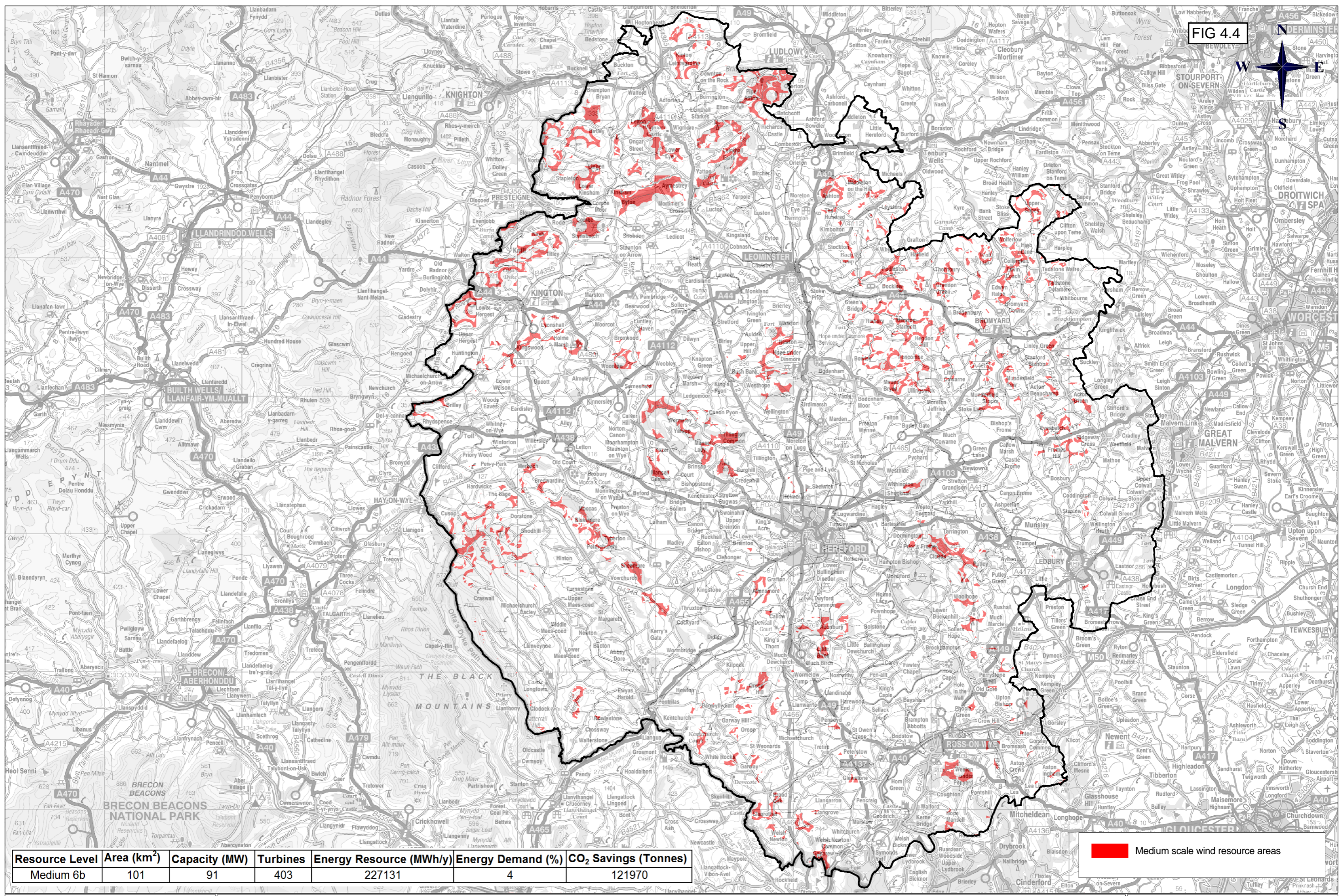


FIG 4.4



Resource Level	Area (km ²)	Capacity (MW)	Turbines	Energy Resource (MWh/y)	Energy Demand (%)	CO ₂ Savings (Tonnes)
Medium 6b	101	91	403	227131	4	121970

Medium scale wind resource areas

Scale: 0 to 10 kilometres
 1: 250 000 @ A3

Client: **wardell armstrong** and **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 an 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)

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

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Herefordshire Renewable Energy Study
 Medium Scale Wind
 Raw Resource Areas - Level 6b

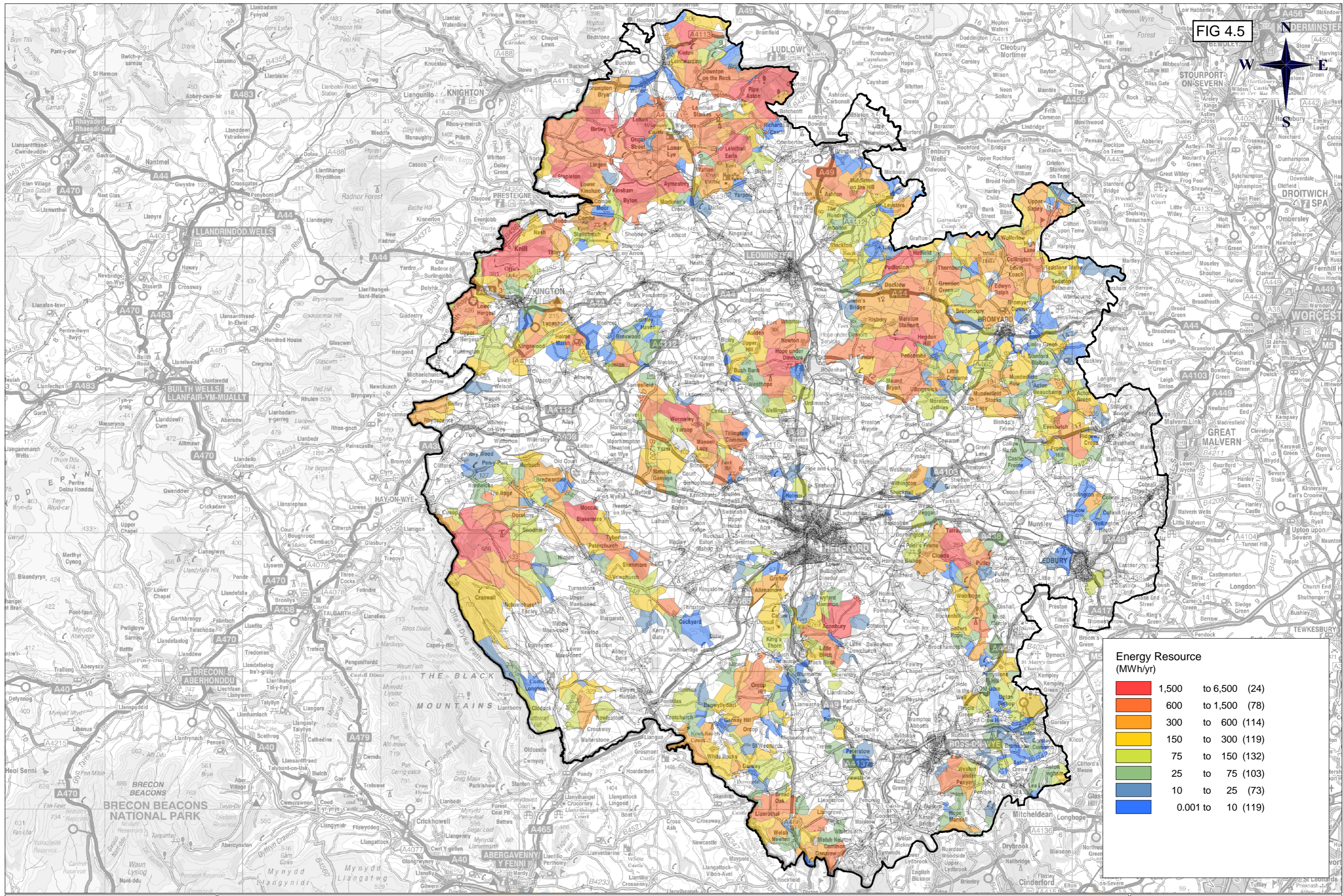
Project Ref: 42-0347
 Date: 29 JUL 2010

Checked: S. Clarke
 Date: 29 JUL 2010

Dwg Ref: Figure 4.4
 Date: 29 JUL 2010

Drawn: S. Allen
 Date: 29 JUL 2010

FIG 4.5



Energy Resource (MWh/yr)	
	1,500 to 6,500 (24)
	600 to 1,500 (78)
	300 to 600 (114)
	150 to 300 (119)
	75 to 150 (103)
	10 to 25 (73)
	0.001 to 10 (119)

Scale: 1:250 000 @ A3

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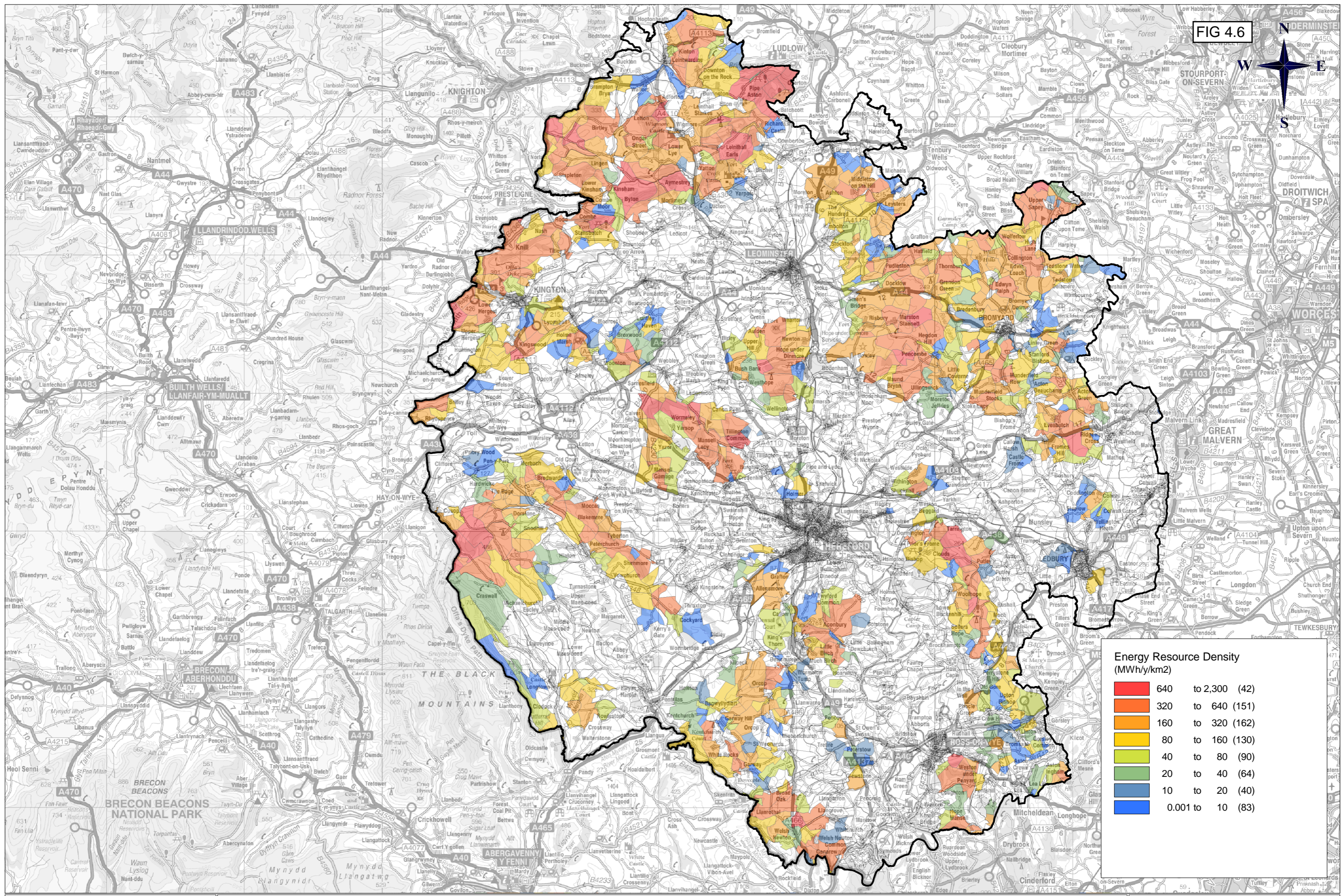
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Project Ref: 348600E : 245900N Map Ref: Landranger Map:149 - OS 100K Ref: SO

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

Project Ref: 42-0347	Dwg Ref: Figure 4.5
Drawn: S. Clarke	Date: 29 JUL 2010
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FIG 4.6



Energy Resource Density (MWh/y/km2)	
640 to 2,300	(42)
320 to 640	(151)
160 to 320	(162)
80 to 160	(130)
40 to 80	(90)
20 to 40	(64)
10 to 20	(40)
0.001 to 10	(83)

Scale: 1:250 000 @ A3

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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 an 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)
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BNF Ref: 348600E : 245900N Map Ref: Landranger Map:149 - OS 100K Ref: S0

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

Project Ref: 42-0347	Dwg Ref: Figure 4.6
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Checked: S. Allen	Date: 29 JUL 2010