

Small Wind Systems

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Design and installation

- Micro - 0 – 1.5 kW
- Small - 1.5 – 15 kW
- Small-medium - 15 – 100 kW

Freestanding / Building mounted
Horizontal axis / Vertical axis

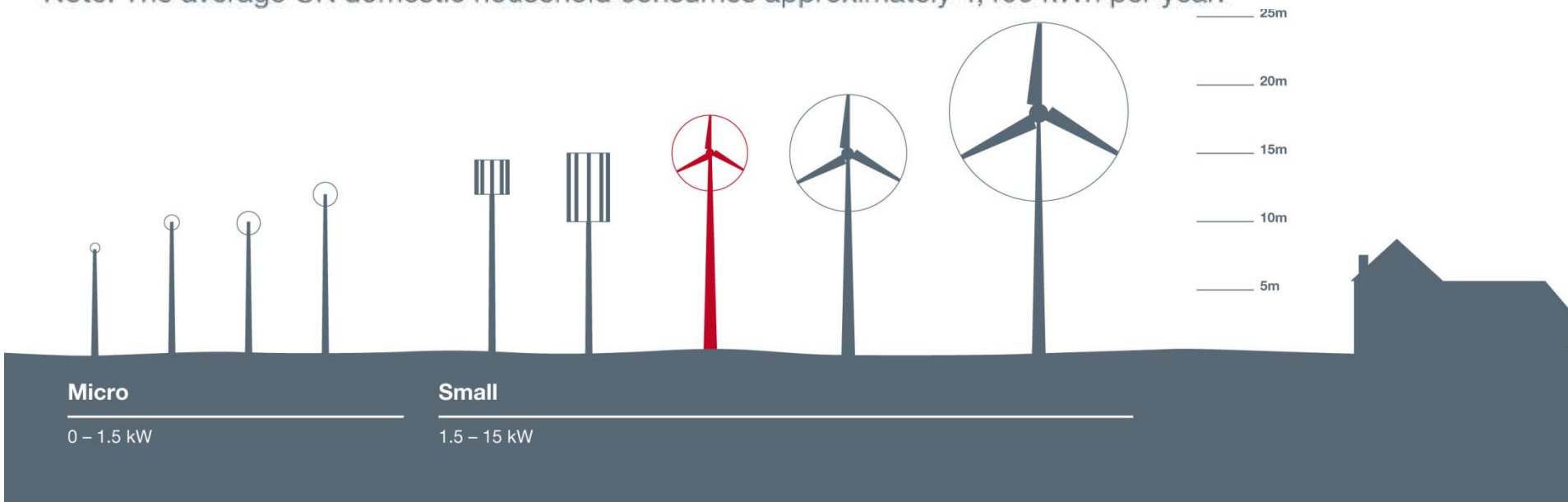
Off grid / On grid



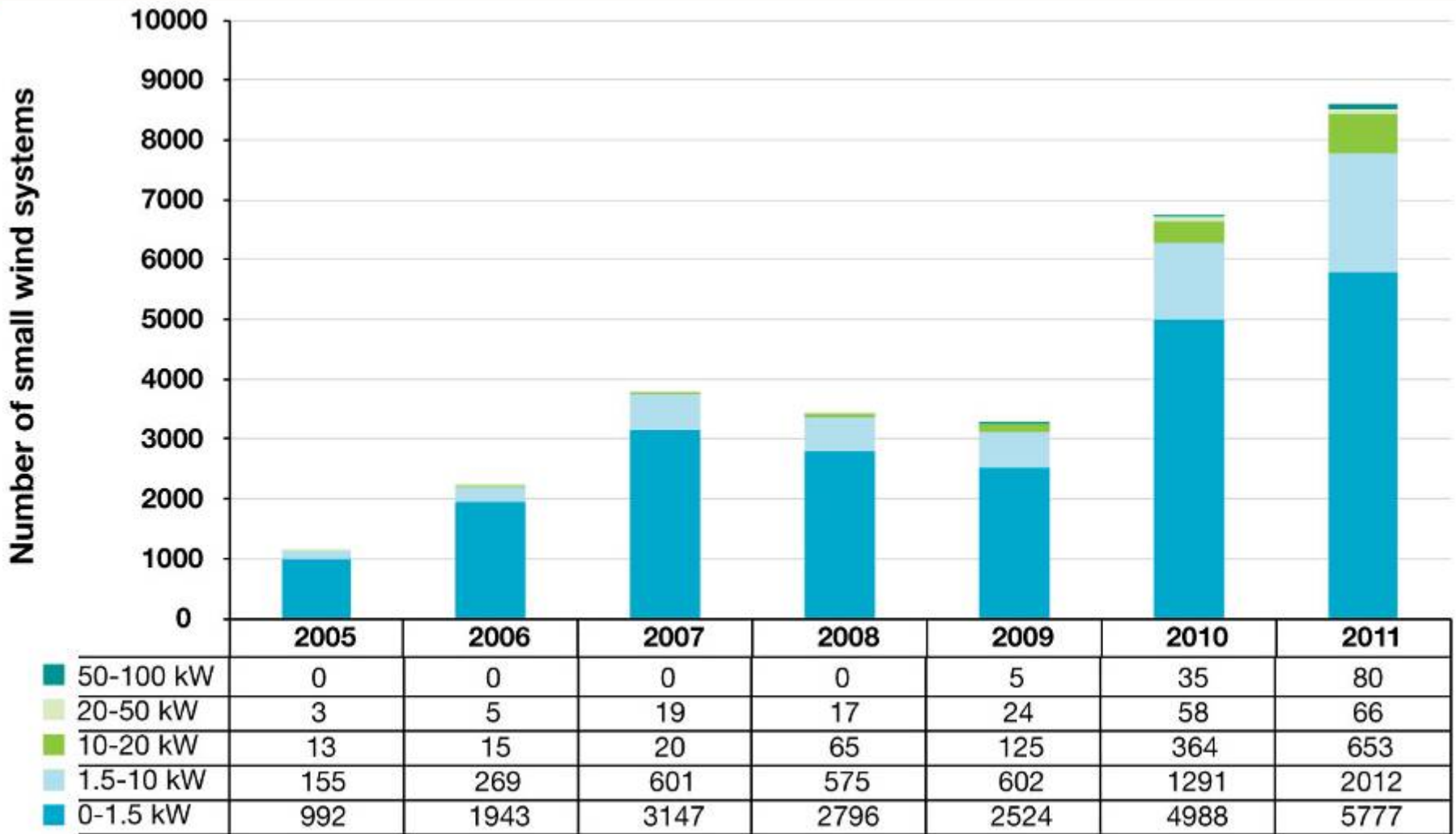
Scale

Small wind systems	Power (kW)	Annual energy production (kWh)	Total height (m)	Total installed cost (£)
Micro wind	0–1.5	Up to 1,000	10-18	0.5 – 5k
Small wind	1.5–15	Up to 50,000	12-25	2 – 50k
Small-medium wind	15–100	Up to 200,000	15-50	50 – 250k

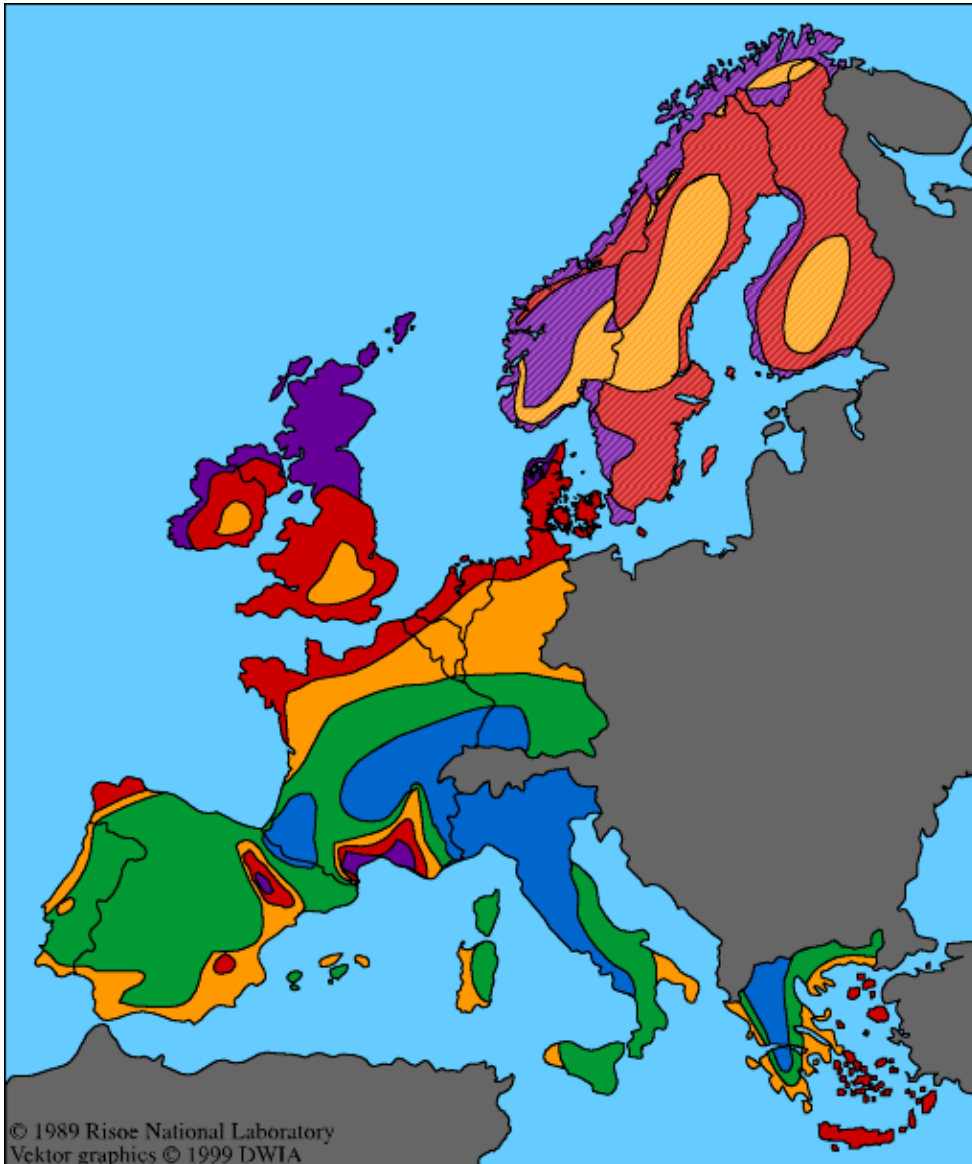
Note: The average UK domestic household consumes approximately 4,400 kWh per year.



UK annual deployment



Why is the UK a leading market?



- Best resource in EU
- Aware consumers
- Electricity price
- Affluent consumers
- Financial incentives
- Existing industry

UK micro and small wind industry



- Long history - 30+ years
- Over 20 micro and small wind manufacturers
- Export ~60% of output to over 100 countries
- Employs 1,755 UK jobs

Industry standards



BWEA small wind turbine standard 2008

Certified by BRE

Reference Annual Energy **6,780** kWh

Annual average wind speed of 5 m/s (11 mph). Your performance may vary.

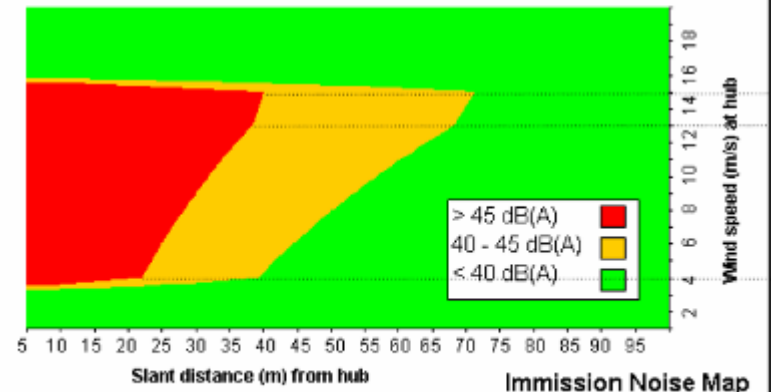
Industry standards are there to help consumers and planners

APPROVED PRODUCT



ACOUSTIC NOISE LEVELS

Turbine Make:		Model:				
NOISE EMISSION LEVEL		IMMISSION LEVEL		CHARACTER		
$L_{W,0m/s}$	82	Noise slope (dB/m/s)	0.53	BWEA $L_{p,60m}$	38	X
				BWEA $L_{p,25m}$		



National policy and Guidance

- Planning and Climate Change – Supplement to PPS 1
- PPS22 – Renewable Energy and Companion Guide
- DECC Microgeneration Strategy - under consultation

RenewableUK technical planning guidance for small wind systems is due soon

Information requirements

What information Planners need

- Statement of compliance with standards set in MCS
- Scale drawings – inc site boundary
- “Supporting environmental information”

What information is NOT required

- Demonstration of performance
- Detailed noise assessment
- Detailed EIA studies, eg:
 - ✓ *transport*
 - ✓ *hydrology*
 - ✓ *contaminated land, etc*

Questions