

Small wind systems

27 April 2010

International Small Wind Conference

Gemma Grimes, Head of Onshore Renewables

RenewableUK

- Established in 1978
- 600 corporate members
- Wind, wave, and tidal energy



- Voice of the UK small scale wind sector

Small wind system designs + setup

Micro - 0.1 – 1.5 kW

Small - 1.5 – 15 kW

Small-medium - 15 – 100 kW

Horizontal axis / Vertical axis

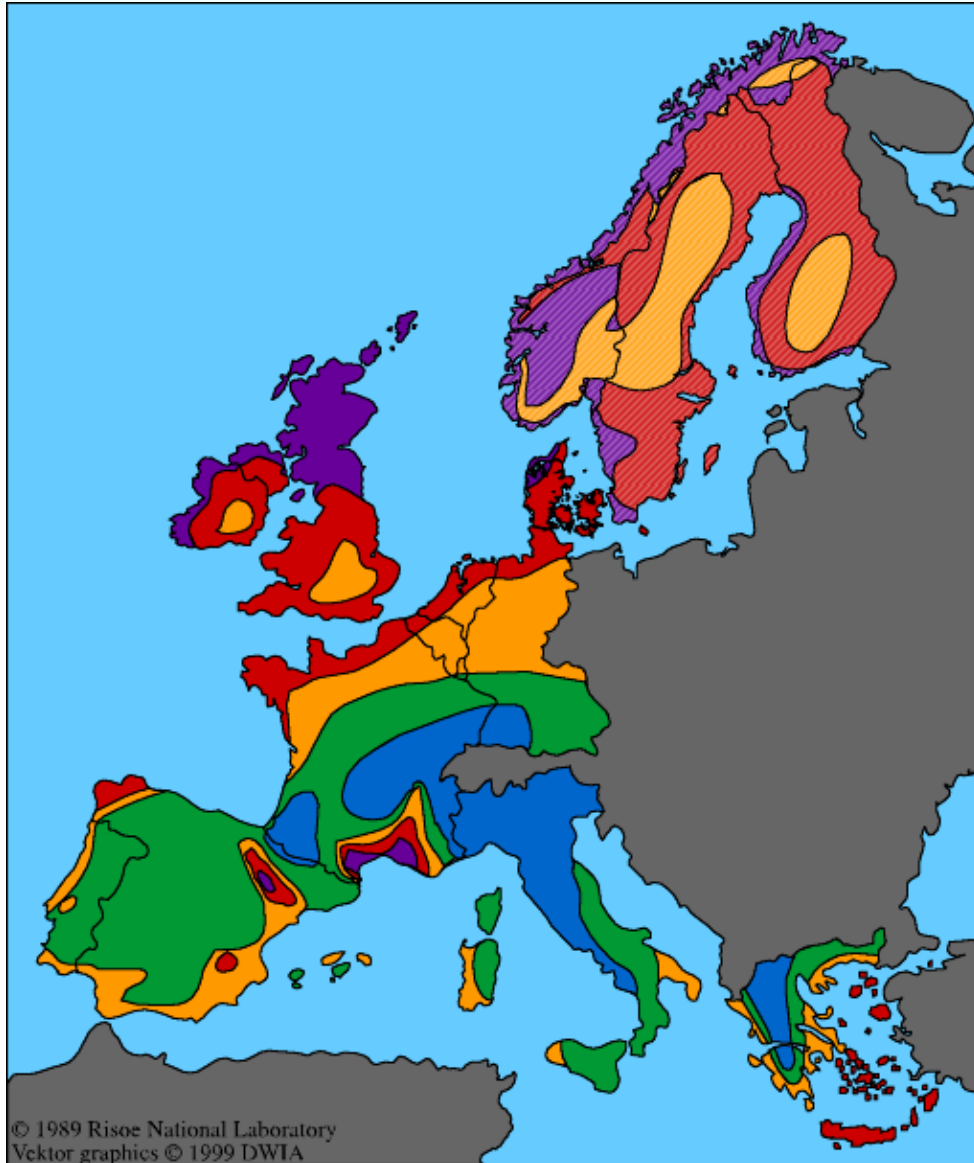
Freestanding / Building mounted

Off grid / On grid

Heat applications



Why is the UK a leading market?



- Best resource in EU
- Aware consumers
- High electricity price
- Affluent consumers
- UK manufacturers

Benefits:

- Environment
- Economic
- Employment

MCS & Industry standards

APPROVED PRODUCT



BWEA small wind turbine
standard 2008

Certified by

Reference
Annual
Energy **6,780** kWh

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

UK is first in the world to introduce robust industrial standards for small wind systems: www.microgenerationcertification.com

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
- Employ 1,755 UK jobs

UK Feed-In Tariff

Wind band no.	Band scope	2010 tariff (£/kWh)
1 (Micro)	0 - 1.5 kW	£ 0.345
2 (Small)	1.5 - 15 kW	£ 0.267
3 (Small-medium)	15 - 100 kW	£ 0.241
4 (Medium)	100 - 500 kW	£ 0.188
5 (Community)	500 - 1500 kW	£ 0.094
6 (Utility)	1500 - 5000 kW	£ 0.045

Features:

- Generation not export
- Export tariff (3p/PPA)
- Index linkage (RPI)
- 20 year tariff life
- MCS linkage
- Starts: 1st April 2010

Clean Energy Cashbacks (Feed in tariffs)

The benefits:

Generation tariff

Export tariff

Reduced energy bills

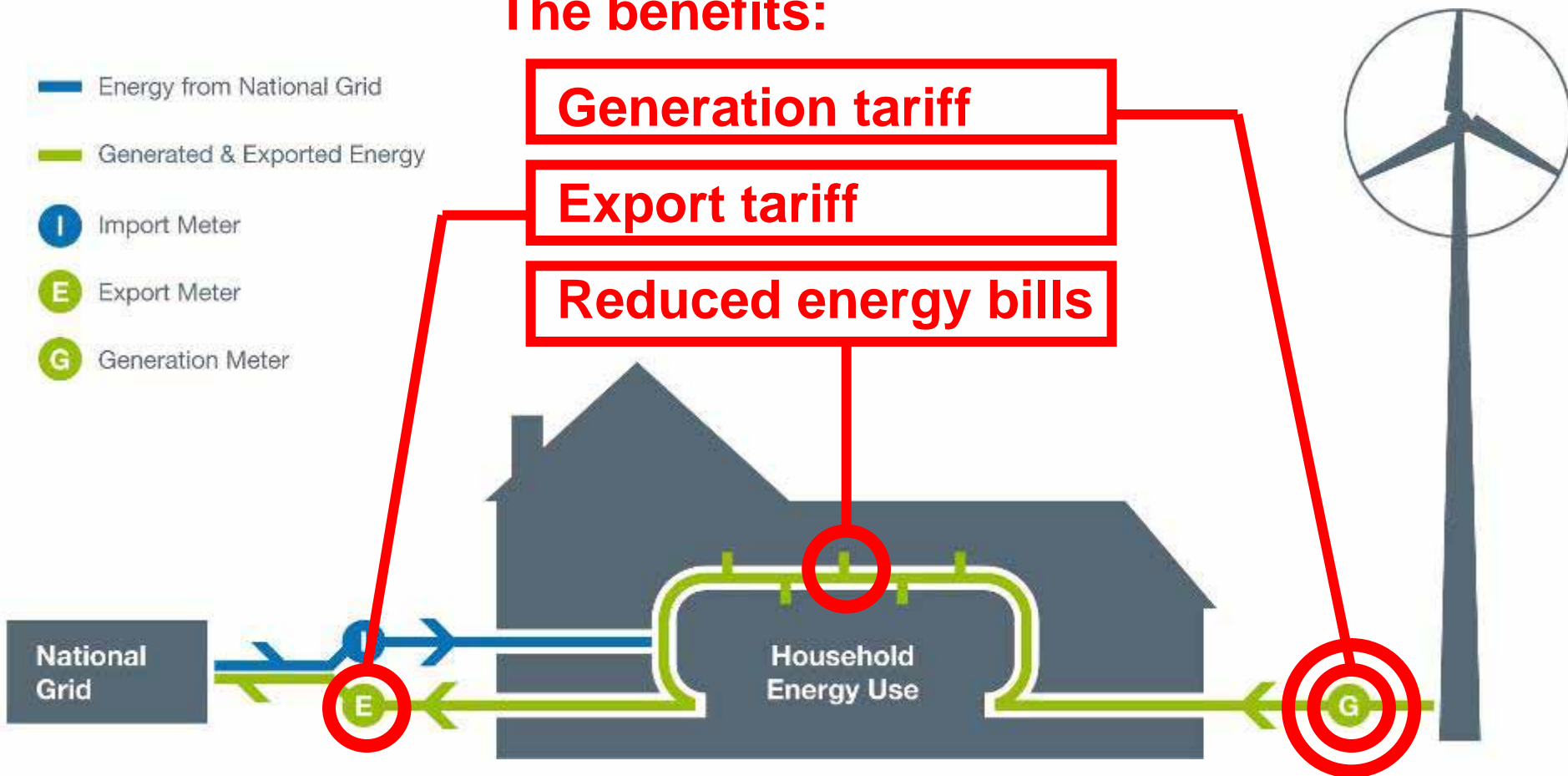
— Energy from National Grid

— Generated & Exported Energy

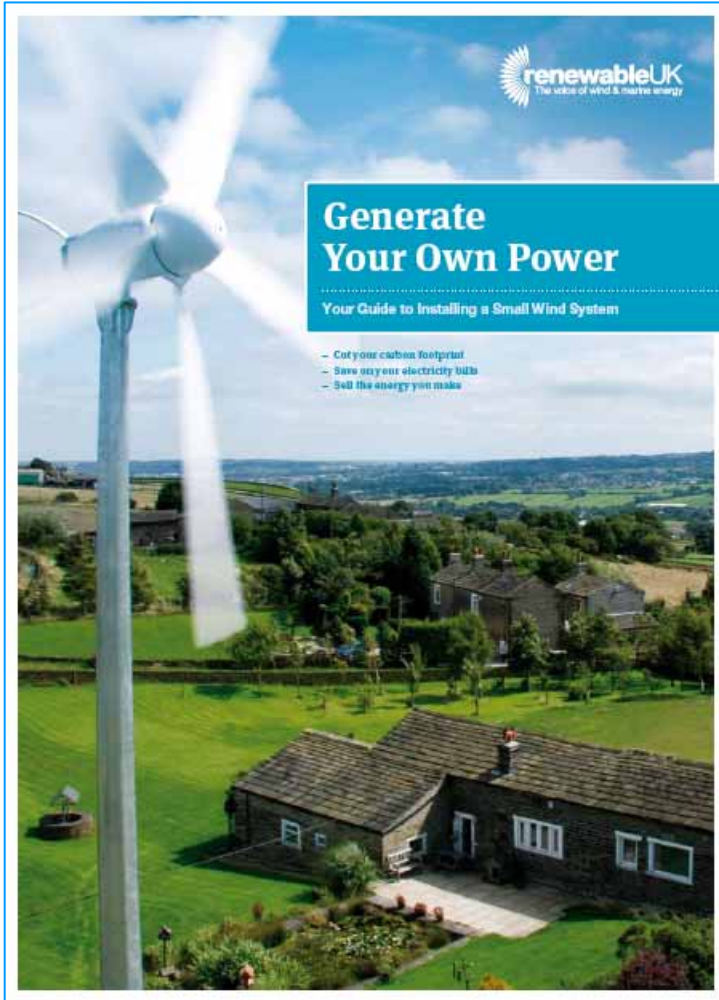
I Import Meter

E Export Meter

G Generation Meter



Other RenewableUK small publications



Customer guide to small wind:

Technology introduction

Siting

Planning + Technical requirements

Industry standards

Financial incentives

Case studies