Cranborne Chase and West Wiltshire Downs AONB Climate Change Seminar

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Feed-in Tariffs and the Renewable Heat Incentive

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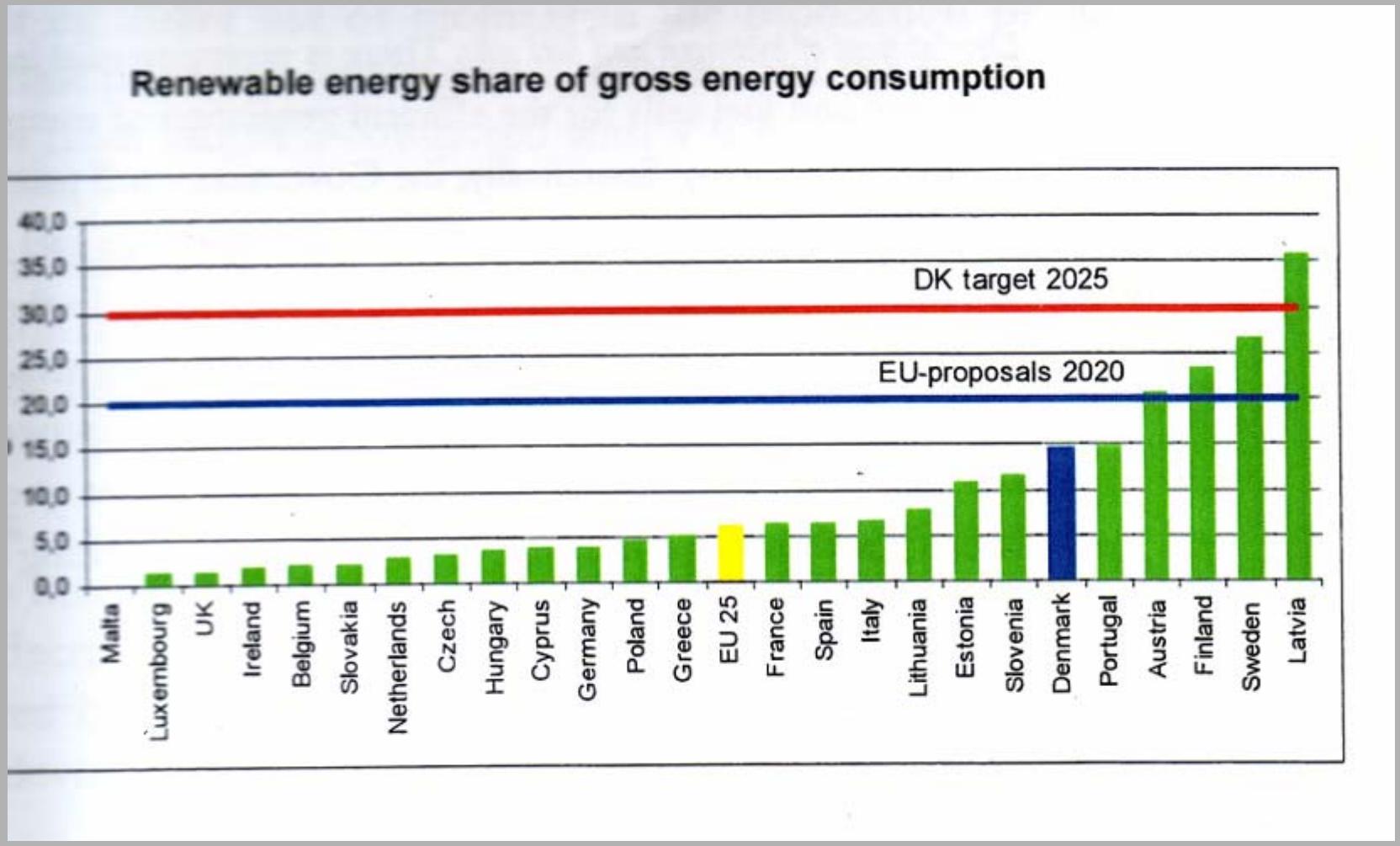
A challenge -20% of Europe's energy from renewables by 2020



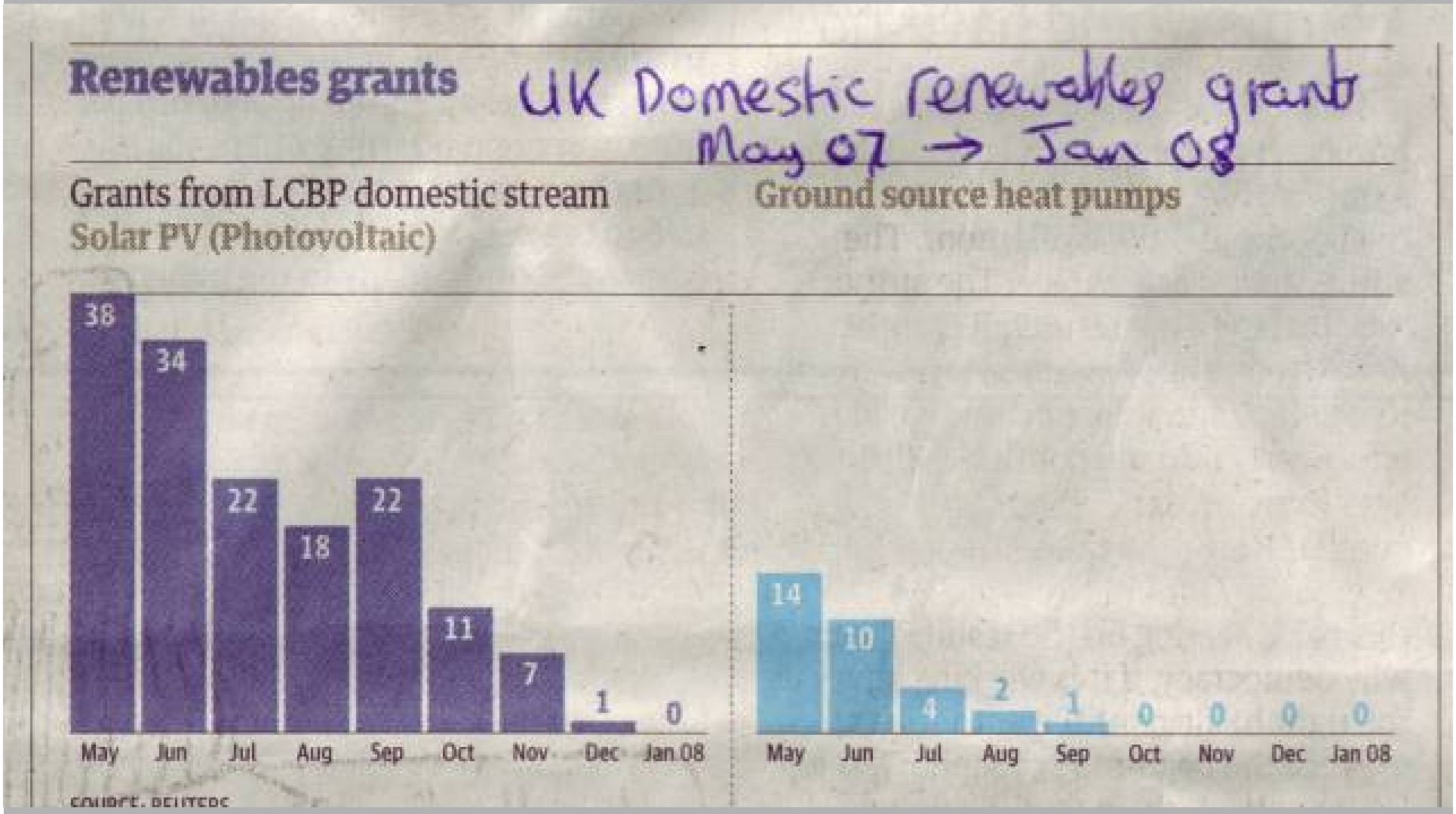
A transformation in the UK's energy supply is required in the next decade

The transformation of the UK energy supply has already started

The Green Investment Bank will be established in the next few months:

"The scale of the investment required to meet UK climate change and renewable energy targets is unprecedented, with estimates of investment required reaching £550 billion between now and 2020. In contrast, only £11 billion was invested in Britain's "dash for gas" during the 1990s, which was considered transformational at the time"

UK Domestic renewable energy grants- a policy failure?



Feed-in Tariff installations to 1st April to 14th Sept 2010

	PV	Wind	Hydro	Micro-CHP	Total
SW	1884 4.78MW	78 0.55MW	15 0.24MW	-----	1977 5.57MW
UK	9223 22.9MW	543 8.87MW	70 4.35MW	3 0.003MW	9849 36.12MW

What are renewable energy feed-in tariffs?

Feed-in tariffs (FITs) were introduced for small scale renewable electricity installations on 1st April 2010.

FITs are estimated to bring forward 750,000 microgeneration installations in the UK by 2020, or 10,000 in Dorset pro-rata

What are feed-in tariffs (FITs)?

- A government guaranteed payment for 20-25 years per kWh of renewable electricity generated.
- Payments are tax free for householders (not for businesses) and increase annually in line with the retail price index.
- Businesses, voluntary and and public sector installations may qualify for FITs
- There is a price “degression” as capital costs of installations fall due to the volume of the market.
- The cost of feed-in tariffs is passed to all electricity users and is estimated to add £2 per year to household electricity bills

Table of generation tariffs to 2020

Technology	Scale Scheme Year	Tariff level for new installations in period (p/kWh) (NB tariffs will be inflated annually)											Tariff lifetime (years)
		1 1/4/10 – 31/3/11	2 to 31/3/12	3 to 31/3/13	4 to 31/3/14	5 to 31/3/15	6 to 31/3/16	7 to 31/3/17	8 to 31/3/18	9 to 31/3/19	10 to 31/3/20	11 to 31/3/21	
Anaerobic digestion	≤500kW	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	11.5	20
Anaerobic digestion	>500kW	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	20
Hydro	≤15 kW	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	19.9	20
Hydro	>15-100 kW	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	17.8	20
Hydro	>100 kW-2 MW	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	11.0	20
Hydro	>2 MW – 5 MW	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	20
MicroCHP pilot*	≤2 kW*	10*	10*	10*	10*	10*	10*	10*	10*	10*	10*	10*	10
PV	≤4 kW (new build**)	36.1	36.1	33.0	30.2	27.6	25.1	22.9	20.8	19.0	17.2	15.7	25
PV	≤4 kW (retrofit**)	41.3	41.3	37.8	34.6	31.6	28.8	26.2	23.8	21.7	19.7	18.0	25
PV	>4-10 kW	36.1	36.1	33.0	30.2	27.6	25.1	22.9	20.8	19.0	17.2	15.7	25
PV	>10-100 kW	31.4	31.4	28.7	26.3	24.0	21.9	19.9	18.1	16.5	15.0	13.6	25
PV	>100kW-5MW	29.3	29.3	26.8	24.5	22.4	20.4	18.6	16.9	15.4	14.0	12.7	25
PV	Stand alone system**	29.3	29.3	26.8	24.5	22.4	20.4	18.6	16.9	15.4	14.0	12.7	25
Wind	≤1.5kW	34.5	34.5	32.6	30.8	29.1	27.5	26.0	24.6	23.2	21.9	20.7	20
Wind	>1.5-15kW	26.7	26.7	25.5	24.3	23.2	22.2	21.2	20.2	19.3	18.4	17.6	20
Wind	>15-100kW	24.1	24.1	23.0	21.9	20.9	20.0	19.1	18.2	17.4	16.6	15.9	20
Wind	>100-500kW	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	18.8	20
Wind	>500kW-1.5MW	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	9.4	20
Wind	>1.5MW-5MW	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	20
Existing microgenerators transferred from the RO		9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	9.0	to 2027

* Note the microCHP pilot will support up to 30,000 installations with a review to start when the 12,000th installation has occurred

** "Retrofit" means installed on a building which is already occupied ;"New Build" means where installed on a new building before first occupation ; "Stand-alone" means not attached to a building and not wired to provide electricity to an occupied building

Hypothetical example of potential FIT income for a small 2kW solar photovoltaic (PV) installation

Assuming 2kWp solar PV installation costing £10,000 and 50% of the electricity generated is used on site and 50% exported to the grid.

Total financial benefit = £850 p.a. index linked to RPI for 25 years

Simple return 8.5% pa tax free and index linked

Guaranteed electrical output = 25 years

Hypothetical example – a village scale wind turbine

500kW community owned wind turbine

Assuming 25% capacity factor

Output = 500kW X 8760 hrs per year X 0.25

= 1,095,000 kWh

This is the annual electricity demand of 250 households

Income from FIT = £230,000 pa guaranteed for 20 years

Capital cost approx £900,000 (or £3600 per household if no bank borrowing)

Simple payback on capital investment = 4 years

The Renewable Heat Incentive (April 2011?)

• Opportunities for farmers to grow oil seed crops? Market for 1 million domestic oil boilers to run on biodiesel with a RHI subsidy of 50p/ litre

• Opportunity for woodfuel supply and sustainable woodland management

• RHI prices and conditions still out for public consultation

• Solar water heating, biomass (woodfuel) boilers, biodiesel for domestic oil boilers and heat pumps may be eligible for payments for renewable heat as from April 2011.

Small installations (1)

Technology	Scale	Proposed tariff (pence/ kWh) (2)	Deemed or metered (3)	Tariff lifetime (years)
Solid biomass	Up to 45 kW	9	Deemed	15
Bioliquids (7)	Up to 45 kW	6.5	Deemed	15
Biogas on-site combustion (5)	Up to 45 kW	5.5	Deemed	10
Ground source heat pumps (8) (9)	Up to 45 kW	7	Deemed	23
Air source heat pumps (9)	Up to 45 kW	7.5	Deemed	18
Solar thermal	Up to 20 kW	18	Deemed	20

Renewable energy planning issues within AONB's

Domestic solar PV and solar thermal panels are permitted development within AONB's and National Parks except on listed buildings and in conservation areas.

Land Use Consultants report to DECC Jan 2010:

Identify the type and level of renewable energy infrastructure that could be accommodated in designated landscape areas without compromising the purposes/ integrity of the designations

Solar farms?

Biogas (Anaerobic digestion) ?

No biomass in Shropshire!

Renewable energy - Dorset CC initiatives

Chris Huhne, Energy and Climate Secretary, introduced legislation in August 2010 to give local authorities powers to sell renewable electricity and benefit from feed-in tariffs.

He suggested that FITs could generate £100m per year income for UK local authorities, to be used for public benefit.

Solar PV at Underhill School, Portland

Renewable energy - Dorset CC initiatives

Solar PV on the roofs of schools and public buildings – self funded + “PV for Free” offers

St Mary’s School, Dorchester

Researching commercially viable renewable energy opportunities on County Council owned farms - solar PV on farm buildings and medium scale wind turbines. Investigating options for joint local authority investment / community share issue

Renewable energy - Dorset CC initiatives

Dorset CC has purchased 160 acres of woodland for sustainable woodland management and self-supply of woodchip from thinnings for heating schools and public buildings

The County Council plans to carry out a biomass district heating feasibility study in Dorchester to link County Hall, Dorchester Prison and the County Hospital with a heat network supplied from a single woodchip boiler

Thank you for your attention

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