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Renewable Energy in Hampshire – May 2016

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Background and Context

In Hampshire, the energy we use is generated predominantly from fossil fuel sources, burning gas, oil and coal to heat our homes and buildings, drive our transport and power our machines.

Only a small fraction of our energy demand is met using local renewable resources. The energy from fossil fuels, often imported from overseas, is not only dirty; but has a significant negative effect on our climate.

The DECC 2014 report for UK energy statistics indicates that more than 90% of all the energy used in Hampshire comes from burning fossil fuels which produces in excess of 9.2 million tonnes of CO₂ per year¹.

However, Hampshire is fortunate to have a wide range of renewable resources:

- Hampshire is the 2nd most wooded county² in England, with vast amounts of waste wood.
- The Solent and our southern coast is rated as one of the best area in the UK³ for the generation of tidal energy.
- We have more than 1750 sunlight hours each year in Hampshire. Our southern coast is one of best areas for solar power in the UK.
- The wind along our southern coast provide a significant source of renewable energy.

If there was a shift in approach to producing energy cleanly and locally, this would not only create jobs but also increase energy security and resilience of the county and protect the environment.

UK Energy Targets

Renewable energy in the UK is in transition and understanding on just how well Hampshire is managing that transition is imperative to the our future prospects. Hampshire Renewable Energy Cooperative (HREC) has produced an assessment of the operational renewable energy in Hampshire in 2016. The aim of this report is to quantify renewable energy production in the county, and in light of the December 2015 Paris UN Conference on Climate Change, assess the progress made towards meeting renewable energy targets.

This report will answer the question - 'How is Hampshire contributing towards the UK renewable energy targets?'

The UK government is legally bound to meet 15% of the total energy demand from renewable sources by 2020. To achieve this, the Government estimates that by 2020, 35% of total electricity will have to come from renewable sources, 12% of heat energy demand will be from renewable heat sources (such as geothermal plant, air source heat pumps, biomass etc.) and 10% of the energy required for

¹ <https://www.eia.gov/tools/faqs/faq.cfm?id=74&t=11> – EIA, 2016

² <http://www.forestry.gov.uk/pdf/englandsmostwoodedregioninventory>

³ <http://www.thecrownestate.co.uk/media/5476/uk-wave-and-tidal-key-resource-areas-project.pdf>



transport will have to be produced from renewable sources such as biodiesel or ethanol from sustainable crops. As a whole the UK is broadly on track to meet the renewable electricity target but woefully short of its targets for heat and transport. However Hampshire is well behind in meeting its responsibilities to deliver its contribution to the national target.

This report uses publically available data recorded by the renewable energy schemes available in the UK which include Feed in Tariff (FIT), Renewable Obligation Certificate (ROC), Renewable Heat Incentives (RHI) and Renewable Energy Guarantees of Origin (REGO – a European approved ROC alternative).

Scientific Unit & Definitions

Energy is a complex area with many different units and definitions used interchangeably . To simplify matters in this report, the key scientific units and concepts revolve around energy generation capacity and energy consumption⁴/production. All of the following units are applicable to electrical energy, heat energy and transport energy but it will be made clear which energy type is being discussed in each section of the report.

Energy Demand: Gigawatt-Hours (GWh)

Final energy demand is the energy delivered to the consumer for all energy uses but excludes any energy losses/wastage during energy production (primary energy production is the total energy generated, which includes wasted energy).

Energy Production: Gigawatt-Hours (GWh)

Typically energy production (and consumption) is recorded in Gigawatt-Hours (GWh) and refers to the amount of energy produced by an installation annually. This figure will also take into account the efficiency of any given renewable technology. In some cases energy production is recorded in Megawatt-hours (MWh) or even Kilowatt-hours (kWh) where appropriate (Note that 1GWh is equal to 1,000 MWh and 1,000,000 kWh).

Energy Capacity: Megawatt Peak (MWp)

The capacity of a technology to generate energy per unit of time is measured in Watts. The operational energy capacity of an installation is measured in Megawatt Peak (MWp) or Kilowatt Peak (kWp) as appropriate (Note that 1MWp is equal to 1,000 kWp). To relate this to energy production, if a renewable technology with 1MWp generating capacity is operational for 1 hour this would produce 1MWh of energy.

Load Factors:

⁴ Strictly speaking energy is not consumed or produced but transformed from one type to another.

A load factor is the percentage of an actual output of a renewable energy source compared against the theoretical maximum output of that installation in a year⁵. This percentage can be used to calculate an estimate for annual energy generation from the operational capacity of an installation. The calculation is as follows:

$$\text{Capacity (MWp)} \times \text{Hours in a year (8760)} \times \text{Load Factor (\%)} = \text{Annual Energy Production (GWh)}$$

Hampshire Energy Consumption

The Digest of UK Energy Statistics (2015)⁶ indicates that the UK currently has a total (final) energy demand of 1,660,764 GWh per year and a population of 64.1 million people. This amounts to a national average energy consumption of 25,909 kWh per capita. Very approximately about 40% of all this energy is for transport, 40% for heating and 20% for electricity.

In Hampshire (Including Southampton, Portsmouth and the Isle of Wight⁷) the latest final energy demand estimate was 50,678 GWh⁸ per year for a population of approximately 1.8 million people or a Hampshire average consumption about 28,154 kWh per capita (above UK average). This figure includes energy consumed by the transport sector as well as the exceptionally high consumption in the New Forest caused by Fawley Power Station (17,011 GWh in 2013). The breakdown of electricity, heat and transport in Hampshire can be found in Table 1:

Table 1 - Hampshire Energy Demand		
Type of Energy	Total Energy Consumption (GWh)	Percentage of Energy Demand
Electricity	11,246	22.2%
Heat	20,527	40.5%
Transport	18,905	37.3%
Total	50,678	100%

To achieve 50,000 GWh of energy each year a continuous capacity of 5.79 GWp with 100% efficiency would be required. To put this in to context, the gas fired power station at Marchwood in Hampshire has a generating capacity of 0.84 GWp which means that the equivalent of around seven Marchwood size power stations are required working 24 hours a day seven days a week to produce enough energy to satisfy energy needs in Hampshire.

⁵ Load Factors Explained – [Renewable UK \(2016\)](#)

⁶ Digest of UK Energy Statistics – [DUKES \(2015\)](#)

⁷ Isle of Wight is a separate administrative county and Southampton and Portsmouth a unitary authorities but historically are part of the Hampshire geographic region and within HREC's area of operation

⁸ UK Sub-National Energy Consumption – [DECC \(2013\)](#)



Renewable Electricity in Hampshire**Renewable Electricity Capacity**

Table 2- Renewable Electricity Capacity in Hampshire 2016 - All numbers are in MWp (Electric)										
Local Council	PV <50kW	PV >50kW	Anaerobic Digestion	Wind	Biomass	Sewage Gas	Landfill Gas	Energy from Waste	Geo- thermal	Total
Isle of Wight	9.98	15.70	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.68
Southampton	6.28	6.59	0.00	0.00	0.00	1.10	0.00	0.00	2.95	16.92
Portsmouth	2.93	5.98	0.00	0.00	0.00	0.00	3.41	16.00	0.00	28.32
Basingstoke & Deane	7.06	7.89	3.19	0.00	1.95	0.56	0.00	8.00	0.00	28.65
East Hampshire	6.76	10.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.70
Eastleigh	4.53	6.43	0.00	0.00	0.00	0.00	1.50	0.00	0.00	12.46
Fareham	5.36	20.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.86
Gosport	2.37	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.47
Hart	4.04	0.27	0.00	0.00	0.00	0.00	1.00	0.00	0.00	5.31
Havant	5.36	0.28	0.00	0.00	0.00	0.00	3.50	0.00	0.00	9.14
New Forest	9.72	30.28	0.00	0.00	1.50	0.00	10.13	24.60	0.00	76.23
Rushmoor	1.75	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.99
Test Valley	6.64	50.30	0.01	0.82	0.00	0.30	1.80	0.00	0.00	59.87
Winchester	7.00	79.80	0.00	0.04	0.00	0.00	0.00	0.00	0.00	86.84
Totals	79.78	235.30	3.20	0.86	3.45	1.96	21.34	48.60	2.95	397.44



The Renewable Energy Federation⁹¹⁰ have produced an online database which combines the three OFGEM databases for the FIT, REGO and ROC certified renewable energy installations. This database was cross referenced with the OFGEM website and the gov.uk public planning database¹¹ for renewable installations. The subsequent estimates for renewable electricity in Hampshire can be found in Table 2 below:

⁹ Feed In Tariff Data – [Renewable Energy Federation \(2016\)](#)

¹⁰ Renewable Obligation Certificate Data – [Renewable Energy Federation \(2016\)](#)

¹¹ Public Planning Database – [DECC \(2016\)](#)



There is **397.44 MWp** of renewable electricity capacity currently installed in Hampshire, 79.28% of which is Solar PV. The 315.08 MWp of Solar PV installations make Hampshire¹² the 3rd largest producer of solar energy in the UK. Anaerobic digestion, biomass, wind, sewage gas and geothermal energy all play very minor roles but the technology is present. Energy from Waste and Landfill gas are the only other renewable technologies that contribute significantly to electricity production.

Although landfill gas currently contributes 21.34 MWp of renewable electricity to the county, as Hampshire has stopped using landfill sites, this is a finite resource so cannot contribute to renewable energy in the long term.

Information about the largest installations in Hampshire can be found in Appendix 1 at the end of the report.

Renewable Electricity Generation

Using the equation for electricity generation discussed on page three, the estimated capacity for Hampshire renewable electricity and a set of load factors for each technology calculated by the Department of Energy and Climate Change in DUKES 6.5¹³ the current annual generation of renewable electricity in Hampshire can be estimated and is displayed in Table 3 below:

Table 3 – Annual Generation of Renewable Electricity in Hampshire 2016						
Renewable Technology	Load Factor	Capacity in MWp				Electricity Generation (GWh)
		FITs	ROCs	Other	Total Capacity (MWp)	
Large Scale Solar (50kW+)	11.0%	30.8	204.5	0.0	235.3	226.7
Small Scale Solar	9.0%	79.8	0.0	0.0	79.7	62.9
Onshore Wind	28.4%	0.6	0.3	0.0	0.86	2.1
Biomass	66.8%	0.0	3.5	0.0	3.45	20.1
Anaerobic Digestion	59.4%	2.0	1.2	0.0	3.20	16.6
Landfill Gas	57.6%	0.0	21.3	0.0	21.3	107.6
Energy From Waste	37.5%	0.0	48.6	0.0	48.6	159.6
Sewage Gas	50.9%	0.0	1.9	0.0	1.9	8.7
Geothermal	85.0%	0.0	0.0	2.9	2.9	21.9
					397.4	626.6

It was previously calculated that the current Hampshire electricity demand is 11,246 GWh per year. Renewable electricity generation is estimated at 627 GWh per year in 2016 which is **5.6% of the total electricity demand**.

¹² Including IoW, Southampton and Portsmouth

¹³ Renewable Electricity Load Factors – [DUKES \(2015\)](#) – Section 6.5

Renewable Heat in Hampshire**Renewable Heat Capacity & Production**

Using DECC statistics¹⁴ for accredited RHI installations, an estimate for renewable heat in Hampshire can be obtained split in to domestic and non-domestic RHIs and arranged by local authority. For domestic systems it is known that there are 1,067 installations but data about the capacity of each of these installations is not available. For this report, it has been assumed that each domestic RHI has an annual output equitable to that of a domestic gas fired boiler (14,000 kWh per annum).

Table 4 - RHI Accreditations in Hampshire 2016				
Local Authority	RHI Type	Number of accredited installations	Installed Capacity (MWp)	Installed Production (GWh)
Basingstoke & Deane	Non-Domestic RHIs	22	3.00	22.34
	Domestic RHIs	165	0.31	2.31
East Hampshire	Non-Domestic RHIs	18	3.30	24.57
	Domestic RHIs	131	0.25	1.83
Eastleigh	Non-Domestic RHIs	*	*	*
	Domestic RHIs	34	0.06	0.48
Fareham	Non-Domestic RHIs	*	*	*
	Domestic RHIs	22	0.04	0.31
Gosport	Non-Domestic RHIs	0	0.00	0.00
	Domestic RHIs	8	0.02	0.11
Hart	Non-Domestic RHIs	15	1.70	12.66
	Domestic RHIs	16	0.03	0.22
Havant	Non-Domestic RHIs	*	*	*
	Domestic RHIs	20	0.04	0.28
New Forest	Non-Domestic RHIs	19	8.40	62.55
	Domestic RHIs	159	0.30	2.23
Rushmoor	Non-Domestic RHIs	0	0.00	0
	Domestic RHIs	11	0.02	0.15
Test Valley	Non-Domestic RHIs	21	3.80	28.29
	Domestic RHIs	164	0.31	2.30
Winchester	Non-Domestic RHIs	62	8.00	59.57
	Domestic RHIs	172	0.32	2.41
Isle of Wight UA	Non-Domestic RHIs	20	2.50	18.61
	Domestic RHIs	132	0.25	1.85
Portsmouth UA	Non-Domestic RHIs	6	1.60	11.91
	Domestic RHIs	10	0.02	0.14
Southampton UA	Non-Domestic RHIs	*	*	*

¹⁴ Renewable Heat Incentive Data – [DECC \(2015\)](#)

	Domestic RHIs	23	0.04	0.32
Hampshire Total		1255	36.31	255.44

Note that there is also some margin for error with regards to the non-domestic accreditations as DECC withhold data for districts with less than 5 RHI installations to prevent disclosure of information through dominance (The areas with suppressed data indicated by a * in Table 4). Similarly, it is not possible to determine what technology is installed for each RHI.

There is a total of 1,255 accredited RHI installations in Hampshire with approximately 36 MWp of renewable heat energy capacity and an estimated annual generation of 255.44 GWh of renewable heat. In addition to this there is the Southampton Geothermal plant¹⁵ which generates 40 GWh of heating and 8 GWh of cooling each year to total 48GWh of renewable heat. These two sources give a total renewable heat generation in Hampshire of 303.44 GWh per year.

Strikingly, Hampshire currently produces considerably more heat energy from coal (313 GWh/year) and oil (706 GWh/year) than it does from all renewables combined. The total heat energy demand for Hampshire was calculated at 20,527 GWh annually and as a result the current renewable heat generation makes up **1.52% of the total heat demand**.

Renewable Transport in Hampshire

Unlike renewable heat and electricity, there is no complete database for renewable energy transport data by district but instead information can be found on key players and companies in the UK that hold a Renewable Transport Fuels Certificate. Each company must register on this database if it supplies in excess of 450,000 litres of transport fuel per year (however this can include some fossil fuels so is not strictly renewable transport fuel). There are two companies on the RTFO database who are based in Hampshire.

According to Renewable Energy Association (REA), who have access to the renewable transport fuel production figures from their members, there are no big players producing such fuel in Hampshire. There may well be several small players producing biodiesel from used cooking oil (UCO) but the REA cannot confirm the presence of such companies at this time¹⁶.

On a national scale, in 2014/15 biodiesel and bioethanol made up 4% of the total fuel demand for the UK. In reality, in Hampshire this is likely to be much less in the absence of any major fuel producing company or stakeholder.

The only other contributor to renewable transport is electric vehicles (EVs). No data by county is available. However according to the RAC¹⁷ there are 41,376 electric vehicles in the UK 50% are fully electric and 50% plug-in hybrids. There are a total of 36.3 million vehicles in the UK. EVs are therefore approximately 0.1% of all vehicles; with 1,200 EVs in the county. It is unlikely that Hampshire based

¹⁵ Southampton Geothermal Plant – [Greenpeace \(2007\)](#)

¹⁶ Clare Wenner, Head of Renewable Transport, REA by conversation.

¹⁷ <http://www.racfoundation.org/data/plug-in-grant-eligible-vehicles-licensed-by-quarter>



EVs have any significant impact on renewable transport energy. It is estimated that 1200 EVs would consume 4.3GWh/year¹⁸.

¹⁸ 1200 vehicles at 12,000 miles per year and 0.3kWh/mile



Renewable Energy in Hampshire

There are several positives to take from the statistics in this report. Hampshire is the largest producer of solar PV energy in the UK and, in the short term at least, Solar PV will continue to be increased. Since 2005, renewably produced electricity has increased XXXX%, which demonstrates a vast improvement.

However, it is evident that Hampshire is falling well short of the UK's 2020 targets set for renewable energy. The statistics can be viewed in Table 5 below:

Table 5 - Hampshire Energy Demand & Renewable Energy Generation 2016					
Type of Energy	Total Energy Consumption (GWh)	Percentage of Energy Demand	Renewable Generation (GWh)	Percentage of Energy from Renewables	UK Target 2020
Electricity	11,246	22.2%	627	5.6%	35%
Heat	20,527	40.5%	303	1.5%	12%
Transport	18,905	37.3%	4.3	0.02%	10%
Total	50,678	100%	934.3	1.8%	15%

Renewable electricity currently makes up 5.6% of the total electricity demand while renewable heat accounts for just 1.6% of total Hampshire heat demand. There is an insignificant amount renewable transport in the county.

UK Progress on Energy Targets

The UK as a whole is making reasonable progress towards the 2020 renewable energy targets. Chapter 5 of the DUKES 2015 report indicates that renewable electricity production increased to 19.1% of the total demand in 2014 (up from 14.9% in 2013). A DUKES update¹⁹ published in March 2016 indicated that 24.7% of electricity was produced renewably at the end of 2015, this will be confirmed in the 2016 annual DUKES report.

Heat from renewable sources increased by 4.6% during 2014 to 31.75 GWp and renewable biofuels for transport increased by 14% to 14.46 GWp. Taking the three figures in to account; the UK is currently producing 6.3% of the energy demand from renewable sources which is nearly 1% more than the interim target but this is still somewhat short of the 15% 2020 target **Potential for Renewable Energy in the Future**

Energy efficiency across the energy sector is likely to improve and generally reduce energy consumption in the UK. Due to population growth in Hampshire, projected to rise to 1.9 million (up 100,000 people) by 2021, the energy demand may remain constant over the next decade despite improving efficiency. It therefore is imperative that a more sustainable source of energy is established

¹⁹ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/511939/Renewables.pdf

to keep up with demand and to insure we in Hampshire are “doing our bit” in helping the UK achieves the overall 15% target

Hampshire has an excellent opportunity to increase renewable energy generation and make a significant contribution to the 2020 energy targets. As previously mentioned, Hampshire is the 2nd most wooded county in the UK, has a very high level of sunlight hours per year and boasts some of the best offshore renewable energy resources in Europe (tidal and wind) in addition to a strong agricultural sector.

Some progress has been made where renewable electricity is concerned as there are currently 153 MWp of new projects which have had planning permission granted and are awaiting constructions in 2016. Considering that the vast majority of these projects are solar PV, the new electrical capacity could increase the renewable electricity in Hampshire to around 7%.

If the current level of new renewable energy construction was kept up in the years leading up to 2020, renewable electricity could double but this still falls around 20% short of the EU target of 35% renewable electricity by 2020. Both heat and transport fall much further behind this kind of progress.

Conclusion

By producing less than 2% of our energy from local renewable energy, almost the entire energy demand of Hampshire is met by fossil fuels or energy imports from other UK counties and further afield. The UK as a whole produced 24.7% of electricity from renewable sources in 2015; compared to 5.6% produced in Hampshire. This indicates just how far the county is falling behind the UK market whilst also contributing poorly to the UK targets.

There are a significant amount of renewable energy projects in progress in Hampshire but with changing legislation and tariffs, the mid and long term future of renewables is far less certain.

Hampshire has an opportunity to make a far higher contribution to national targets than it is currently achieving. We as a county have a responsibility to “do our bit”; we cannot expect other to do it for us. With better co-ordination between our national, regional and local governments and with the community it would be possible to exploit the wind, sun, tide and wave potential in Hampshire and match or exceeding the renewable energy production elsewhere in the country. There is also an opportunity to make the most of the agricultural heritage in Hampshire by turning our waste into clean, cheap and renewable energy.

There is a particular opportunity in the renewable heat market where the UK is falling way short of the 2020 targets. Hampshire could sustainably exploit the woodland to become a respectable contributor to biomass and woodchip heat energy and dramatically improve the 1.52% of demand currently produced.

Limiting the reliance on fossil fuels in Hampshire will not only have a big, positive impact on climate change but also increase energy security, create many more jobs and reduce energy costs.



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Appendix 1

Appendix 1 - Large Scale Renewable Electricity Installations in Hampshire				
Operator (If available)	Site Name	Technology Type	District Council	Installed Capacity (MWp)
Barfoot Energy Projects Ltd	Green Waste Composting Facility (Waste AD)	Anaerobic Digestion	Basingstoke & Deane	1.20
-	Basingstoke skip hire	Dedicated biomass	Basingstoke & Deane	0.75
Veolia	Chineham ERF	EfW Incineration	Basingstoke & Deane	8.00
-	Herriard AD Bio-Power	Dedicated biomass	Basingstoke & Deane	1.20
-	Basingstoke STW - A,D,E	Sewage Gas	Basingstoke & Deane	0.56
Lightsource Renewable Energy	Hill End Farm	Solar Photovoltaics	Basingstoke & Deane	2.80
-	Fryingdown PV	Solar Photovoltaics	Basingstoke & Deane	5.00
-	Carousel Dairy AD Plant - Tamar Energy	Anaerobic Digestion	Basingstoke & Deane	1.50
-	Faulkners Down AD Plant	Anaerobic Digestion	Basingstoke & Deane	0.50
Lightsource Renewable Energy	Barley Wood Farm Lane (Gaston Lane - resubmission)	Solar Photovoltaics	East Hampshire	5.43
Constantine Land Ltd	Marsh House Solar Park	Solar Photovoltaics	East Hampshire	5.51
Renewable Power Generation Ltd	Fairoak Landfill	Landfill Gas	Eastleigh	1.50
Chalcroft Solar Park	Chalcroft Solar Park	Solar Photovoltaics	Eastleigh	6.30
SUNSAVE 10	Newlands Farm Solar - resubmission	Solar Photovoltaics	Fareham	20.50
-	Bramshill - A	Landfill Gas	Hart	1.00
ONYX LANDFILL LTD	Southleigh Landfill	Landfill Gas	Havant	3.50
-	Durrants Solar Farm	Solar Photovoltaics	Isle of Wight	5.00
-	Stone Farm PV	Solar Photovoltaics	Isle of Wight	5.00



-	Wellow Solar Farm	Solar Photovoltaics	Isle of Wight	5.00
Double H Nurseries	Double H Nurseries Biomass Plant	Dedicated biomass	New Forest	1.50
Tradebe	Fawley Waste to Energy Plant	EfW Incineration	New Forest	8.60
Veolia	Marchwood ERF	EfW Incineration	New Forest	16.00
Veolia	Efford Landfill (Newmilton)	Landfill Gas	New Forest	2.80
Hampshire Waste Services/ ONYX / Power Plant Services	Netley Landfill Site, Hampshire (Extension)	Landfill Gas	New Forest	1.20
-	Blue Haze Landfill Gas Utilisation Plant	Landfill Gas	New Forest	3.96
-	Netley	Landfill Gas	New Forest	1.20
-	Somerley Generating Station - A	Landfill Gas	New Forest	0.97
West Solent Solar Cooperative Ltd - Anthony Woolhouse -	Lower Pennington Farm	Solar Photovoltaics	New Forest	2.70
Anesco	Office Field	Solar Photovoltaics	New Forest	7.20
Hive Energy	Tavells Lane Solar Farm	Solar Photovoltaics	New Forest	5.30
The Manor of Cadland Estate	The Manor of Cadland Estate	Solar Photovoltaics	New Forest	5.00
Manor of Cadland	The Manor of Cadland Estate - extension	Solar Photovoltaics	New Forest	3.00
-	Fawley PV Farm	Solar Photovoltaics	New Forest	5.00
-	Beckley Solar Park	Solar Photovoltaics	New Forest	1.70
Veolia	Portsmouth ERF	EfW Incineration	Portsmouth UA	16.00
Associated Energy Projects plc	Paulsgrove Landfill Site	Landfill Gas	Portsmouth UA	2.41
-	Paulsgrove LFG Energy Generation Plant No. 4	Landfill Gas	Portsmouth UA	1.00
Lightsource Renewable Energy	Lovedean Farm	Solar Photovoltaics	Portsmouth UA	4.50
EvoEnergy	MMD Shipping Services	Solar Photovoltaics	Portsmouth UA	1.16
-	Southern Water Millbrook WTW	Sewage Gas	Southampton UA	1.10



Hive Energy	Raglington Farm	Solar Photovoltaics	Southampton UA	5.77
Cofely	Geothermal Combined Heat & Power Station	Geothermal	Southampton UA	2.95
Viridor	Squabb Wood	Landfill Gas	Test Valley	1.00
-	Apsley Farm Renewable Energy - A	Landfill Gas	Test Valley	0.80
-	Facombe Estates - A	On-shore wind	Test Valley	0.30
-	Southern Water Fullerton WTW (01/08/2007) - A, D	Sewage Gas	Test Valley	0.30
-	Andover Airfield	Solar Photovoltaics	Test Valley	4.30
British Solar Renewables	Abbots Ann	Solar Photovoltaics	Test Valley	7.00
The Clark Trustees	Andover Solar Farm	Solar Photovoltaics	Test Valley	5.00
Anesco (previously AEE Renewables)	Owls Lodge Farm	Solar Photovoltaics	Test Valley	5.00
Anesco	Owls Lodge Farm Extension	Solar Photovoltaics	Test Valley	5.00
Orta Solar	Parkhouse Corner (Orta Solar)	Solar Photovoltaics	Test Valley	6.60
Solarcentury	Saxley Farm	Solar Photovoltaics	Test Valley	5.00
Low Carbon Solar	Shipton Bellinger - Park House Corner Solar Farm	Solar Photovoltaics	Test Valley	5.40
-	Facombe Wind Turbine	Onshore Wind	Test Valley	0.50
Mrs Victoria Prescott	Westover Farm - resubmission	Solar Photovoltaics	Test Valley	7.00
Lightsource Renewable Energy	Bishops Sutton	Solar Photovoltaics	Winchester	12.00
Orta Solar	Field House Solar / Hursley Road	Solar Photovoltaics	Winchester	7.00
Primrose Solar	Southwick Estate	Solar Photovoltaics	Winchester	48.00
Kronos Solar	Upper Farm solar park	Solar Photovoltaics	Winchester	12.00

