

## Suffolk Climate Change Partnership: Feed in Tariff Opportunities

### Summary of the Government response to electrical Feed in Tariff consultation:

A series of financial packages to encourage the uptake of small scale renewable energy systems have been announced by DECC. The Clean Energy Cash Back scheme is made up of two programmes; the Electrical Feed in Tariff which launches in April 2010 and the Renewable Heat Incentive, which launches in April 2011.

Both schemes will guarantee a fixed minimum payment per kWh of either heat or electricity generated over a period of 20 years (25 years for Solar PV), giving householders, community groups and businesses the confidence to make long term investments in renewable energy systems. The tariff varies per technology but aims to give an overall return of investment no lower than 5% and most cases are much higher. All installations made since July 2009 will be eligible to receive these payments when the schemes are launched.

Here follows a few worked case studies, based on the tariff rates announced on 01/02/2010. They assume that 50% power is exported, the import price to be 15p/kWh and kWh output figures are based on industry estimates. Grants are not included in these calculations:

#### Domestic - Solar PV Case Study:

A 2.7kw system costing £13,700 to install would have an annual benefit of £1,155 (£930 FiT + £56 export bonus + £169 avoided import costs) and a 12 year payback, saving on average 1 tonne co2 per year. Return On Investment = 8.4%

#### School/ Village Hall - 11kw Wind Turbine Case Study:

An 11kw wind turbine costing £50,000 to install would have an annual benefit of £11,010 (£8,010 FiT + £750 export bonus + £2,250 avoided import costs) and a 4.5 year payback, saving on average 13 tonnes co2 per year. ROI = 22%

#### Community Scale - 225kW Wind Turbine Case Study:

A 225kw wind turbine costing £285,000 to install would have an annual benefit of £115,200 (£75,200 FiT + £10,000 export bonus + £30,000 avoided import costs) and a 2.5 year payback, saving on average 172 tonnes co2 per year. ROI = 40.4%

#### Key points:

- Technologies receiving payment from April 2010 include Solar PV, Wind, Hydro, Micro CHP and Anaerobic Digestion.
- Technologies receiving payment from April 2011 include Solar Thermal, Heat Pumps, Biomass systems, Biogas and Biodiesel.
- Payment rates are linked to inflation and are tax free.
- Payment rates for retrofitted domestic Solar PV (up to 4kW) set at 41.3p/kWh. This amounts to around £345 income per kW peak installed. (not including export bonus or avoided import costs).
- Inclusion of MicroCHP technology. These could replace domestic gas boilers, generating heat and electricity. Rate set at 10p/kWh electric output.
- Anaerobic Digestion suitable for agricultural locations and waste handling sites.
- Small wind turbines (less than 1.5kW) given highest wind payment at 34.5p/kWh despite their poor performance in recent studies. Should we be encouraging these? Advice and planning need to be careful to avoid poorly sited installations.
- Larger wind turbines have the best Return on Investment.
- All installations must be accredited under the Microgeneration Certification Scheme (MCS).

#### Relationship to Grants:

- Households can still claim the Low Carbon Buildings Programme grant (upto £2,500 for solar PV) and qualify for both electrical feed in tariffs AND the renewable heat incentive. This applies to all installations made since July 2009.
- Non profit organisations (LAs, Schools, Volunteer groups) claiming the Low Carbon Building Programme Phase 2 grant or Bioenergy Capital Allowance “may have to” (DECC’s wording) repay grant to qualify for FIT or RHI. This is to comply with State Aid rules. This issue will be dealt with on a case by case basis.
- Eligibility for FiT and RHI is not affected if receiving other non-central government grants.

Possible advice: get installations 100% funded but no FiT or RHI, or get installations part funded and claim FiT or RHI. The second option gives higher income in the long run.

#### Possible projects:

- Bulk buy scheme to bring down up front capital costs.
- 0% loans to help with up front capital outlay.
- Help establish a community energy co-operative that raises money through grants and local private investment to fund installations. All surplus revenue ringfenced for subsidising further renewables or energy efficiency projects.

#### Useful Links:

- <http://www.lowcarbonbuildings.org.uk/> - Household Grants
- <http://www.microgenerationcertification.org/> - Approved technology and installers.
- <http://www.lowcarbonwestoxford.org.uk> - A community renewables company who recently received £500,000 funding from DECC.
- <http://www.core.coop> - A community renewables company operating in the North East.

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## Appendix 1:

### Tariff levels for different technologies:

The tariff levels for the electricity financial incentives (pence), calculated to offer between 5-8% return on initial investment in the technology are:

#### Tariff levels for electricity financial incentives

Technology	Scale	Tariff level for new installations in period (p/kWh) [NB tariffs will be inflated annually]			Tariff lifetime (years)
		Year 1: 1.04.10- 31.03.11	Year 2: 1.04.11- 31.02.12	Year 3: 1.04.12- 31.03.12	
Anaerobic digestion	≤500kW	11.5	11.5	11.5	20
Anaerobic digestion	>500kW	9.0	9.0	9.0	20
Hydro	≤15 kW	19.9	19.9	19.9	20
Hydro	>15 - 100kW	17.8	17.8	17.8	20
Hydro	>100kW - 2MW	11.0	11.0	11.0	20
Hydro	>2kW - 5MW	4.5	4.5	4.5	20
MicroCHP pilot*	≤2 kW*	10*	10*	10*	10*
PV	≤4 kW (new build)	36.1	36.1	33.0	25
PV	≤4 kW (retrofit)	41.3	41.3	37.8	25
PV	>4-10kW	36.1	36.1	33.0	25
PV	>10 - 100kW	31.4	31.4	28.7	25
PV	>100kW - 5MW	29.3	29.3	26.8	25
PV	Standalone system	29.3	29.3	26.8	25
Wind	≤1.5kW	34.5	34.5	32.6	20
Wind	>1.5 - 15kW	26.7	26.7	25.5	20
Wind	>15 - 100kW	24.1	24.1	23.0	20
Wind	>100 - 500kW	18.8	18.8	18.8	20
Wind	>500kW - 1.5MW	9.4	9.4	9.4	20
Wind	>1.5MW - 5MW	4.5	4.5	4.5	20
Existing microgenerators transferred from the RO		9.0	9.0	9.0	to 2027

\*NB This tariff is available only for 30,000 microCHP installations. A review will take place when 12,000 units have been installed.

## Tariff levels for Renewable Heat Incentives

Technology	Scale	Tariffs (pence/kWh)	Tariff lifetime (years)
<b>Small installations</b>			
Solid biomass	Up to 45kW	9	15
Biodiesel	Up to 45kW	6.5	15
Biogas on-site combustion	Up to 45kW	5.5	10
Ground source heat pumps	Up to 45kW	7	23
Air source heat pumps	Up to 45kW	7.5	18
Solar thermal	Up to 20kW	18	20
<b>Medium installations</b>			
Solid biomass	45kW-500kW	6.5	15
Biogas on-site combustion	45kW-200kW	5.5	10
Ground source heat pumps	45kW-350kW	5.5	20
Air source heat pumps	45kW-350kW	2	20
Solar thermal	20kW-100kW	17	20
<b>Large installations</b>			
Solid biomass	500kW and above	1.6 -2.5	15
Ground source heat pumps	350kW and above	1.5	20
Biomethane injection	All scales	4	15