 m above ground.  
This Filter does not appear in the Table because areas of low wind speed in Dorset are too small to register at the level of precision chosen for the Draft.
- Filter 4: Removes non-accessible areas, including roads, railways, inland waters, built-up areas, airports and MOD training sites.  
Some features are essentially lines that require creation of offsets to establish non-accessible areas.
- Filter 5: Removes exclusion areas: sites of historical interest, including ancient semi-natural woodland, scheduled ancient monuments, listed buildings, registered historic battlefields, registered parks and gardens and World Heritage Sites.  
This filter also removes exclusion areas created for various purposes for features listed for Filter 4.
- Filter 6.1: Removes selected environmental designations, including SPAs, SACs, NNRs, SSSIs and Ramsars.
- Filter 6.2: Removes National Parks, Areas of Outstanding Natural Beauty and Heritage Coast.
- Filter 8: Removes areas around dwellings for the purpose of noise mitigation.

NOTE It should be remembered that filters are applied sequentially. This means that the % Reduction of Natural Resource indicated in the Table for a particular filter does not necessarily represent removal of its entirety. Some may have been removed by one or more earlier filters. For example, Filter 6.2 removes only a residual 606 km<sup>2</sup> of AONB and Heritage Coast. 805 km<sup>2</sup> was removed by Filters 4, 5 and 6.1.

SOURCE  
Renewable Energy Resource Assessment for Bournemouth, Dorset & Poole, Amended March 2012.



**Table 2 HISTORICAL RECORD OF PLANNING DECISIONS FOR ONSHORE WIND INSTALLATIONS IN DORSET**

BEIS REPD Ref.	Planning Application				Site					T urbine	
	District	Reference	Date Submitted	Development Status	Name	OSGR		Capacity MW	No.of Turbines	Capacity MW	Height metres
						Easting	Northing				
1 3175	North Dorset	2/2003/0765	01/08/2003	Application Refused	Bushes Farm	387240	097840	24.8	9	2.75	105
2 3055	North Dorset	2/2008/0661	26/06/2008	Application Withdrawn	Silton Wind Farm	378380	129675	8.0	4	2.00	125
3 3731	North Dorset	2/2010/0731/PLNG	04/08/2010	Application Refused	Silton Wind Farm*	378380	129675	10.0	4	2.50	125
4 4344	North Dorset	2/2014/0768/PAEIA	27/06/2014	Application Refused	Blandford Hill Wind Farm	385111	100255	12.0	4	3.00	125
5 3318	West Dorset	1/D/13/000183	06/02/2013	Application Withdrawn	West Dorset Wind Farm	379205	095885	12.5	5	2.50	125
6 4428	West Dorset	WD/D/14/000885	27/05/2014	Application Withdrawn	West Dorset Wind Farm*	379352	095380	12.5	5	2.50	125
7 4099	West Dorset	WD/D/14/002611	18/11/2014	Application Refused	Slyer's Lane Wind Rarm	370100	093600	18.0	6	3.00	115
8 4117	Purbeck	6/2008/0234	20/03/2008	Application Withdrawn	Alaska Wind Farm	387160	088159	13.8	6	2.30	125
9 4333	Purbeck	6/2010/0082	20/11/2009	Awaiting Construction	Alaska Wind Farm*	387544	087398	9.2	4	2.30	125

\* Resubmission

**SOURCES**

1. Dorset Council Planning web site.
- 2 Renewable Energy Planning Database Extract December 2020, published BEIS 23 February 2021.

**Table 3 HISTORICAL RECORD OF UK PLANNING DECISIONS FOR PROPOSED ONSHORE WIND TURBINE INSTALLATIONS**

Country	Decision	No.	%	MW	%	GWh	%
England	Permitted	306	44.9	3,103.8	41.9	7,222.4	41.9
	Refused	376	55.1	4,303.7	58.1	10,014.5	58.1
Northern Ireland	Permitted	153	78.9	1,684.3	70.6	3,919.2	70.6
	Refused	41	21.1	700.0	29.4	1,628.9	29.4
Scotland	Permitted	470	56.6	13,737.7	60.9	31,967.1	60.9
	Refused	360	43.4	8,809.4	39.1	20,499.1	39.1
Wales	Permitted	87	53.4	1,554.9	56.9	3,618.2	56.9
	Refused	76	46.6	1,180.1	43.1	2,746.0	43.1
UK	Permitted	1,016	54.4	20,081	57.3	46,727	57.3
	Refused	853	45.6	14,993	42.7	34,889	42.7
	TOTAL	1,869	100.0	35,074	100.0	81,616	100.0

**SOURCES**

1. Renewable Energy Planning Database Extract December 2020, published BEIS 23 February 2021.
2. Load factors for schemes operating on an unchanged basis for the five years 2015-2019, DUKES 2020, Table 6.5, published BEIS 30 July 2020.

**Table 4 OPERATIONAL ONSHORE WIND INSTALLATIONS & THOSE IN THE PLANNING PIPELINE**

Country	Development Status	Installations		Installed Capacity		Annual Energy Generation	
		Number	%	MW	%	GWh	%
England	All Statuses	294	26.8	3,017.5	12.2	7,021.6	12.2
Scotland		507	46.2	18,086.2	73.0	42,085.9	73.0
Wales		96	8.8	1,879.8	7.6	4,374.2	7.6
Northern Ireland		200	18.2	1,804.8	7.3	4,199.7	7.3
UK		1,097	100.0	24,788.3	100.0	57,681.4	100.0
England	Application Submitted	4	3.1	54.9	1.0	127.8	1.0
Scotland		59	45.4	5,018.5	88.0	11,677.9	88.0
Wales		10	7.7	405.9	7.1	944.5	7.1
Northern Ireland		57	43.8	223.0	3.9	518.8	3.9
UK		130	100.0	5,702.3	100.0	13,268.9	100.0
England	Awaiting Construction	12	5.7	105.4	2.0	245.3	2.0
Scotland		122	58.4	4,454.4	86.4	10,365.2	86.4
Wales		14	6.7	241.0	4.7	560.8	4.7
Northern Ireland		61	29.2	353.2	6.9	821.8	6.9
UK		209	100.0	5,154.0	100.0	11,993.0	100.0
England	Under Construction	1	5.0	1.0	0.2	2.3	0.2
Scotland		12	60.0	413.5	68.6	962.2	68.6
Wales		5	25.0	137.5	22.8	320.0	22.8
Northern Ireland		2	10.0	50.5	8.4	117.5	8.4
UK		20	100.0	602.5	100.0	1,402.0	100.0
England	Operational	277	37.5	2,856.2	21.4	6,646.3	21.4
Scotland		314	42.5	8,199.8	61.5	19,080.6	61.5
Wales		67	9.1	1,095.4	8.2	2,549.0	8.2
Northern Ireland		80	10.8	1,178.2	8.8	2,741.6	8.8
UK		738	100.0	13,329.6	100.0	31,017.5	100.0

**SOURCES**

1. Renewable Energy Planning Database Extract December 2020, published BEIS 23 February 2021.
2. Load factors for schemes operating on an unchanged basis for the five years 2015-2019, DUKES 2020, Table 6.5, published BEIS 30 July 2020.

**NOTE**

Data for installations in the planning pipeline (those awaiting a planning decision, awaiting construction and under construction) do not take into account attrition by the application of historical failure rates. They therefore indicate theoretical maxima.

**Table 5 OPERATIONAL OFFSHORE WIND INSTALLATIONS & THOSE IN THE PLANNING PIPELINE**

Country	Development Status	Installations		Installed Capacity		Annual Energy Generation	
		Number	%	MW	%	GWh	%
England	All Statuses	42	66.7	23,475.5	80.2	79,967.3	80.2
Scotland		18	28.6	5,076.1	17.3	17,291.3	17.3
Wales		3	4.8	726.0	2.5	2,473.1	2.5
Northern Ireland		0	0.0	0.0	0.0	0.0	0.0
UK		63	100.0	29,277.6	100.0	99,731.6	100.0
England	Application Submitted	3	100.0	4,240.0	100.0	14,443.2	100.0
Scotland		0	0.0	0.0	0.0	0.0	0.0
Wales		0	0.0	0.0	0.0	0.0	0.0
Northern Ireland		0	0.0	0.0	0.0	0.0	0.0
UK		3	100.0	4,240.0	100.0	14,443.2	100.0
England	Awaiting Construction	4	44.4	5,800.0	68.1	19,757.2	68.1
Scotland		5	55.6	2,713.9	31.9	9,244.7	31.9
Wales		0	0.0	0	0.0	0	0.0
Northern Ireland		0	0.0	0	0.0	0	0.0
UK		9	100.0	8,513.9	100.0	29,001.9	100.0
England	Under Construction	3	33.3	4,657.0	76.1	15,863.7	76.1
Scotland		6	66.7	1,460.0	23.9	4,973.4	23.9
Wales		0	0.0	0.0	0.0	0.0	0.0
Northern Ireland		0	0.0	0.0	0.0		0.0
UK		9	100.0	6,117.0	100.0	20,837.0	100.0
England	Operational	32	76.2	8,778.5	84.4	29,903.2	84.4
Scotland		7	16.7	902.2	8.7	3,073.3	8.7
Wales		3	7.1	726.0	7.0	2,473.1	7.0
Northern Ireland		0	0.0	0.0	0.0	0.0	0.0
UK		42	100.0	10,406.7	100.0	35,449.5	100.0

**SOURCES**

1. Renewable Energy Planning Database Extract December 2020, published BEIS 23 February 2021.
2. Load factors for schemes operating on an unchanged basis for the five years 2015-2019, DUKES 2020, Table 6.5, published BEIS 30 July 2020.

**NOTE**

Data for installations in the planning pipeline (those awaiting a planning decision, awaiting construction and under construction) do not take into account attrition by the application of historical failure rates. They therefore indicate theoretical maxima.

**Table 6 AVERAGE LOAD FACTORS  
FOR THE 5 YEARS 2015-2019 FOR  
SCHEMES OPERATING ON AN  
UNCHANGED CONFIGURATION BASIS**

Technology	Load Factor
Wind onshore	0.266171
Wind offshore	0.388860
Wave and tidal stream	0.037072
Hydro small scale	0.379793
Hydro large scale	0.351422
Solar photovoltaics	0.109890
Anaerobic digestion	0.601548
Bioenergy <sup>1</sup>	0.666223
Landfill gas	0.460037
Sewage sludge digestion	0.465954
Energy from waste	0.357019
Advanced conversion <sup>2</sup>	0.820000
Hot dry rocks <sup>3</sup>	0.910000

**NOTES**

1. Excludes co-firing and non-biodegradable waste.
2. Load factor provided by Mark Harradine, Technical Director, Syngas Products, Poole.
3. Estimate from literature.

**SOURCE**

DUKES 2020, Table 6.5, published BEIS 30 July 2020.