

The UK Small Wind Industry - a Roadmap for Success

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11th October 2006

The Good - Mass Market Credibility

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Windsave Wind Turbine System - WS1000PS T2



Only £1498.00

NEW

Qty: [ADD TO BASKET](#)

Delivery usually within 4 weeks

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EAN 5060124830049

Product Information

The Windsave wind turbine generating system is a "renewable energy" device that is "wind powered" and generates electricity synchronous with the mains supply. This system kit comprises of; Windsave Generator, 3 Bladed Fan, Tail Fin, Slip Ring/Swivel Assembly, Support Pole, Mounting Brackets, Wiring,

The Bad - Media Backlash

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28 September 2006

£50K WIND POWER PLAN SAVES £50

WIND turbines installed at five schools at a cost of £50,000 produced savings of less than £50 in their first year.

The windmills were put up on the primary school rooftops in Fife by the local authority as part of their renewable energy scheme.

However, the pilot project has been riddled with technical problems - one school saved only £1.50 in a year.

Andrew Arbuckle, Lib Dem MSP for Mid Scotland and Fife, said the scheme at Auchtertool, Canmore, Collydean, New Gilston and Largoward primaries was "half-hearted" and a "very poor return" on the investment.

But Fife Council have confirmed they are "committed" to installing renewable energy devices at many buildings.

NO SMOKING IN PUBLIC OR WORK PLACES!

"You forget that cannabis was downgraded from a class B to a class C drug. If the government was so worried"...Caz, Bury Lancashire

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CRIME

"Aunty, everyone has the ability to do penance, learn and reconcile. Whilst there is no doubting the mans"...Dod from Aberdeen

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CURRENT AFFAIRS

"Jeez, some things never change eh. "lets subjugate the Jocks" was the cry. You

The Ugly - Potential Disaster



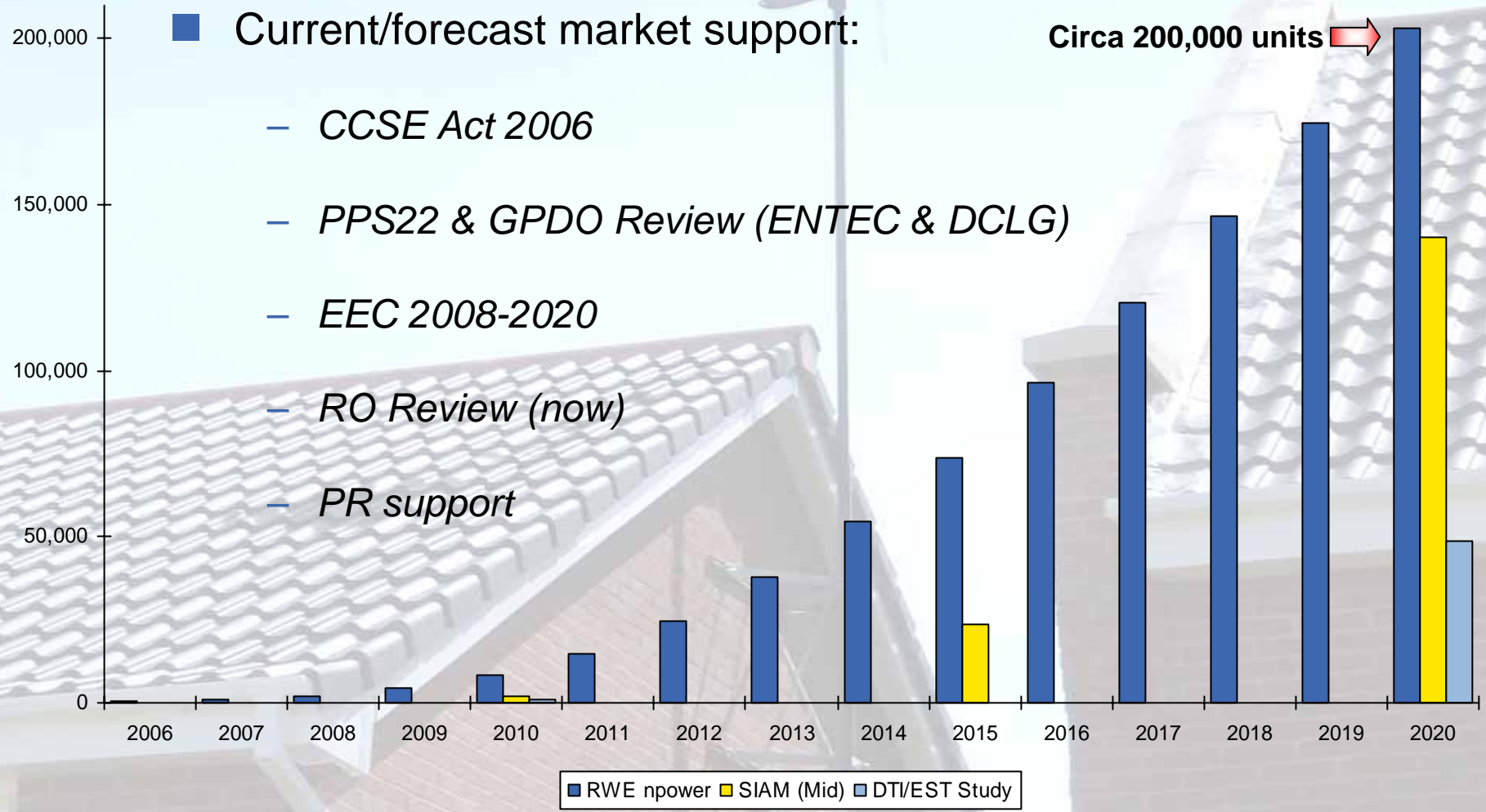
The Potential Market (UK plc)

- Small wind represents a relatively cost-effective method for decentralised renewable electricity generation
- More importantly, there is a significant global market in existence:
 - US potential of 15m homes and 1m small businesses¹
 - 2 billion people worldwide do not have access to electric power¹
 - In China, 100,000 units have been installed to off-grid homes²
 - The Japanese small wind industry market is growing by 30-40%/a
- The opportunity exists for UK companies to compete in the multi-billion \$ industry

1. AWEA Small Wind Industry Roadmap, 2002

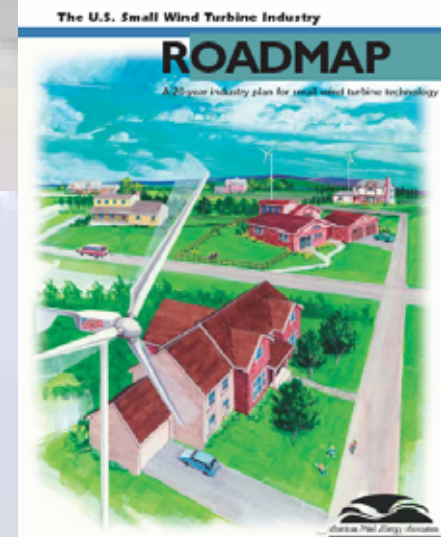
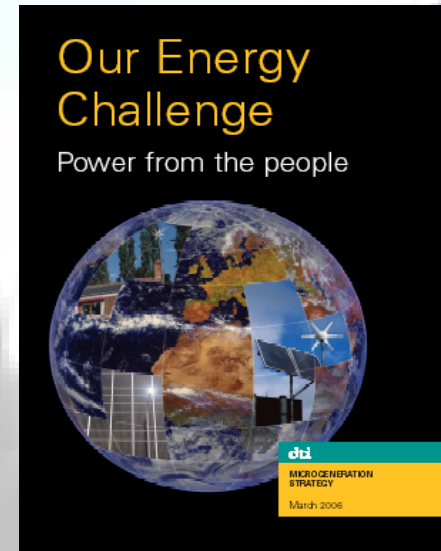
2. Renewable Energy Business in China, Junfeng, 1999

The Potential Market (UK)



Roadmap context

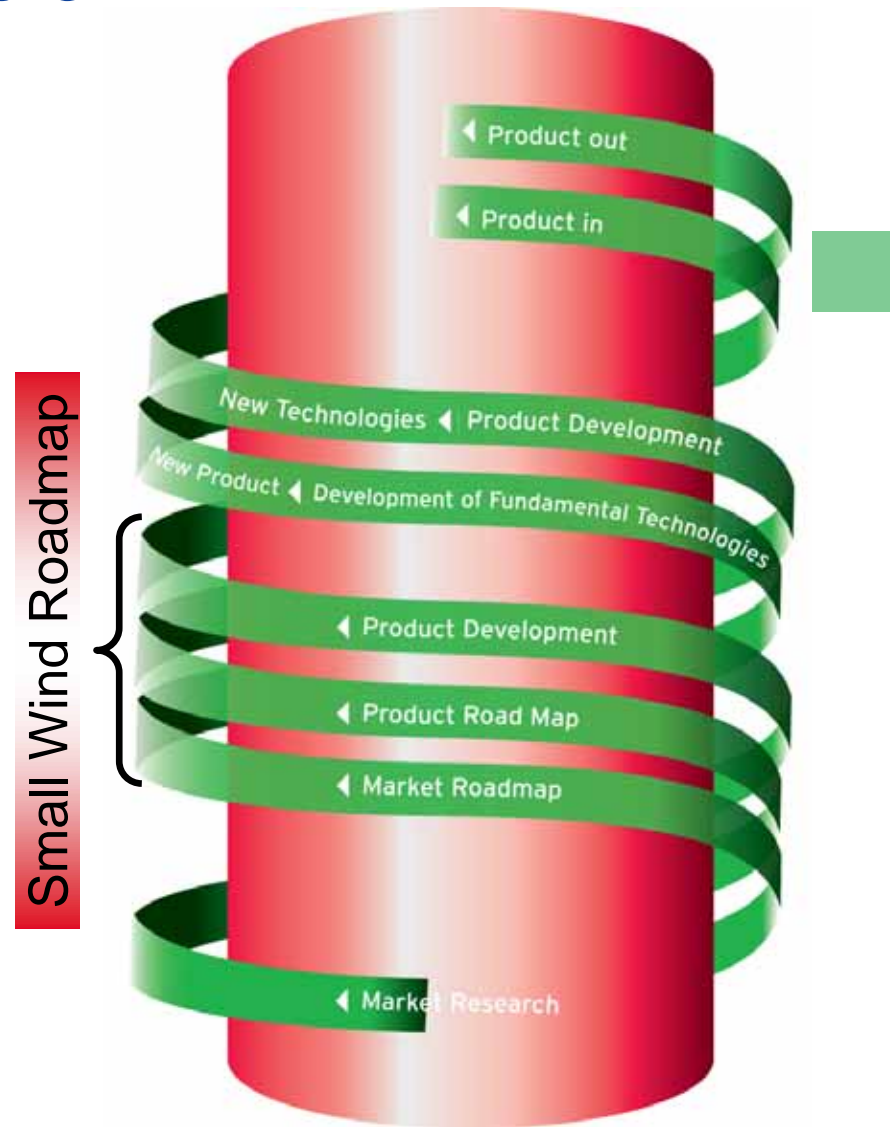
- To develop an effective strategy to support the UK small wind industry make the transition from cottage to mass market industry
- DTI Microgeneration Strategy
 - *DTI commitment to work with industry to develop a route map for each microgeneration technology*
 - *Financial support through the Low Carbon Buildings Programme (Phase 1 & 2)*
- AWEA Roadmap produced in 2002
 - *The US Small Wind Turbine Industry*
 - Proposed adoption of AWEA technical standards (International reciprocity)



The Development Cycle

- A Roadmap identifies:
 - Critical support elements
 - Technology gaps
 - R&D leverage

- For the small wind industry in the UK this means:
 - Technology barriers
 - Policy barriers
 - Market barriers



Identified Barriers

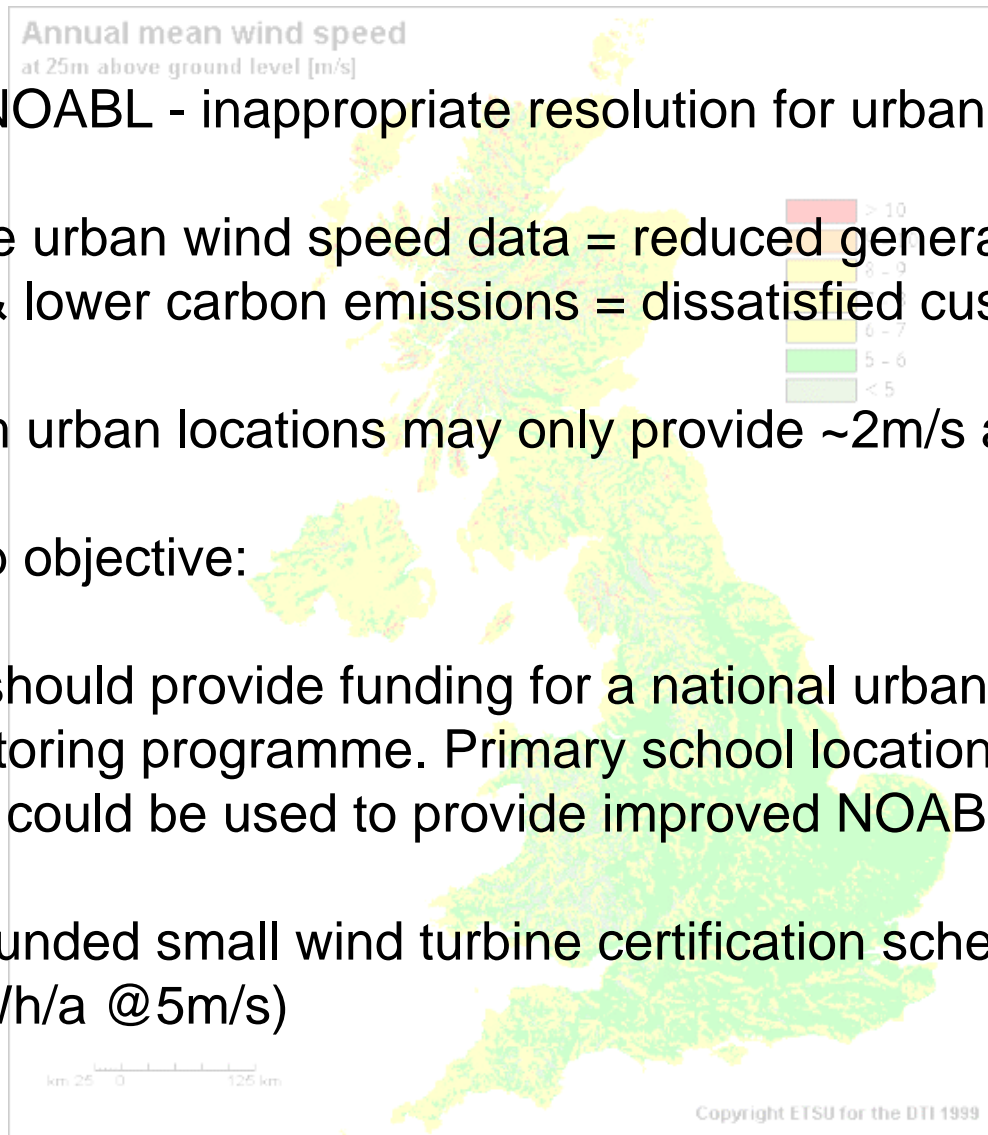
| Barriers | <i>Near-term</i> | <i>Mid-term</i> |
|------------|---|---|
| Technology | <ul style="list-style-type: none"> ■ Installation issues ■ Reducing noise levels ■ Achieving reliability ■ Inverter design for grid connect ■ Limited Capacity | <ul style="list-style-type: none"> ■ Manufacturing investment limitations ■ Continued support for R&D |
| Policy | <ul style="list-style-type: none"> ■ Public concern - NIMBY ■ DNO & Utility acceptance ■ Planning regulations | <ul style="list-style-type: none"> ■ Sustained national incentives ■ Improvements in metering & settlement processes ■ Domestic tax incentives |
| Market | <ul style="list-style-type: none"> ■ Effective standards ■ Low industry visibility ■ Misconceptions about: <ul style="list-style-type: none"> ■ wind resource ■ savings (£ or CO₂) | <ul style="list-style-type: none"> ■ Support for export markets ■ Insufficient capitalisation ■ Supply chain integration |

Medium Volume Manufacturing

- Represents a significant investment step for many small companies
- Investment must be recovered. Tooling and development costs are normally reflected in a 5 year NPV (heavily influenced by volume)
- Transition to medium volume production enables:
 - Reduction in production time & cost per unit
 - Better consistency of standards (quality, processes, workflows)
 - Greater flexibility in meeting increased volumes
- Roadmap objective:
 - DTI & HMT to assist industry with the transition to medium volume manufacturing (fiscal or facilitation)

UK Wind Resource (urban areas)

- Beware NOABL - inappropriate resolution for urban wind
- Unreliable urban wind speed data = reduced generation = less savings & lower carbon emissions = dissatisfied customer
- Data from urban locations may only provide ~2m/s average
- Roadmap objective:
 - DTI should provide funding for a national urban wind speed monitoring programme. Primary school locations (>20k in GB³) could be used to provide improved NOABL resolution
 - DTI funded small wind turbine certification scheme (x kWh/a @5m/s)



3. Source DfES

Can the UK Capitalise?

- Yes....A recent Delta Energy & Environment report identifies 20 companies developing or manufacturing u-wind turbines. This figure increases to over 35 for units of 0.5kW or less....15 of these are from the UK
- But.... There is a clear need for Government support, identified as:
 - DTI commitment to joint fund technology roadmaps for microgeneration products
 - Industry partnership through the BWEA to achieve market credibility & consistency (definition, standards, certification)
 - Manufacturing capability must be addressed through investment programme