FIG 4.7

N
W E
S

Energy Resource
(MWh/yr)

3,200	to	13,000	(18)
1,600	to	3,200	(30)
800	to	1,600	(43)
400	to	800	(23)
200	to	400	(13)
100	to	200	(16)
50	to	100	(6)
0.1	to	50	(15)

Scale: 1: 250 000 @ A3

0 kilometres 10

wardell armstrong

Client: Herefordshire Council

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Drawing Notes:

Level 6b gives practically viable wind resource following removal of all National Parks, Areas of Outstanding Natural Beauty, and Heritage Coast referred to as landscape constraints. The constraints used at levels 3, 4, 5, and 6a have also been applied. The large wind resource areas left at level 6b were also removed as part of constraint level 5. This step was taken so that the available resource was not counted twice.
Wind resource energy values have been based on the following benchmarks:
A wind speedup log law calculation was used to estimate the wind at 30m above ground level from the 25m reference height in the NOABL wind speed database. A ground roughness value of 0.03 was used in the calculation (x 1.027)
Installed capacity was estimated based on 4 turbines occupying an area of 1 km2 (900kW/km2)
This figure is based on a ACSA 225kW turbine and the expected maximum density for placement of turbines at this scale
Total energy output was then derived from the number of turbines and the energy curve for the ACSA 225kW turbine.
Energy output for each turbine varied based on the wind speed 30m above ground level which was linked back with the turbine energy curve
The thematic map (colouring) represents total energy resource (MWh) or energy resource density (MWh/km2)
The %s shown in the table represent the contribution to Herefordshire's Electrical and Total energy demand in 2007 (DECC)
The carbon saving was calculated based on 0.537kg of carbon / kilowatt hour of electricity produced (DEFRA).

BNG Ref: 348600E : 245900N

Map Ref: Landranger Map:149 - OS 100K Ref: SO

Registered Office Sir Henry Doulton House, Forge Lane, Etruria, Stoke-on-Trent, ST1 5BD, United Kingdom

Herefordshire Renewable Energy Study
Medium Scale Wind
Energy Resource by Parish - Level 6b

Project Ref:	42-0347	Drg. Ref:	Figure 4.7
Drawn:	S. Clarke	Date:	29 JUL 2010
Checked:	S. Allen	Date:	29 JUL 2010

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A3 Land

FIG 4.8

N
W E
S

Energy Resource Density
(MWh/y/km2)

450	to 900	(8)
320	to 450	(11)
160	to 320	(44)
80	to 160	(30)
40	to 80	(28)
20	to 40	(10)
10	to 20	(12)
0.01	to 10	(21)

Scale: 1: 250 000 @ A3

0 kilometres 10

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Herefordshire Renewable Energy Study
Medium Scale Wind
Energy Resource Density by Parish - Level 6b

Project Ref: 42-0347	Drg. Ref: Figure 4.8
Drawn: S. Clarke	Date: 29 JUL 2010
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A3 Land

FIG 4.9

N
W E
S

Energy Resource
(MWh/y)

18,000 to 50,000	(1)
14,000 to 18,000	(3)
10,000 to 14,000	(5)
6,000 to 10,000	(4)
4,000 to 6,000	(4)
2,000 to 4,000	(5)
1,000 to 2,000	(4)
100 to 1,000	(4)

Scale: 1: 250 000 @ A3
0 kilometres 10

Client: Herefordshire Council

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Drawing Notes:

BNG Ref: 348600E : 245900N
Map Ref: Landranger Map:149 - OS 100K Ref: SO

Level 6b gives practically viable wind resource following removal of all National Parks, Areas of Outstanding Natural Beauty, and Heritage Coast referred to as landscape constraints. The constraints used at levels 3, 4, 5, and 6a have also been applied. The large wind resource areas left at level 6b were also removed as part of constraint level 5. This step was taken so that the available resource was not counted twice.
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Installed capacity was estimated based on 4 turbines occupying an area of 1 km2 (900kW/km2)
This figure is based on a ACSA 225kW turbine and the expected maximum density for placement of turbines at this scale
Total energy output was then derived from the number of turbines and the energy curve for the ACSA 225kW turbine.
Energy output for each turbine varied based on the wind speed 30m above ground level which was linked back with the turbine energy curve
The thematic map (colouring) represents total energy resource (MWh) or energy resource density (MWh/km2)
The %s shown in the table represent the contribution to Herefordshire's Electrical and Total energy demand in 2007 (DECC)
The carbon saving was calculated based on 0.537kg of carbon / kilowatt hour of electricity produced (DEFRA).

Herefordshire Renewable Energy Study
Medium Scale Wind
Energy Resource by Ward - Level 6b

Project Ref: 42-0347	Drg. Ref: Figure 4.9		
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