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Small Wind Systems

Indre Vaizgelaite
Small Wind Systems Manager
RenewableUK

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

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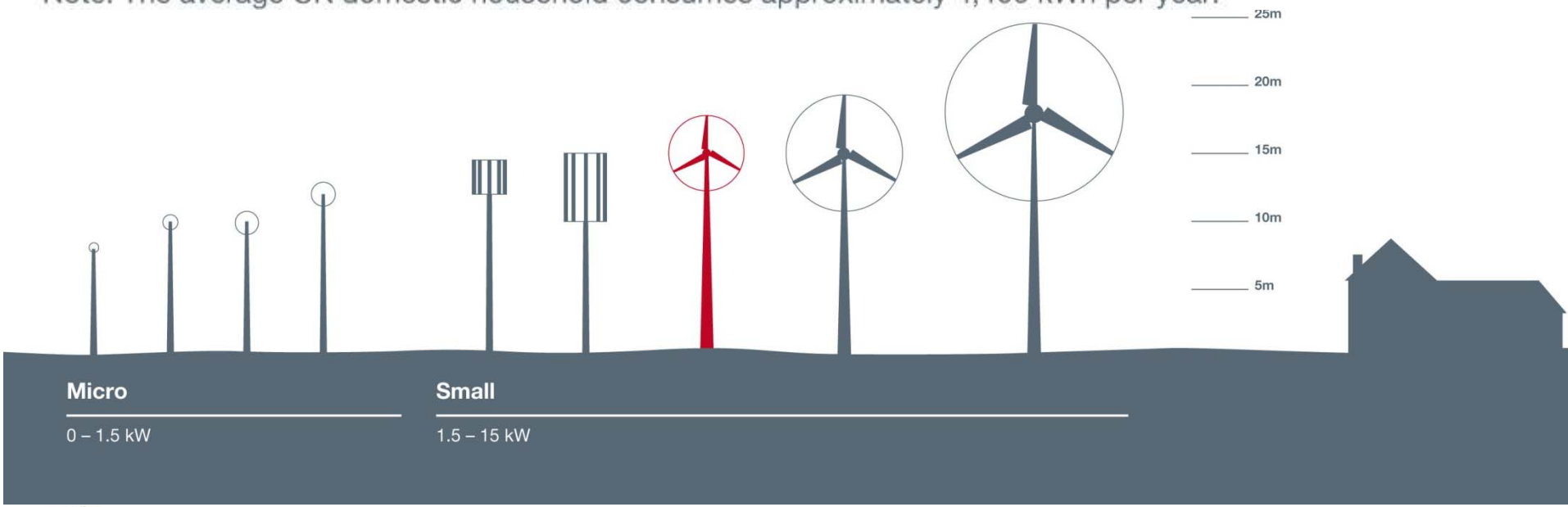
Scale

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.



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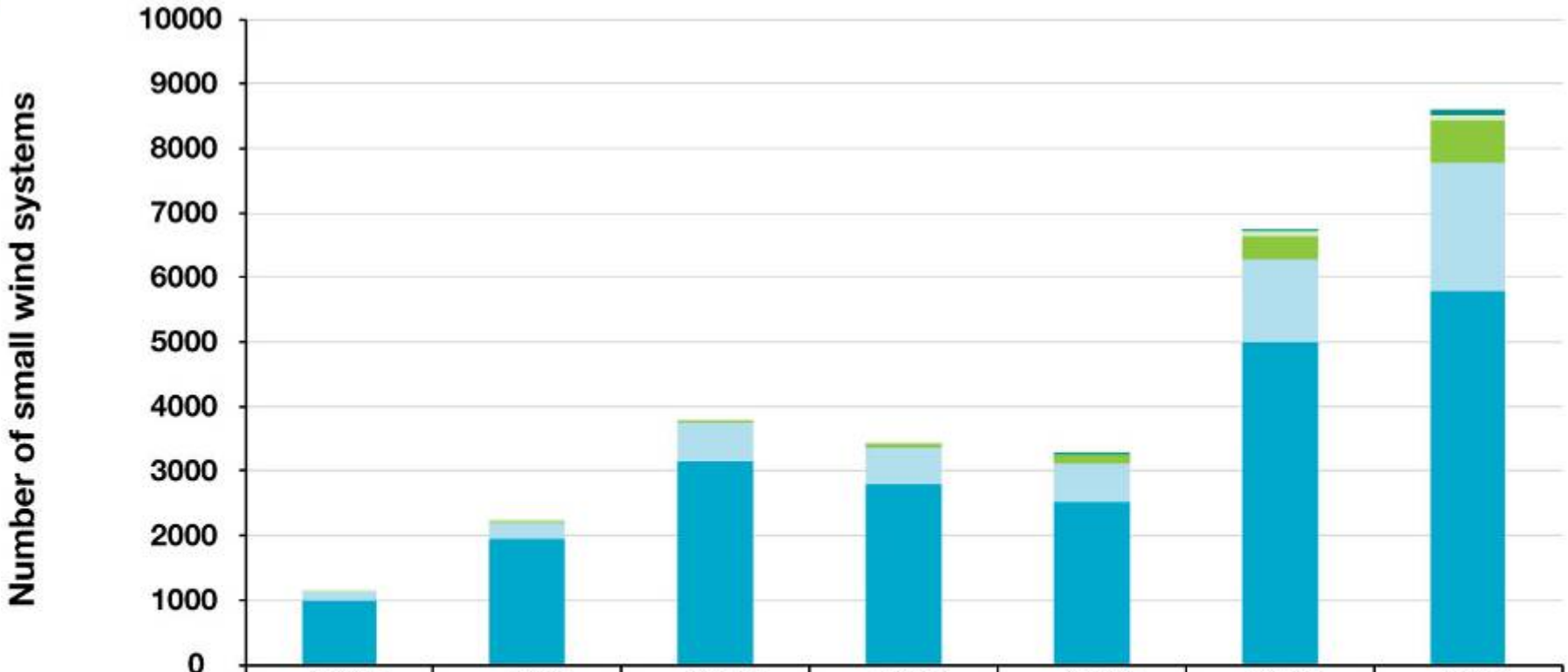
UK annual deployment



	2005	2006	2007	2008	2009	2010	2011
50-100 kW	0	0	0	0	5	35	80
20-50 kW	3	5	19	17	24	58	66
10-20 kW	13	15	20	65	125	364	653
1.5-10 kW	155	269	601	575	602	1291	2012
0-1.5 kW	992	1943	3147	2796	2524	4988	5777

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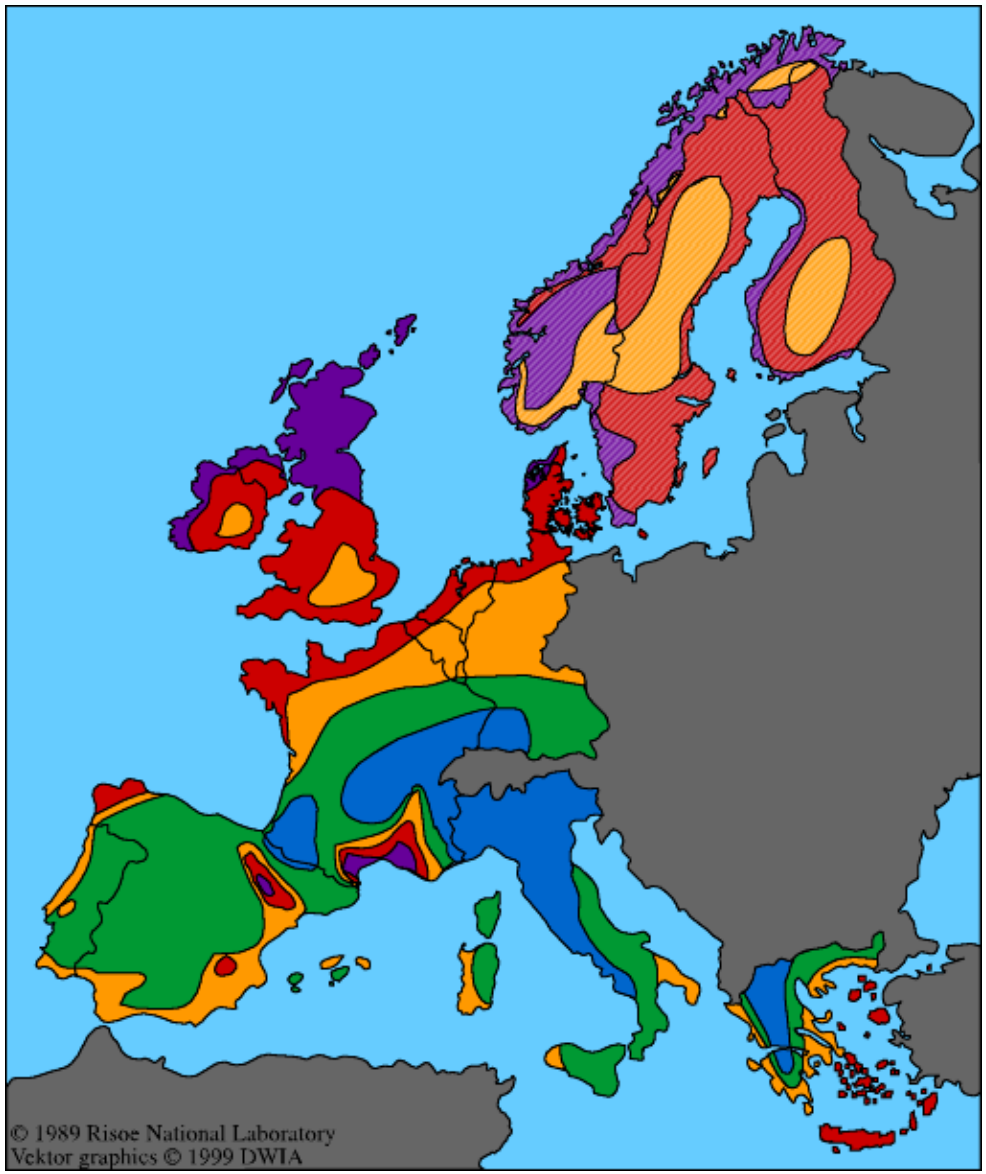
Why is the UK a leading market?



- 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

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Industry standards

BWEA small wind turbine standard 2008

Certified by BRE

Reference Annual Energy **6,780** kWh

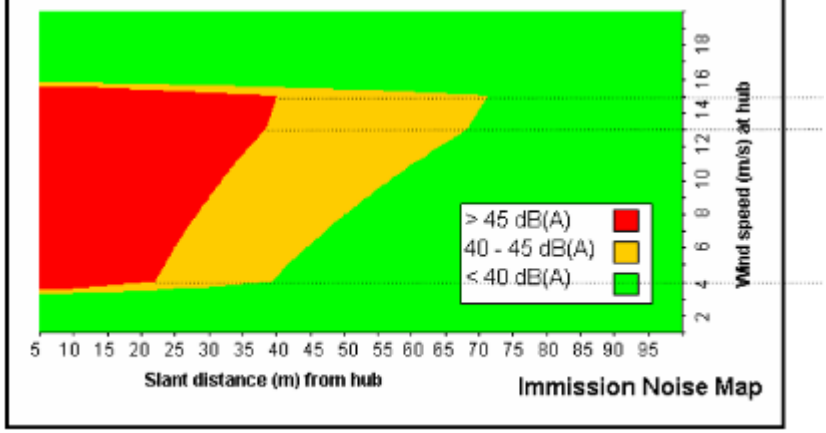
Annual average wind speed of 5 m/s (11 mph). Your performance may vary.

Industry standards are there to help consumers and planners

APPROVED PRODUCT

MCS

ACOUSTIC NOISE LEVELS						
Turbine Make:				Model:		
NOISE EMMISSION LEVEL				IMMISSION LEVEL		CHARACTER
$L_{W,8m/s}$	82	Noise slope (dB/m/s)	0.53	BWEA $L_{p,60m}$	38	X
				BWEA $L_{p,25m}$	45	



National policy and Guidance

- The Climate Change (Scotland) Act 2009
- Securing a Renewable Future: Scotland's Renewable Energy
- Scottish Planning Policy
- PAN 45: Renewable Energy Technologies and its Micro Renewables Annex

RenewableUK technical planning guidance for small wind systems is due soon

Information requirements

What information Planners will need

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

What information that is NOT required

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

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Questions