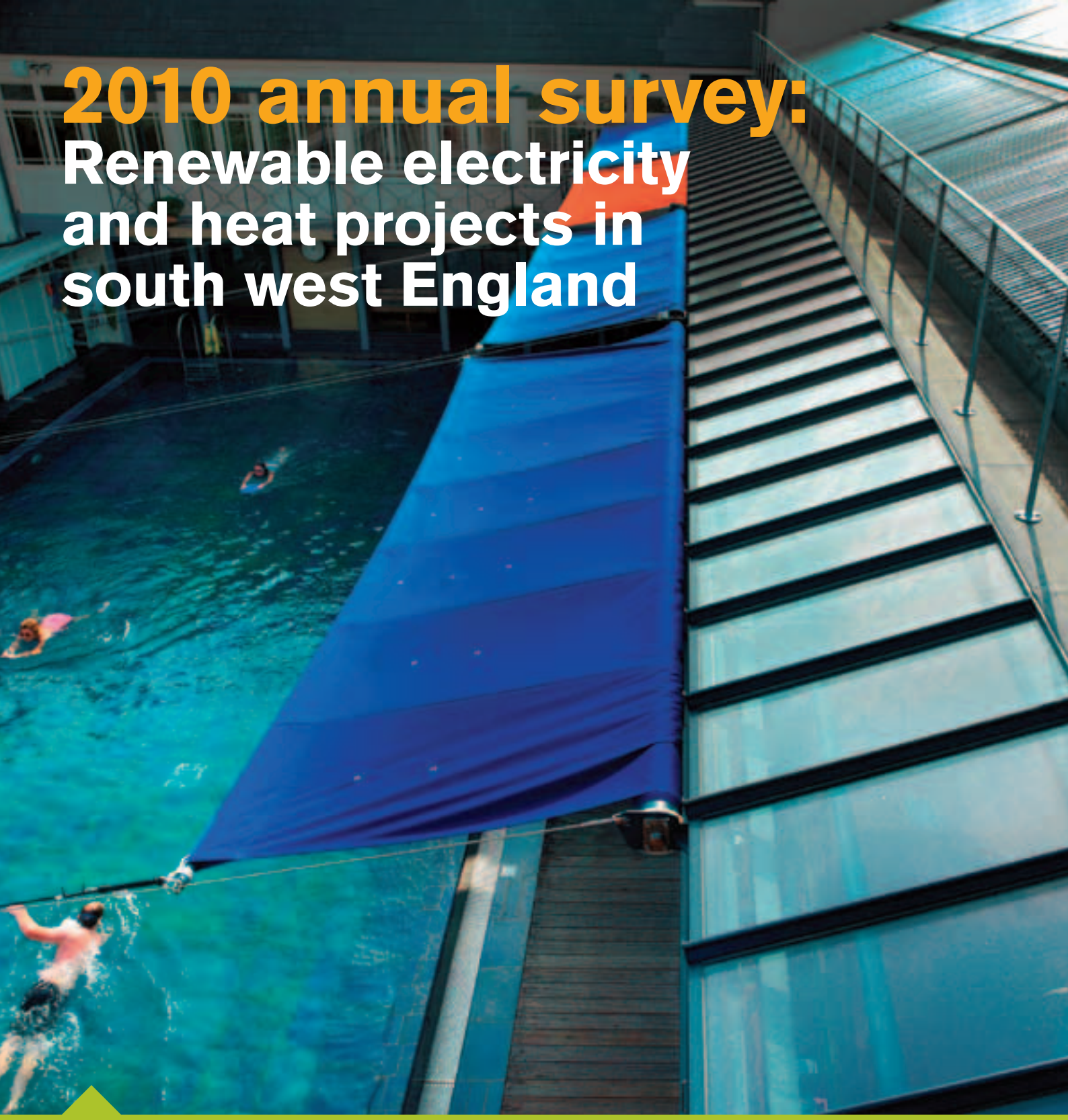
2010 annual survey:
Renewable electricity and heat projects in south west England



Solar thermal installation at Clifton Lido, **Bristol**.
Winner of the 2009 Green Energy Award for Best Small Renewable Energy Scheme.

June 2010

regensw
sustainable energy agency

Contents

South Gloucestershire Council's new head office in Yate is a BREEAM "Excellent" building incorporating energy efficiency measures and "green construction" techniques, along with solar thermal panels (30 kW) and a biomass boiler (400 kW). (Source: South Gloucestershire Council)

Foreword

The new government has confirmed it will maintain, or even increase, the ambitious national renewable energy targets. This is seen as central to the security of our energy supplies, essential for reducing carbon emissions, and the foundation of a low-carbon economy. The south west has excellent renewable energy resources and public and private sector commitment, which will enable it to take a leading role in renewable energy and the opportunities it offers. Regen SW's annual survey is designed to track progress in the south west against these ambitions.

On the positive side, in the past year we have seen a steep increase in the number of renewable energy installations. There were 415 new electricity projects and 847 new heat projects, bringing the capacities for renewable electricity and heat in the south west to 172 MW and 68 MW respectively.

However, we are still seeing few projects of a significantly large scale being built. Despite hard work and commitment from many, we will not meet the renewable energy targets the south west set itself to achieve by 2010 and, at current rates, we are not on track to meet the targets set by the government for 2020. In short, we are at risk of missing out on the potential of renewable energy to provide secure and sustainable energy as the foundation stone of a prosperous low-carbon economy.

As the schemes showcased in this report – and the many exciting projects we see nominated for Regen SW's annual Green Energy Awards demonstrate, there is no shortage of drive and commitment towards developing renewable energy. We now need to seize the opportunity created by the UK's Renewable Energy Strategy and introduction of policies such as the Feed in Tariff for a major acceleration in delivery.

That is why Regen SW, with local authorities and other partners, is determined that the next 12 months will be a breakthrough year for sustainable energy, with inspiring projects that have strong local supply chains at the heart of prosperous local low-carbon economies.

We will shortly be completing our work with the Department of Energy and Climate Change to map renewable energy resources across the south west so that local authorities and businesses can focus on the key opportunities.

We will be working with the South West RDA to ensure the Wave Hub project, which goes into the water this year, and the offshore wind farms planned off the coasts of North Devon and Dorset catalyse a world leading offshore renewables industry in the south west.

We will ensure that the experience from the groundbreaking plans for the low-carbon large-scale development at Cranbrook is used to accelerate the delivery of the homes of the future, which will be cheap to heat and power and have low carbon footprints.

We will be driving the potential of woodfuel to provide sustainable heat and stimulate the rural economy.

We will be working with the Energy Saving Trust and local partners to help householders reap the benefits of microgeneration and energy efficiency measures, and to help support local south west installers to install them.

And we will be providing communities with the tools and support they need to lead the development of renewable energy from the ground up.

The projects in this survey show what can be achieved – we look forward to working with partners to build on this base to make 2010/11 a breakthrough year for sustainable energy in the south west.

Merlin Hyman, chief executive
Regen SW

Are we on the right path?

2010 targets missed and the Road to 2020

Despite the significant increase in renewable energy technologies installed across the south west this year, highlighted by this survey, our progress towards achieving national, regional and local targets remains slow.

Local targets for renewable electricity and heat capacity in the south west of England were established through the REvision 2010 and 2020 reports and were set out in the draft Regional Spatial Strategy, along with aggregated totals for the south west region. Currently the south west has 171.59 MW of onshore renewable electricity, which is only 28 per cent of the 611 MW regional 2010 target. With 68.03 MW of renewable heat, current capacity is still only 65 per cent of the 105 MW regional 2010 target.

Our failure to meet our 2010 targets should be a spur to our efforts going forward. The growth rate in renewable electricity capacity must increase, and the capacity for renewable heat must continue to rise exponentially, as it has in recent years. With an abundance of natural resources in the south west, the government's commitment to secure 15 per cent of the UK's total energy supplies from renewable sources by 2020 gives us an ever more challenging and important objective for the decade ahead.

2010 targets are taken from the REvision 2010 report, and 2020 targets are based on 15 per cent renewable energy by 2020. Regen SW's The Road to 2020 report estimates that to meet this, renewable electricity and heat generation in the south west must reach 20 GWh by 2020, which corresponds to a capacity of approximately 5.5 GW.

A breakthrough year for renewables?

Regen SW is now focusing on inspiring sustainable energy projects that have strong local supply chains at the heart of prosperous local low-carbon economies. Projects we are working on this year include:

Offshore renewables

Our maritime environment presents a huge opportunity for renewable energy. In the past year the south west of England was designated the UK's first Low Carbon Economic Area, due to its strengths in wave and tidal energy. The South West RDA (Regional Development Agency) expects investment in regional marine energy projects to reach £100m over the next two years. This includes the £42 million development of the Wave Hub project.

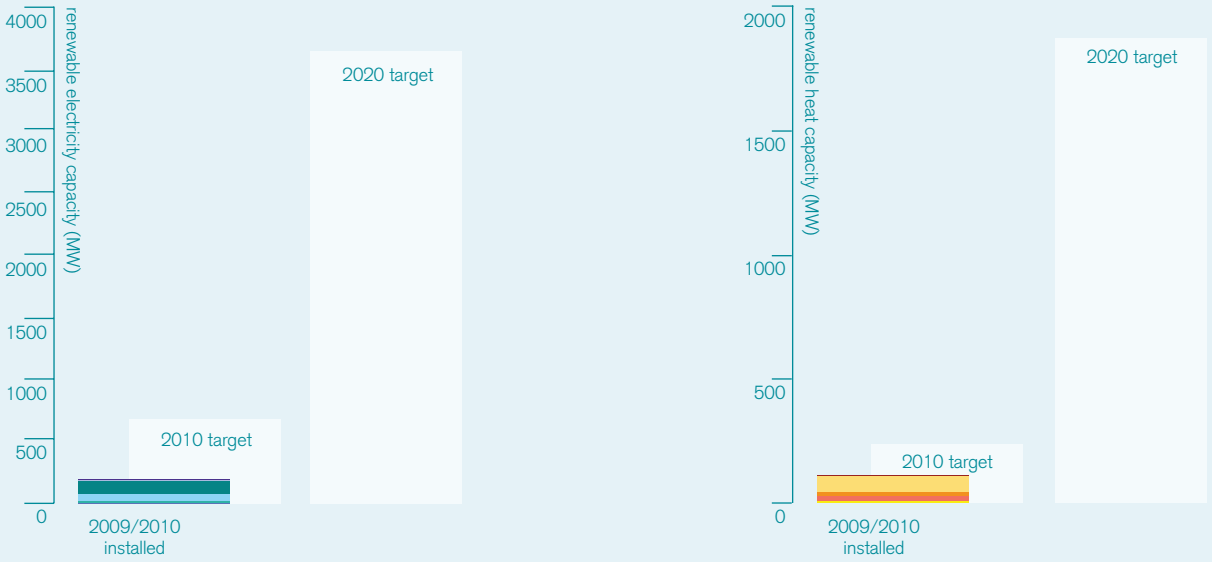
Significant offshore wind developments in the south west have been set in motion in 2009 by the announcement of the successful bidders for the two Round 3 Offshore Wind Farm Zones. Two of the nine zones are located in the south west. These are the 1,500 MW "Atlantic Array" in the Bristol Channel zone, and the smaller 900 MW farm in the West of Isle of White zone.

Regen SW is working with the South West RDA to support the development of world leading south west business clusters in this exciting sector.

Low-carbon new development – Cranbrook

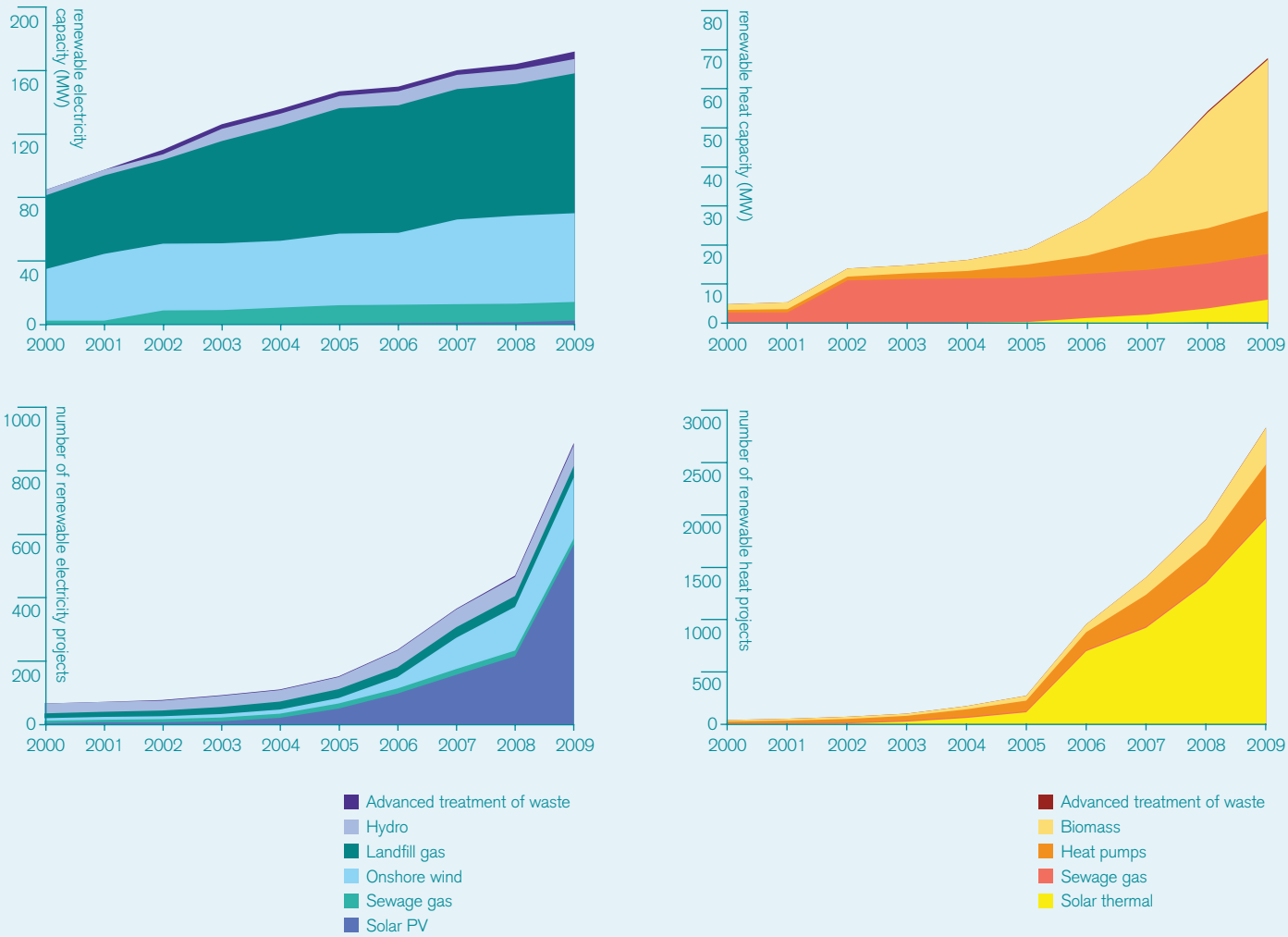
Regen SW has been working with a number of major new developments across the south west, the most advanced of which is Cranbrook, east of Exeter. Cranbrook is a new community of up to 7,500 homes, located adjacent to the Skypark employment site. Initial work showed that the most effective way to meet the increasingly stringent requirements for low-carbon buildings was to install site-wide district heating with biomass combined heat and power (CHP). The Cranbrook and Skypark developers have engaged E.ON to develop the scheme, and the biomass energy centre has received planning approval. Scheduled to start being built in 2010, the scheme will be the first large-scale open-market housing scheme in the UK to use district heating and biomass CHP.

Fig 1 - South west installed renewable electricity and heat capacity for January 2010, with the 2010 and 2020 targets*.



* 2010 targets are from REvision 2010. 2020 targets estimated from Regen SW's The Road to 2020 report. Please note these figures are approximations based on a 15 per cent renewable energy target by 2020.

Fig 2 - Growth of installed renewable electricity and heat in the south west of England



Biomass in the south west

Since 2007, Regen SW has been running the South West Bioheat Programme on behalf of the South West RDA and the Forestry Commission. The programme has its own website, the South West Woodshed, which contains in-depth information about using woodfuel, detailed 'supplier search' for wood fuel and biomass boilers and services, an online training package, and community pages.

In total, the South West Bioheat Programme has supported over 50 individual sites through either the national rounds of the bio-energy capital grant scheme or the South West Bioenergy Capital Grant scheme, and in itself will deliver around 35 MW of additional installed capacity in the south west by March 2011. Regen SW's efforts will now be concentrated on it role within the Intelligent Energy Europe Programme FOREST (FOsteRing Efficient long term Supply parTnerships), which aims to develop the supply chain through three main lines of development:

- Best practice tools
- Business to business networking
- Supply chain capacity building

This 30-month programme commenced in June 2010. It is programme managed by the Centre for Energy and the Environment at the University of Exeter, and along with Regen SW includes the Severn Wye Energy Agency, and European partners in Austria, Sweden, Poland, Spain, Italy and Ireland.

Microgeneration

Regen SW is working with the Energy Saving Trust (EST) to help develop the microgeneration[1] market in the south west.

On the supply side Regen SW is providing support to south west microgeneration companies on:

- accreditation, where our initial focus is on making certification under the Microgeneration Certification Scheme (MCS) easier for companies
- sector development
- skills and training, currently concentrated on improving the provision of microgeneration training in further education colleges in the region.

On the demand side Regen SW is working to provide routes to markets for south-west-based microgeneration companies. One example is the SW Sunroofs project. EST has developed a financing model using the new Feed In Tariff that will facilitate the mass uptake of solar PV systems. Regen SW and EST are piloting the model in the south west by developing a project to install 1,000 solar PV systems on social housing properties owned by local authorities and housing associations and provide the occupants with cheap electricity. The lessons learnt from the pilot will be fed back into a national EST programme. The main aims of the SW Sunroofs project are to achieve mass uptake, to help low-income households, to be cost neutral to the housing organizations, and to provide a template for other regions.

Community renewables

There is increasing interest in community-driven renewable energy in the south west, both from central and local government. Our planning system is now expected to give communities the opportunity to take positive action on climate change, particularly with regard to community-led renewable energy. A rising number of community groups are now contacting Regen SW and our partners looking for support.

Communities play a key role in driving sustainable economic growth in the south west. Of the installed renewable electricity projects across the south west they provide 0.5 per cent of the regional renewable electricity capacity (0.45 MW from community projects and 0.32 MW from schools). Of the renewable heat projects, 73 are community focused and 59 are schools. Together these provide a capacity of 11.54 MW, or 17 per cent of the regional renewable heat capacity.

As the 2010 annual survey data shows, many communities are taking positive action on sustainable energy locally, but larger-scale schemes remain particularly difficult, as they require significant investment and expertise to develop.

The Regen SW Communities for Renewables initiative, launched in June 2010, seeks to increase the deployment of community-led renewable projects such as onshore wind, which, with the right business model, can generate significant income for communities that can be re-invested in the local area. The project will provide communities with the guidance and tools needed to support them from exploring initial ideas, through to the selection of a community-focused developer to take the scheme to fruition.

[1] For the purposes of Regen SW's work microgeneration covers small scale renewable energy technologies, up to 50kW for electricity and up to 45kW for heat.

Renewable electricity summary

The total renewable electricity capacity in the south west of England is now 171.59 MW, following an increase of 7.78 MW (4.5per cent) in the past year[2]. The survey identified a total of 891 renewable electricity projects, of which 415 (47 per cent) were installed in the last year. Renewable energy schemes in the south west now produce enough electricity to power 179,500 homes, or every household in Bristol City. The south west of England now produces three per cent of the electricity it uses from renewable sources, avoiding the production of 477,640 tonnes of CO_2 every year.[3]

The capacity for electricity from waste continues to rise within the south west. In 2009/10 two **new landfill gas** plants were commissioned in Dorset and Wiltshire with capacities of 4 MW and 1.12 MW respectively. Although overall landfill gas is a declining resource, this brings the total electricity capacity from landfill gas up to 87.93 MW[4].

Electricity capacity from **anaerobic digestion** in the south west saw a net increase of 1.13 MW from two new electricity-producing projects.

Combined heat and power sewage-gas plants have contributed an increase of 0.11 MW to the south west's renewable electricity capacity.

In the past year **48 new micro and small-scale wind** turbines were installed in the south west. This brings the capacity for onshore wind up by 0.359 MW to 55.79 MW. Although this figure is 33 per cent of the current renewable electricity capacity for the south west, the growth rate is slow.

The lag time between approval and commissioning of wind schemes in the south west means an approved capacity of 182.80 MW of **onshore wind is waiting to be built**. This could increase to 230.80 MW pending the Government Office for the South West's decision on the 48 MW Davidstow wind farm approved by Cornwall Council in October 2009.

Microgeneration[3] has contributed significantly to the increase in the number of renewable electricity projects this year, with 408 new projects identified, adding a combined capacity of 1.29 MW. The Low Carbon Building Program provided funding for 333 of these projects.

The installation of **solar PV** projects was the largest contributor to the number of renewable electricity projects in the south west, with the 355 new projects bringing the total installed capacity from solar PV to 2.38 MW. These figures include a 70.2 kW ground-mounted solar PV installation in Gloucestershire. **Small-scale hydro** has increased by 0.05 MW, due to seven new installations, four of which are domestic.

The new **Feed in Tariff** (FIT) will significantly increase the uptake of small and medium sized renewable electricity installations. It offers a fixed payment per kilowatt hour of renewable electricity generated for a 20 year period (25 years for solar PV). The FIT also offers a guaranteed minimum payment of 3p per kWh exported to the market, offering standard renewable projects a five to eight per cent yearly return on investment. The guarantee of an index-linked payment for renewable electricity has produced a boom in the south west microgeneration market, with installation figures for the next year already predicted to exceed those of 2009/10.

[2] Projects identified in the Regen SW 2010 annual survey installed prior to 1 February 2009 have not been classified as 'new installations' for this year's survey.

[3] Electricity generated is estimated using the following capacity factors; advanced treatment of waste 0.8, hydro 0.25, landfill gas 0.8, onshore wind 0.3, sewage gas 0.6 and solar PV 0.1. The number of equivalent homes is based on an average consumption per household in the south west of 4.9 MWh of electricity per annum (source: DECC 2009: Sub-national electricity consumption data 2007 and 2008). Carbon Dioxide emissions avoided are calculated from the 2007 five year rolling average for electricity consumed (0.54303 kg CO_2 per kWh) (source: Defra/DECC 2009: Guidelines to Defra/DECC's GHG Conversion Factors for Company Reporting).

[4] Reduced capacity due to landfill age was observed at two sites across the south west, but overall the trend was upwards due to the installation of new engines.

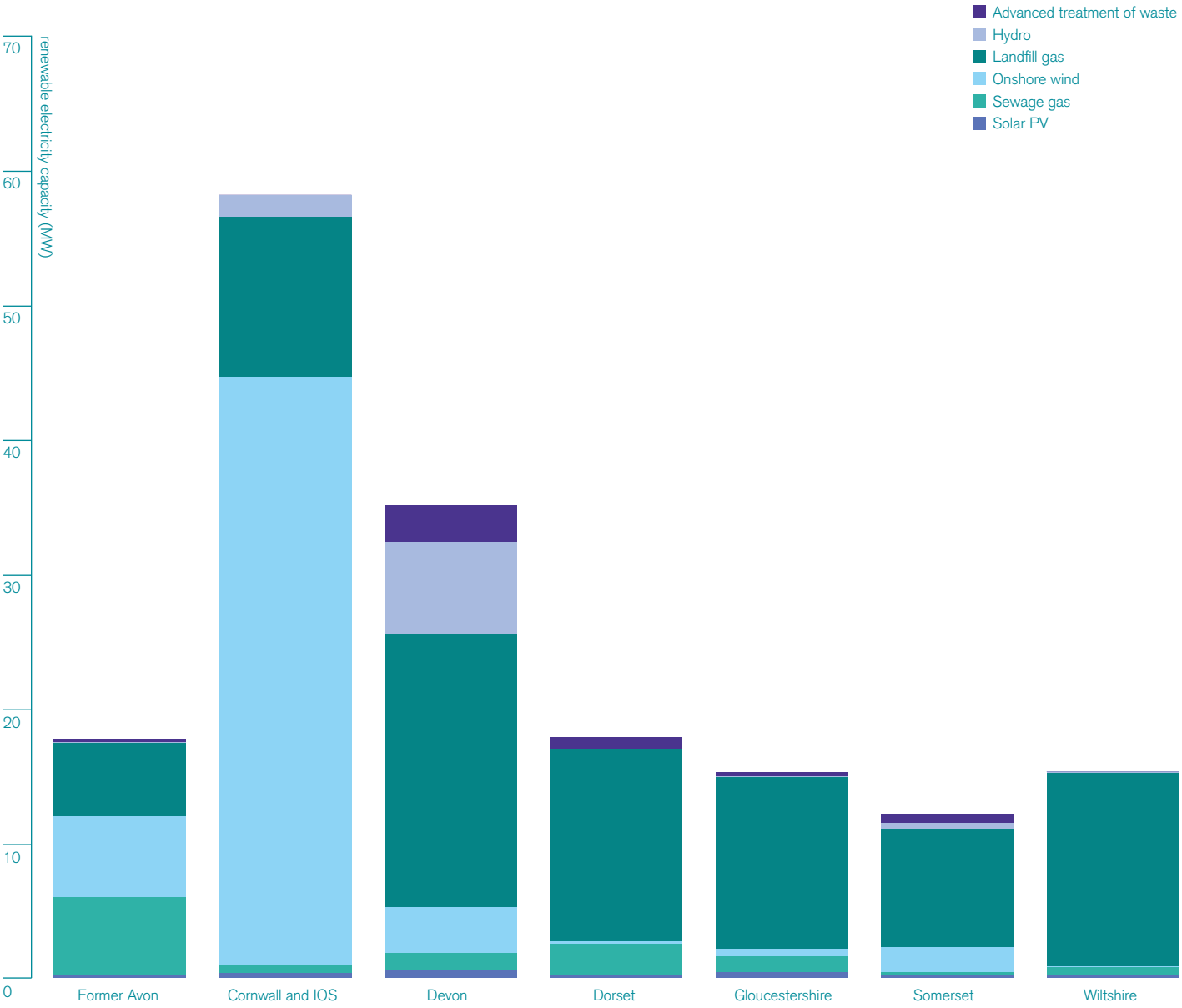
Renewable energy schemes in the south west now produce **enough electricity to power 179,500 homes**, or **every household** in **Bristol City**.

Table 1 - South west installed renewable electricity January 2010

Area	Number of projects	South west renewable electricity capacity (MW)							% of total RE capacity
		ATW*	Hydro	Landfill gas	Onshore wind	Sewage gas	Solar PV	Area total	
Former Avon	96	0.23	0.01	5.45	6.05	5.75	0.24	17.72	10.3%
Cornwall and IOS	182	0	1.59	11.94	43.72	0.50	0.39	58.13	33.9%
Devon	241	2.70	6.81	20.31	3.40	1.23	0.63	35.08	20.4%
Dorset	112	0.85	0.01	14.32	0.18	2.30	0.24	17.89	10.4%
Gloucestershire	90	0.30	0.04	12.78	0.55	1.21	0.41	15.28	8.9%
Somerset	107	0.65	0.47	8.77	1.87	0.17	0.25	12.18	7.1%
Wiltshire	63	0	0.08	14.37	0.02	0.62	0.22	15.30	8.9%
South west totals	**-**	**4.72**	**9.00**	**87.93**	**55.79**	**11.77**	**2.38**	**171.59**	**100.0%**
% of total RE capacity	**-**	**2.8%**	**5.2%**	**51.2%**	**32.5%**	**6.9%**	**1.4%**	**100.0%**	**-**
Number of projects	**891**	**6**	**67**	**36**	**192**	**19**	**571**	**-**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Fig 3 - South west installed renewable electricity capacity January 2010



Renewable heat summary

In the period 2009/10, an additional 847 renewable heat projects were installed in the south west, bringing the total capacity for the region to 68.06 MW. This is an increase in net renewable heat capacity of 13.47 MW (20 per cent) over the past year.

Biomass continues to contribute significantly to renewable heat in the south west, making up 57 per cent of the renewable heat capacity and 12 per cent of projects. Over the past year a net capacity increase of 9.18 MW was identified from **105 new biomass boilers** in the south west. Biomass contributes 68 per cent to the renewable heat capacity increase recorded for 2009/10.

As with many other microgeneration technologies, **solar thermal** installations have again increased in the past year, with 594 new installations identified across the south west. This brings the total number of solar thermal installations in the south west to 1,970 and raises the capacity for this technology by 2.19 MW (55 per cent) to 6.14 MW. Solar thermal installations new in 2009/10 included a 0.05 MW project in Bristol, and a 0.04 MW project in Somerset.

In the past year, 59 **air source heat pumps** and 88 **ground source heat pumps** were newly installed in the south west, increasing renewable heat capacity by 0.59 MW and 1.34 MW respectively. Heat pumps in the south west now have a combined capacity of 11.03 MW.

Sewage gas combined heat and power expansion in the south west has increased renewable heat capacity by 0.17 MW, bringing the net sewage gas heat capacity to 11.67 MW from 14 installations.

In the past year there has been no reported increase in renewable **heat capacity from anaerobic digestion**, although four anaerobic digestion projects have been approved.

If the **Renewable Heat Incentive** (RHI), which is currently under consultation, comes into force in April 2011 as planned, it is expected to stimulate further renewable heat capacity expansion. Tariff levels are proposed to provide a rate of return of 12 per cent on the additional capital cost of renewables, with a lower rate of return of 6 per cent for solar thermal. RHI payments would be calculated on the annual amount of heat output, expressed in kilowatt hours (kWh).

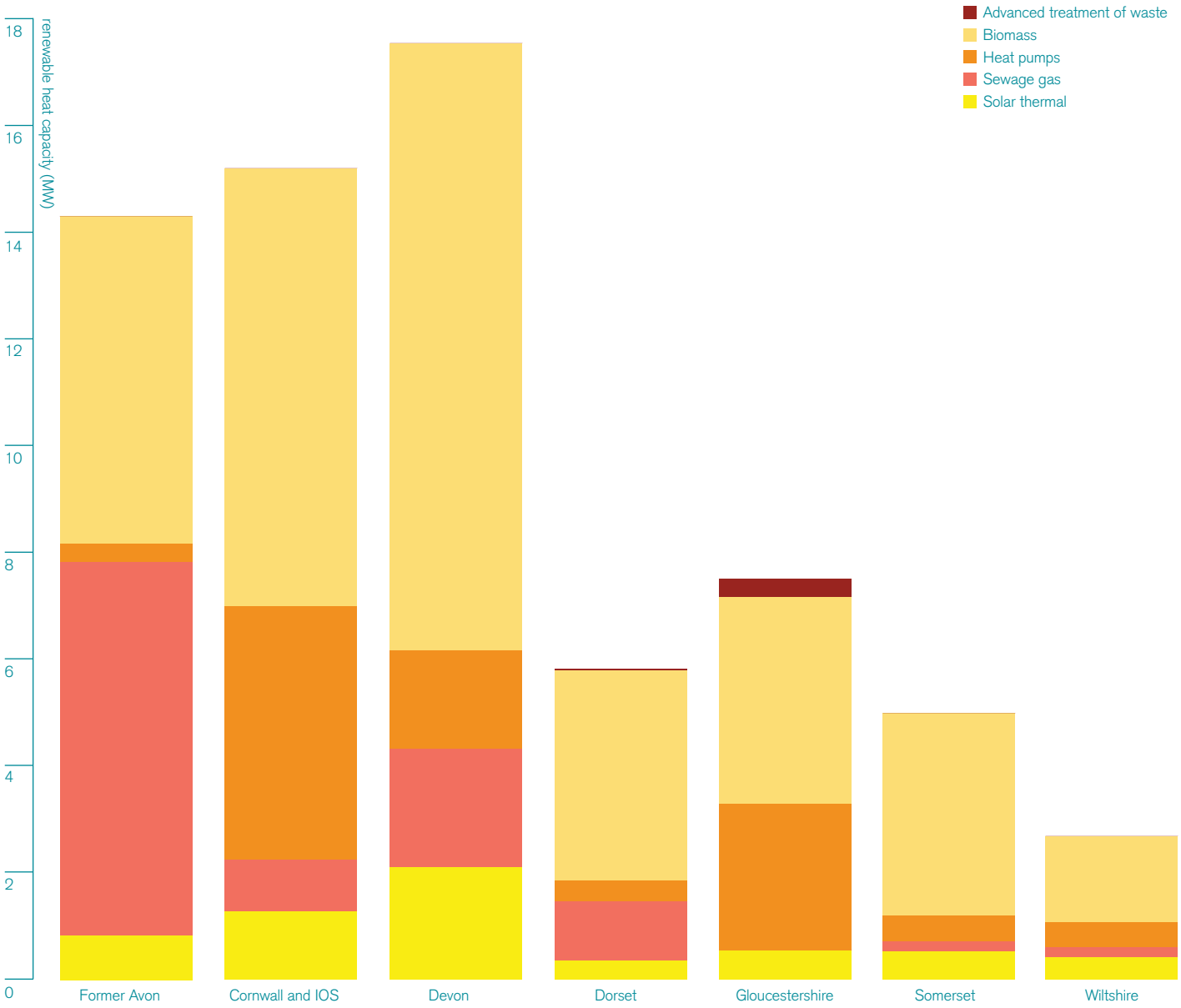
An additional **847 renewable heat projects** were **installed** in the **south west,** bringing the **total capacity** to **68.06 MW**. This is an **increase** in **net renewable heat capacity** of **13.47 MW (20 per cent)** over the past year.

Table 2 - South west installed renewable heat January 2010

Area	Number of projects	South west renewable heat capacity (MW)						% of total RH capacity
		ATW*	Biomass	Heat pumps	Sewage gas	Solar thermal	Area total	
Former Avon	198	0	6.13	0.34	7.00	0.83	14.31	21.0%
Cornwall and IOS	618	0	8.19	4.76	0.96	1.29	15.19	22.3%
Devon	1127	0	11.36	1.85	2.21	2.12	17.54	25.8%
Dorset	183	0.02	3.94	0.39	1.10	0.37	5.82	8.6%
Gloucestershire	294	0.34	3.86	2.75	0	0.56	7.52	11.0%
Somerset	255	0	3.79	0.47	0.20	0.53	4.99	7.3%
Wiltshire	167	0	1.60	0.47	0.20	0.42	2.69	4.0%
South west totals	**-**	**0.36**	**38.88**	**11.02**	**11.67**	**6.14**	**68.06**	**100.0%**
% of total RH capacity	**-**	**0.5%**	**57.1%**	**16.2%**	**17.1%**	**9.0%**	**100.0%**	**-**
Number of projects	**2842**	**2**	**352**	**504**	**14**	**1970**	**-**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Fig 4 - South west installed renewable heat capacity January 2010



Portland Marina
Brand new for 2009, Portland Marina is part of the venue for hosting the sailing events for the London 2012 Olympic & Paralympic Games. At least 10 per cent of the marina's energy will be generated from renewable sources, including electricity from three 20 kW wind turbines, which are directly linked to the marina's power supply.
(Photograph courtesy of G&H Group Ltd.)

Area summary

Regen SW recognises the key role that local authorities play in planning for and driving the delivery of renewable energy. Together with south west councils, DECC and the Environment Agency, Regen SW has worked with local authorities to develop a range of tools to support them in understanding and planning for sustainable energy. These tools, available from June 2010, include:

- **the south west heat map**, which offers GIS layers, estimating heat demand down to individual building-level across the south west. The south west heap map includes functions that enable opportunities for district heating to be readily identified. Visit www.swheatmap.co.uk for details
- **renewable energy resource assessments**, which provide updated spatial information on renewable energy resources available in the south west. These GIS layers will be available from Regen SW for use by local authorities in developing their sustainable energy evidence base. Visit www.regensw.co.uk for details
- **the south west planning toolkit**, which offers step-by-step guidance on developing and implementing local policies that respond to the Climate Change PPS supplement and on the implications of the new PPS: Planning for a low carbon future in a changing climate. Visit www.swplanningtoolkit.co.uk/climate for details
- **training modules for local authorities on sustainable energy**. These courses, produced and delivered by the South West Sustainability Training Network, have been designed to meet the training needs of members and officers on a range of sustainable energy issues. Visit www.regensw.co.uk for details

County performance

Cornwall and the Isles of Scilly remains the area with the greatest number of megawatts installed, providing 34 per cent of the south west's renewable electricity capacity. However, it falls in second place behind Devon for the number of installations and renewable heat capacity.

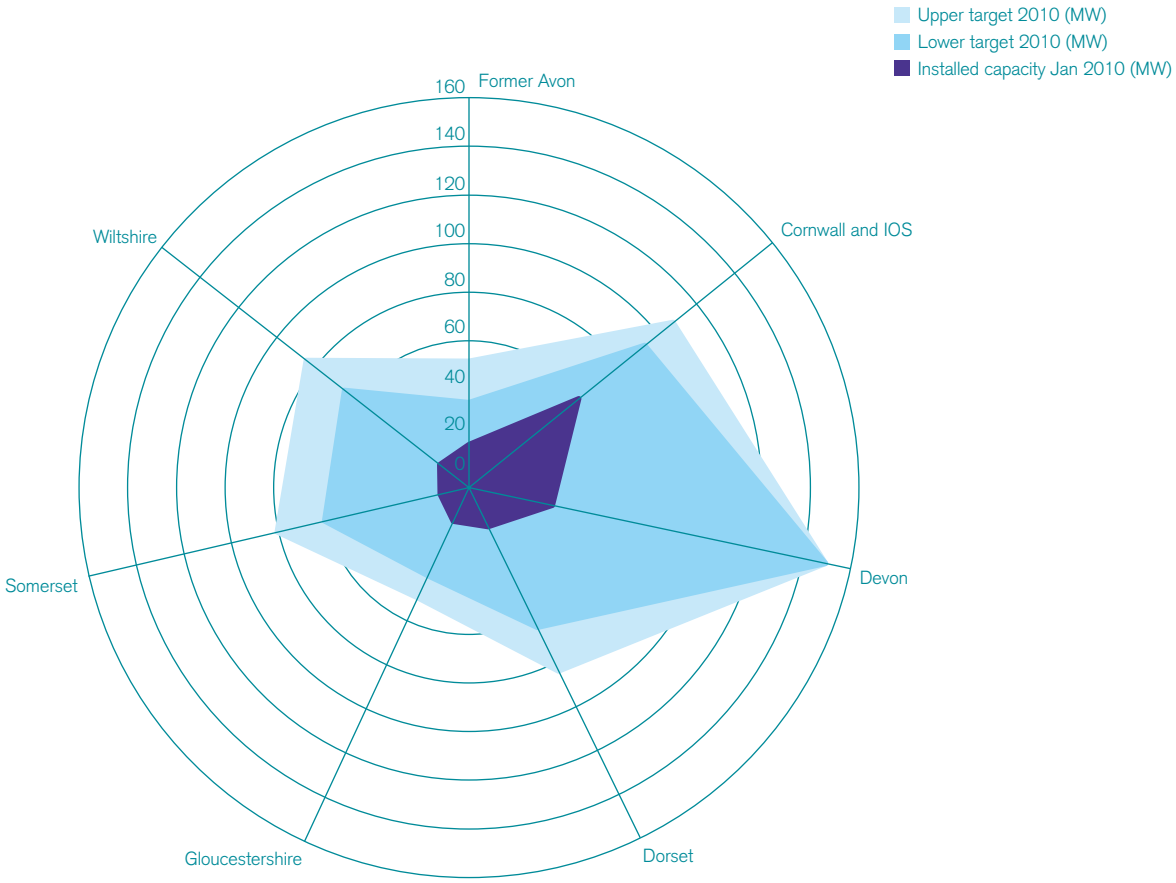
Devon leads the south west for renewable heat, with 17.54 MW of capacity (26 per cent) from 1127 installations. The county is also a main contributor to the south west renewable electricity capacity, with 35.08 MW (20 per cent) of the area's capacity and the highest number of installed projects in the south west.

Former Avon has the greatest percentage increase in the number of renewable projects installed. It also has the greatest recorded capacity of projects either in planning or approved (142.22 MW), followed by Cornwall (108.65 MW) and Devon (97.32 MW).

Somerset has the lowest capacity of renewable electricity in the south west with 12.18 MW (7 per cent).

Wiltshire has the least renewable electricity or heat projects installed, with 63 and 167 respectively. It was, however, the county with the greatest percentage increase for renewable heat capacity in 2009/10.

Fig 5 - Progress against 2010 renewable electricity targets



No area within the **south west** is currently meeting it's **2010 renewable electricity target,** established through the **REvision 2010** report.

Former Avon[5]

Renewable electricity

Total capacity: 17.72 MW • New capacity: 0.22 MW
Total projects: 96 • New projects: 74

New in 2009/10

In the past year, 71 (96 per cent) new installations recorded in Former Avon were solar PV. With a net capacity of 0.19 MW these account for 86 per cent of the increase in capacity. In addition to these, a small-scale domestic hydro project with a capacity of 8.5 kW was installed in North Somerset, and two onshore wind turbines with capacities of 15 kW and 5 kW respectively were installed at Noah's Ark Zoo in North Somerset and at Bristol city's Colston Hall concert hall.

Overall in the area

- Schools provide 0.02 MW of capacity. Public sector buildings such as the new Environment Agency offices in Bristol will boost the public sector renewable capacity in the area for 2011.
- After Cornwall, Bristol City leads the south west's wind capacity with 6.05 MW installed, primarily from the three 2 MW onshore wind turbines at Bristol Port.
- Currently 34 per cent of the area's renewable electricity capacity is from onshore wind, 32 per cent sewage gas, 31 per cent landfill gas. The remaining three per cent is from solar PV, advanced treatment of waste and small scale hydro.

Renewable heat

Total capacity: 14.31 MW • New capacity: 2.02 MW
Total projects: 198 • New Projects: 117

New in 2009/10

Biomass was the greatest contributor to new capacity with an increase of 1.20 MW from seven installations. 102 (87 per cent) of the new projects installed in Former Avon were solar thermal, bringing the area 0.70 MW of new renewable heat capacity. The remaining new installations in 2009/10 were air and ground source heat pumps, with a combined capacity of 0.11 MW.

Overall in the area

- The public sector contributes 5.47 MW of capacity from council, educational, cultural and recreation buildings.
- The key contributors to capacity are sewage gas and biomass with 7.00 MW (49 per cent) and 6.13 MW (43 per cent) respectively.
- The technology with the highest number of installations is solar thermal, with 154 projects (77 per cent).

[5] Former Avon is used in the annual survey for consistency with Regen SW documents and published south west targets. The area consists of Bath & North East Somerset, Bristol City, North Somerset, and South Gloucestershire councils, that until 1996 made up the county of Avon.

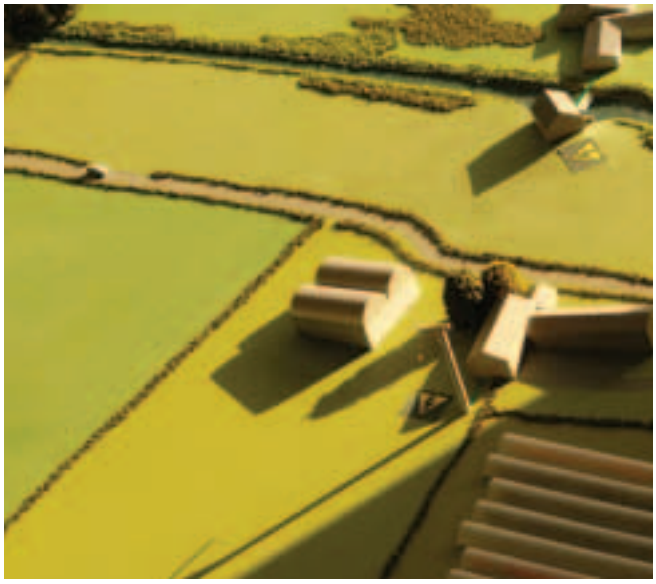
PlanLoCal in Bath and North East Somerset

The Centre for Sustainable Energy's new three-year project, PlanLoCaL ('Planning for Low Carbon Living'), seeks to help communities in England contribute positively to a low-carbon future and have the confidence, knowledge and ambition to influence local plans to achieve this.

Funded through the Department for Communities and Local Government's Empowerment Fund, there are four strands: working with a local authority to consult residents; supporting an umbrella group working directly with communities; supporting 'green groups' not engaged with the planning process; and working with groups who have a knowledge of the planning system, but who aren't necessarily focused on sustainability.

Bath and North East Somerset Council are drawing on support from PlanLoCaL to develop their LDF core strategy in consultation with communities across the area.

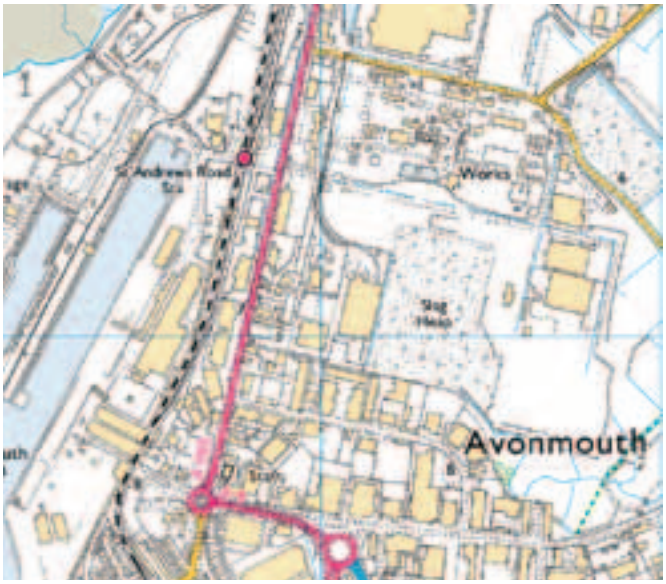
(source: CSE)



Waste to energy and onshore wind projects at Avonmouth

The past year has seen a range of opportunities develop at Avonmouth.

- In planning there is 150 MWe from a biomass scheme, and 37 MWe from a waste to energy scheme.
- There is 100 MWe of biomass and either 12 MWe or 50 MWth of waste to energy approved.
- Bristol City Council's long standing commitment to renewable energy and proactive approach has led to them obtaining planning approval to build two 3 MW wind turbines at Avonmouth.
- A 50 MWe palm oil fuelled biomass plant was rejected by Bristol City Council's planning committee after objections were received relating to the potential sustainability of the fuel source.



SG Futurenergy

South Gloucestershire Council, working in partnership with Severn Wye Energy Agency (SWEA), has set up a renewable energy advice scheme called SG Futurenergy. Funded by the council, the scheme is designed to offer householders advice, grants, support or a low interest loan to help them install renewable energy in their home. To date 66 renewable energy grants have been issued with a further nine projects pending installation.

(Source: South Gloucestershire Council)

Table 3 – Former Avon installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
Bath & North East Somerset	19	0	0	0	0.01	0	0.05	0.06
Bristol City	30	0.23	0	0	6.01	5.75	0.10	12.08
North Somerset	23	0	0.01	2.14	0.02	0	0.04	2.21
South Gloucestershire	24	0.00	0.00	3.31	0.02	0.00	0.05	3.38
Former Avon totals	**-**	**0.23**	**0.01**	**5.45**	**6.05**	**5.75**	**0.24**	**17.72**
Number of projects	**96**	**1**	**1**	**4**	**7**	**1**	**82**	**-**

Table 4 – Former Avon installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
Bath & North East Somerset	28	0	0.19	0.09	0	0.07	0.35
Bristol City	39	0	3.79	0	7.00	0.24	11.03
North Somerset	47	0	0.51	0.10	0	0.27	0.88
South Gloucestershire	83	0	1.48	0.15	0	0.26	1.89
LA unknown	1	0	0.16	0	0	0	0.16
Former Avon totals	**-**	**0**	**6.13**	**0.34**	**7.00**	**0.83**	**14.31**
Number of projects	**198**	**0**	**26**	**17**	**1**	**154**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Cornwall and The Isles of Scilly

Renewable electricity

Total capacity: 58.13 MW • New capacity: 0.31 MW
Total projects: 182 • New projects: 55

New in 2009/10

In 2009/10 the increase in microgeneration in Cornwall was significant, with 37 new solar PV and 17 new micro and small-scale wind projects. The increase in capacity is split evenly between technologies, with PV and sewage gas both increasing by 0.11 MW and onshore wind increasing by 0.10 MW. The new project with the greatest capacity installed in the last year was the Nanstallon sewage-gas combined heat and power plant near Bodmin.

Overall in the area

- Cornwall and the Isles of Scilly provide 34 per cent of the south west's renewable electricity capacity.
- 43.72 MW (75 per cent) of capacity comes from onshore wind, with a capacity of greater than 1 MW at eight sites. Although there were no new major schemes in 2009/10, existing projects produce enough power for 23,450 households.
- Public sector buildings provide 0.20 MW of capacity from solar PV and micro to small-scale wind. This includes projects at schools, social housing[6] and at the Environment Agency's Tolgus and Launceston Depots.

Renewable heat

Total capacity: 15.19 MW • New capacity: 2.24 MW
Total projects: 618 • New projects: 151

New in 2009/10

The greatest increase in renewable heat capacity in Cornwall and the Isles of Scilly has been through the installation of 38 biomass boilers, adding a total of 1.31 MW. This includes the new 0.75 MW boiler installed at the Royal Cornwall Hospital in Truro. The greatest number of installations in 2009/10 were solar thermal, with 99 newly installed projects, followed by ground and air source heat pumps with 39.

Overall in the area

- Biomass provides 8.19 MW (54 per cent) of the renewable heat capacity, followed by heat pumps with 4.76 MW (31 per cent). With an average capacity of 3.5 kW, solar thermal provides 1.29 MW (nine per cent) of the capacity, and sewage gas 0.96 MW (six per cent).
- Over a dozen National Trust properties across Cornwall have a range of renewable heat technologies installed.
- 41 public sector buildings have renewable heat installations, contributing 3.29 MW towards the area's capacity.

[6] Social housing includes both private housing association and council owned projects.

Table 5 – Cornwall and IOS installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
Cornwall	175	0	1.59	11.94	43.72	0.50	0.38	58.13
Isles of Scilly	7	0	0	0	0	0	0.01	0.01
Cornwall and IOS totals	**-**	**0**	**1.59**	**11.94**	**43.72**	**0.50**	**0.39**	**58.13**
Number of projects	**182**	**0**	**18**	**6**	**73**	**3**	**82**	**-**

Table 6 – Cornwall and IOS installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
Cornwall	603	0	8.19	4.71	0.96	1.29	15.14
Isles of Scilly	15	0	0	0.05	0	0.01	0.05
Cornwall and IOS totals	**-**	**0**	**8.19**	**4.76**	**0.96**	**1.29**	**15.19**
Number of projects	**618**	**0**	**38**	**210**	**3**	**367**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Unitary Cornwall

Cornwall Council was established as a unitary local authority in April 2009. Following re-organisation, the countywide 'Natural Resources' planning team was formed to deal with policy and planning applications relating to minerals, waste and large-scale renewable/low-carbon energy projects. The team is currently experiencing a high level of interest in proposals for onshore wind, geothermal and solar PV within Cornwall.

This work is taking place hand in hand with the Green Cornwall programme that has been established. The programme has a number of themes, including development of a low-carbon economy in Cornwall; development of a series of renewable energy projects; and greater partnership working with both public sector and private sector organisations.

The low-carbon economy is an important strand of this work. Its purpose is to reduce the council's carbon footprint by achieving the Carbon Trust Standard and other similar benchmarks, by introducing AMR to all of its buildings, and by encouraging staff to engage in the low-carbon ethos.

On renewable energy, the council has excelled, adopting challenging targets for energy self-sufficiency and commencing the procurement of the UK's first commercial size local authority solar energy park. This is expected to come into operation in 2011.

Renewables within communities

Across Cornwall 0.15 MW of electricity capacity comes from community-oriented or community-owned projects, such as the two 6 kW wind turbines at Chyan Community Field, installed at the end of 2009. This project was supported by Community Energy Plus - Cornwall's leading charity delivering local solutions to fuel poverty, energy efficiency and renewable energy, with EDF Energy awarding over £28,000 and the government's Low Carbon Building Programme a further £28,000.

(source: CEP)

Newquay Zoo – winner of the Cornwall sustainability awards 2009, for best medium sized business

As part of its goal to reduce carbon emissions by 10 per cent by the end of 2010, Newquay Zoo has installed 50 solar PV panels (totalling 9 kW) to generate electricity for their Monkey Walk and 3 of solar thermal panels (totalling 1 kW) for hot water in the Café Lemur restaurant.

(source: CEP)

Devon

Renewable electricity

Total capacity: 35.08 MW • New capacity: 0.33 MW
Total projects: 241 • New projects: 88

New in 2009/10

Devon saw the greatest number of new renewable electricity installations in 2009/10, the majority of these (69) were solar PV. No new projects installed were over 0.05 MW. However, the planned 18 MW Den Brook wind farm in Mid Devon was approved at the high court appeal in December 2009.

Overall in the area

- Across Devon 0.41 MW of capacity is from public sector sites or buildings.
- 20.31 MW (58 per cent) of the capacity is from landfill gas, followed by hydro and wind with 6.81 MW and 3.40 MW (19 and 10 per cent) respectively. The remaining capacity is from advanced treatment of waste, sewage gas and solar PV.
- West Devon is the leading local authority area in the south west on small scale hydropower, with a capacity of 3.69 MW. Across the county there are 26 hydro projects with a net capacity of 6.81 MW.

Renewable heat

Total capacity: 17.54 MW • New capacity: 4.31 MW
Total projects: 1127 • New projects: 207

New in 2009/10

In the past year the county had the greatest increase of renewable heat in the region in both the number of projects installed and in capacity. The majority of this came from a 3.30 MW increase in biomass from 43 new installations. This included a 0.85 MW biomass boiler for Devon County Council in Exeter. 31 new heat pumps and 133 new solar thermal projects bring a combined capacity of 0.62 MW and 0.39 MW respectively.

Overall in the area

- This year's increase in renewable heat projects brings the total number of installations in the county to 1,127, the greatest across the south west[7].
- 45 per cent of renewable heat capacity in the county is from commercial sites or buildings, 36 per cent from domestic, 13 per cent from the public sector, and six per cent from community or charity-focused projects.

[7] Multiple county-wide installations (from a single source) previously grouped together were this year counted as individual installations.

Devon County Council leads on biomass

The three-year pilot Ward Forester project was recently launched across Devon by Devon County Council and the Forestry Commission. This aims to encourage woodlands into management, using woodfuel as a catalyst, by giving woodland owners access to the help and expertise in the industry necessary to access grants and manage their woodlands in a cost effective way.

County Hall biomass boiler
In 2009 Devon County Council won the South West Green Energy Award for most proactive council and the national Ashden Award for sustainable energy for establishing Renewable Energy for Devon (RE4D). The 840 kW biomass boiler installed at County Hall, Exeter, was commissioned in 2009 and is expected to save 350 tonnes of CO_2 every year. Devon County Council is going out to tender for three more boilers, which will be installed during the 2010/11 financial year.

Table 7 – Devon installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
East Devon	24	0	0	0	0.01	0.11	0.07	0.18
Exeter City	10	0	0	0	0	0.66	0.02	0.68
Mid Devon	26	0	0	4.89	0.06	0.03	0.04	5.03
North Devon	33	0	0.61	0	0.08	0	0.21	0.90
Plymouth City	15	0	0	7.39	0.04	0.27	0.04	7.75
South Hams	52	0	1.11	0	0.05	0.17	0.14	1.47
Teignbridge	25	0	0.43	6.02	0.01	0	0.04	6.49
Torbay	5	0	0	0	0.01	0	0.01	0.02
Torridge	27	2.70	0.98	2.01	3.10	0	0.03	8.81
West Devon	24	0	3.69	0	0.04	0	0.04	3.76
Devon totals	**-**	**2.70**	**6.81**	**20.31**	**3.40**	**1.23**	**0.63**	**35.08**
Number of projects	**241**	**1**	**26**	**7**	**63**	**6**	**138**	**-**

Table 8 – Devon installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
East Devon	97	0	1.99	0.32	0.17	0.20	2.67
Exeter City	23	0	1.02	0	1.20	0.04	2.26
Mid Devon	87	0	1.72	0.06	0.06	0.13	1.97
North Devon	122	0	0.98	0.48	0	0.35	1.81
Plymouth City	14	0	0	0.02	0.50	0.04	0.56
South Hams	104	0	0.98	0.47	0.29	0.15	1.87
Teignbridge	41	0	0.44	0.10	0	0.05	0.59
Torbay	6	0	0.10	0	0	0.01	0.11
Torridge	96	0	1.45	0.16	0	0.25	1.86
West Devon	74	0	1.24	0.25	0	0.13	1.62
LA unknown	463	0	1.44	0	0	0.77	2.21
Devon totals	**-**	**0**	**11.36**	**1.85**	**2.21**	**2.12**	**17.54**
Number of projects	**1127**	**0**	**149**	**103**	**6**	**869**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Dorset

Renewable electricity

Total capacity: 17.89 MW • New capacity: 4.65 MW
Total projects: 112 • New projects: 47

New in 2009/10

Dorset has seen the greatest percentage increase in renewable energy capacity in 2009/10, with a 35 per cent rise on last year's recorded capacity. However, progress with large planned projects was poor. The 12 MW Silton wind farm was refused in July 2009 after the project was recommended for approval by North Dorset planning officers. Currently in planning, the 9.2 MW Alaska wind farm at Masters Pit, in Purbeck, could provide 11 per cent of the county's 84 MW 2010 renewable energy target.

Overall in the area

- Landfill gas makes up 14.34 MW (80 per cent) of the capacity, and sewage gas 2.30 MW (13 per cent).
- Two anaerobic digestion plants provide 0.85 MW (five per cent) of renewable electricity to farms in the county, while the capacity from small scale hydro in the county remains low, with two projects of 6 kW each installed prior to 2008.
- Nearly a quarter of the renewable electricity installations in Dorset are public sector. Schools in the county provide 0.09 MW of capacity from solar PV along with micro and small scale wind.

Renewable heat

Total capacity: 5.82 MW • New capacity: 1.72 MW
Total projects: 183 • New projects: 54

New in 2009/10

Solar thermal is the key contributor to the growth of project numbers in Dorset in 2009/10 with 39 new installations with a net total of 0.09 MW. Biomass has added 1.52 MW of renewable heat and the remaining 0.11 MW is from heat pumps. Of the new installations recorded, 50 are domestic, three public sector and one commercial.

Overall in the area

- Biomass continues to provide the majority (68 per cent) of the capacity, with 3.94 MW from 26 installations. Sewage gas provided 1.10 MW (19 per cent) and heat pumps and solar thermal provide 0.39 MW (seven per cent) and 0.37 MW (six per cent) respectively.
- North Dorset has the highest renewable heat capacity in the county with 1.59 MW, largely from biomass.
- With 69 projects West Dorset has the greatest number of installations spread between solar thermal (44), biomass (13) and heat pumps (12).
- The public sector provides 36 per cent of the county's renewable heat with 2.09 MW. Guys Marsh Prison is the single largest contributor to renewable heat in the county with a total of 1.37 MW from two biomass boilers and a small anaerobic digestion plant.

Dorset Community Sustainable Energy Working Group

Dorset Energy Group, chaired by Dorset County Council, is the body that co-ordinates and monitors the delivery of the key actions laid out in the Renewable Energy Strategy and Action Plan, and Energy Efficiency Strategy and Action Plan for Bournemouth, Dorset and Poole. Dorset Energy Advice Centre chairs the Community Sustainable Energy Working Group whose aim is to deliver the community-based actions of these strategies. This is done through supporting energy efficiency and renewable energy on community buildings, providing training for community groups, and establishing a community sector sustainable energy network for Dorset. The group consists of local authorities, members of Transition Town Dorchester, Bridport Renewable Energy Group, DA21, Dorset Energy Advice Center and the Energy Saving Trust.

Salway Ash CE VA School, West Dorset
The new Salway Ash CE VA Primary School near Bridport includes a 23 kW air source heat pump, a 6 kW wind turbine and a 4 kW solar PV array. The project is expected to reduce the school's carbon footprint by saving 7.8 tonnes of CO_2 each year.
(source: Ace Energy and Aeolus Power Ltd)

Table 9 – Dorset installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
Poole	7	0	0	6.92	0	1.40	0.02	8.33
Bournemouth	7	0	0	0	0	0.90	0.03	0.93
Christchurch	7	0	0	0	0	0	0.01	0.01
East Dorset	13	0	0	0	0	0	0.02	0.02
North Dorset	11	0.37	0	0	0.02	0	0.01	0.40
Purbeck	13	0	0	7.41	0.03	0	0.02	7.46
West Dorset	41	0.48	0.01	0	0.05	0	0.09	0.62
Weymouth & Portland	13	0	0.01	0	0.08	0	0.04	0.12
Dorset totals	-	0.85	0.01	14.32	0.18	2.30	0.24	17.89
Number of projects	112	2	2	3	24	2	79	-

Table 10 – Dorset installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
Poole	14	0	0.50	0.06	0	0.02	0.57
Bournemouth	12	0	0.30	0	1.10	0.02	1.42
Christchurch	4	0	0.15	0	0	0.01	0.16
East Dorset	28	0	0	0.03	0	0.05	0.08
North Dorset	30	0.02	1.45	0.07	0	0.06	1.59
Purbeck	13	0	0.20	0.03	0	0.02	0.24
West Dorset	69	0	0.57	0.18	0	0.18	0.93
Weymouth & Portland	10	0	0	0.02	0	0.02	0.04
Unknown	3	0	0.78	0	0	0.00	0.78
Dorset totals	**-**	**0.02**	**3.94**	**0.39**	**1.10**	**0.37**	**5.82**
Number of projects	**183**	**1**	**26**	**30**	**1**	**125**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Gloucestershire

Renewable electricity

Total capacity: 15.28 MW • New capacity: 0.21 MW
Total projects: 90 • New projects: 49

New in 2009/10

Gloucestershire has seen an increase in renewable electricity capacity from micro and small scale wind (0.03 MW) and solar PV (0.18 MW). Two solar PV installations of 6 kW and 7 kW were installed on community buildings in Gloucestershire; at Eastington Village Hall in Stroud, and Bethesda Methodist Church in Cheltenham.

Overall in the area

- Currently 12.78 MW (84 per cent) of the county's renewable electricity comes from landfill gas, and 1.21 MW (eight per cent) from sewage gas. The downward capacity trend from landfill gas in Gloucestershire was reversed at a number of sites by the installation of new engines at existing projects, and therefore has not been classified as new for 2009/10.
- Solar PV, micro/small-scale wind and small-scale hydro account for 82 of the projects (91 per cent) installed in the county and 0.99 MW of the renewable electricity capacity.
- The public sector accounts for 14 per cent of the renewable electricity capacity from microgeneration projects across the county.

Renewable heat

Total capacity: 7.52 MW • New capacity: 1.24 MW
Total projects: 294 • New projects: 131

New in 2009/10

Of the new installations in 2009/10, the 121 domestic installations contribute most significantly, with a net capacity of 0.66 MW followed by the public sector with 0.47 MW. Overall, biomass accounted for 48 per cent of the renewable heat capacity increase recorded across the county, heat pumps account for 32 per cent and solar thermal for 20 per cent.

Overall in the area

- Currently 51 per cent of capacity is from biomass, 37 per cent is from heat pumps and the remainder is from anaerobic digestion and solar thermal.
- The public sector accounts for 3.16 MW (42 per cent) of capacity. Of this, 0.11 MW is from social housing.
- The county has 0.34 MW of renewable heat from anaerobic digestion installed in the Cotswold district. An additional 0.25 MW project is currently being installed at Homeleaze Farm. This will be fuelled on pig slurry, farm yard manure and poultry litter.

S2S (Solid to Sustainable) Project, Frampton on Severn, Stroud

Following the successful installation of ground source heat pumps in a trial of six council-owned properties, Stroud District Council approved additional funding for 2009/10 for the S2S (Solid to Sustainable) project.

This project involved working with an energy provider to install ground source heat pumps in both council-owned and privately owned properties in Frampton on Severn. The S2S project included 23 council properties and 9 private properties. There are other renewable measures being undertaken by householders in Frampton besides ground heat pumps, such as air-to-air and solar thermal. The S2S Project will run to until 2011.

(source: Stroud District Council)

Gloucestershire Renewable Energy grant (GREG)

Gloucestershire County Council and the six districts have all developed Climate Change Strategies and funded the Gloucestershire Renewable Energy Grant scheme (GREG), an advice service administered by Severn Wye Energy Agency. In the financial year 2009/10 the GREG scheme provided funding for 110 renewable electricity and heat projects to be installed, with grants of £1,000 each. This has had a significant impact on the number of new installations in Gloucestershire. The scheme also provided energy efficiency and renewable energy advice.

Elkstone Manor, Cotswolds AONB

The project, which is located within the Cotswolds area of outstanding natural beauty, consists of 390 ground mounted units spread across one third of an acre, with a total capacity of 70.2 kW. With a site situated close to the beautifully maintained private country house within a sensitive landscape, owner Christine Shine included banked landscaping in the project design. As a result the units are not usually visible to either the public or the house guests. Other sustainable energy measures at Elkstone Manor include heat pumps, Black Mountain wool insulation, thermalite paint and transparent blinds for double glazing.

(source: SWEA and Elkstone Manor. Photograph courtesy of Green Energy UK, who buy the excess electricity from Elkstone manor)

Table 11 – Gloucestershire installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
Cheltenham	4	0	0	0	0	0	0.01	0.01
Cotswold	13	0.30	0	0	0	0	0.14	0.44
Forest of Dean	20	0	0	0	0.02	0	0.05	0.07
Gloucester City	12	0	0	8.24	0.02	0.63	0.08	8.97
Stroud	31	0	0.04	1.40	0.51	0.58	0.11	2.63
Tewkesbury	10	0	0	3.14	0	0	0.02	3.16
Gloucestershire totals	**-**	**0.30**	**0.04**	**12.78**	**0.55**	**1.21**	**0.41**	**15.28**
Number of projects	**90**	**1**	**4**	**4**	**10**	**3**	**68**	**-**

Table 12 – Gloucestershire installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
Cheltenham	22	0	0	0.71	0	0.03	0.74
Cotswold	51	0.34	1.89	0.52	0	0.05	2.80
Forest of Dean	36	0	0.20	0.13	0	0.07	0.40
Gloucester City	14	0	0	0.95	0	0.08	1.04
Stroud	146	0	1.46	0.33	0	0.27	2.06
Tewkesbury	23	0	0.07	0.10	0	0.05	0.22
Unknown	2	0	0.24	0.01	0	0	0.25
Gloucestershire totals	**-**	**0.34**	**3.86**	**2.75**	**0**	**0.56**	**7.52**
Number of projects	**294**	**1**	**29**	**89**	**0**	**175**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Somerset

Renewable electricity

Total capacity: 12.18 MW • New capacity: 0.86 MW
Total projects: 107 • New projects: 65

New in 2009/10

With 65 new projects recorded in the past year, Somerset has more than doubled its number of renewable electricity projects. The greatest increase in Somerset in 2009/10 has been from the 0.65 MW Cannington Cold Stores anaerobic digestion plant in Sedgemoor.

Overall in the area

- Landfill gas remains the greatest contributor to capacity with 8.77 MW (72 per cent) between four sites. This is followed by onshore wind with 1.87 MW (15 per cent) and advanced treatment of waste with 0.65 MW (5 per cent). The remaining capacity is from small-scale hydro, sewage gas and solar PV.
- There are 15 small-scale hydro projects in Somerset with a net capacity of 0.47 MW. The largest of these is the 0.32 MW site at Maundown, owned by Wessex Water.

Renewable heat

Total capacity: 4.99 MW • New capacity: 1.08 MW
Total projects: 255 • New projects: 107

New in 2009/10

Biomass provided 0.72 MW towards the new capacity increase, solar thermal provided 0.24 MW and heat pumps 0.11 MW. In Somerset 105 of the new renewable heat installations recorded in 2009/10 were domestic. South Somerset saw the greatest increase in renewable heat in the county with 0.38 MW from 29 new projects.

Overall in the area

- West Somerset continues to have the greatest number of renewable heat projects (65 projects) in the county and Mendip continues to have the greatest installed renewable heat capacity (1.23 MW).
- The project with the greatest renewable heat capacity in Somerset is the 0.5 MW biomass boiler at the Bath and West Showground in Mendip.
- The public sector has a lower contribution in Somerset with only 4 per cent of the county's capacity compared to a 24 per cent south west average.

Maundown, Taunton Deane - Clean Water Supply Treatment Works

The two new commercial renewable heat installations in Somerset were located at Maundown water treatment works in Taunton Dean. The site includes a new 15 kW wood-pellet-fuelled biomass boiler and a 72 m^2 540-tube solar thermal array with a capacity of 42 kW. The fully integrated system provides base-load heating and hot water to the works.

(Source: Wessex Water. Photo courtesy of Race Cottom Associates)

Table 13 – Somerset installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
Mendip	25	0	0.08	0	1.82	0	0.04	1.95
Sedgemoor	22	0.65	0.01	2.57	0.00	0	0.07	3.29
South Somerset	33	0	0.06	5.17	0.03	0	0.06	5.31
Taunton Deane	22	0	0.32	1.04	0.01	0.17	0.07	1.61
West Somerset	5	0	0.01	0	0	0	0.01	0.02
Somerset totals	**-**	**0.65**	**0.47**	**8.77**	**1.87**	**0.17**	**0.25**	**12.18**
Number of projects	**107**	**1**	**15**	**4**	**11**	**1**	**75**	**-**

Table 14 – Somerset installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
Mendip	41	0	1.07	0.06	0	0.10	1.23
Sedgemoor	36	0	0.34	0.11	0	0.04	0.50
South Somerset	59	0	0.65	0.23	0	0.13	1.00
Taunton Deane	52	0	0.66	0.06	0.20	0.13	1.05
West Somerset	65	0	0.78	0.01	0	0.12	0.90
Unknown	2	0	0.30	0	0	0.00	0.30
Somerset totals	**-**	**0**	**3.79**	**0.47**	**0.20**	**0.53**	**4.99**
Number of projects	**255**	**0**	**66**	**29**	**1**	**159**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Yeovil Innovation Centre, South Somerset

A 20 m wind turbine designed to power over 10 per cent of Yeovil Innovation Centre was installed in June 2009. The 15 kW turbine is one of the projects being run by South Somerset District Council's (SSDC) Climate Change team to reduce the council's own carbon emissions and will produce over 29,000 kWh of energy each year. The £56,000 project was funded through an £18,000 EDF Energy Green Fund grant, a £22,820 grant from the Low Carbon Building Programme and £15,563 from SSDC.

(source: CSE)

Wiltshire

Renewable electricity

Total capacity: 15.30 MW • New capacity: 1.18 MW
Total projects: 63 • New projects: 37

New in 2009/10

Wiltshire's renewable electricity capacity has increased by 8.4 per cent compared to last year's recorded levels. The majority of this increase is from a 1.12 MW landfill gas project near Calne. The remainder is from 36 new solar PV installations providing a net capacity of 0.06 MW.

Overall in the area

- Landfill gas provided 14.37 MW (94 per cent) of Wiltshire's renewable electricity capacity.
- The renewable electricity technology with the greatest number of installed projects in Wiltshire is solar PV (47 projects), followed by landfill gas (eight projects).
- Wiltshire has no large scale renewable electricity projects in planning. However, in December 2009 Ecotricity put forward a proposal for four 2 MW wind turbines on the South Marston Industrial Estate, Swindon. Extensive environmental assessment is being undertaken at the site and if the proposal is to progress a comprehensive public consultation program will be put in motion.

Renewable heat

Total capacity: 2.70 MW • New capacity: 0.86 MW
Total projects: 167 • New projects: 80

New in 2009/10

Wiltshire has had the greatest percentage increase in renewable heat capacity in 2009/10, with a rise of 47 per cent compared to last year's recorded capacity. 60 per cent of the newly installed renewable heat capacity in Wiltshire is from biomass (0.53 MW), while the highest number of installations are solar thermal, with 61 projects providing a net capacity of 0.20 MW.

Overall in the area

- In Wiltshire 1.60 MW (60 per cent) of renewable heat capacity is from biomass, 0.47 MW (17 per cent) from heat pumps and 0.42 MW (16 per cent) from solar thermal.
- Biomass accounts for only 11 per cent of the installations, with 18 projects, whereas there are 121 solar thermal projects in the county.
- Public sector projects account for 26 per cent of capacity with 0.48 MW from schools, 0.07 MW from social housing[9] and 0.14 MW from other buildings such as museums, libraries and recreational centres.

[9] Social housing includes both private housing association and council owned projects.

Communities - Climate Friendly Bradford

There are many community groups in Wiltshire working to develop local renewable energy and heat schemes. One example, Climate Friendly Bradford, has had a particular success recently, gaining £150,000 funding from British Gas through their Green Streets award. This scheme will see the installation of energy-saving and renewable energy technologies within Bradford on Avon.

Braeside Education and Conference Centre
Wiltshire Council has installed two solar thermal systems at the centre: one on the main building covering 13.45 m^2, and a small one that covers 8.07 m^2 on the residential chalet used by people with disabilities. These have an estimated annual energy output of 9,000 kWh

Unitary Changes

Wiltshire Council was formed on 1 April 2009 following a process of local government re-organisation. Climate Change was identified as an important corporate priority for the new council and a climate change team has been formed. The four key objectives established by the team are:

- reduce the council's carbon footprint
- work with partners to reduce Wiltshire's carbon footprint
- ensure that Wiltshire is prepared for unavoidable climate change
- prepare the council for carbon trading

Table 15 – Wiltshire installed renewable electricity January 2010

Local Authority	Number of projects	Renewable electricity capacity (MW)						
		ATW*	Hydro	Landfill Gas	Onshore wind	Sewage gas	Solar PV	Area total
Swindon	16	0	0	4.35	0.01	0.45	0.10	4.90
Wiltshire	47	0	0.08	10.02	0.01	0.17	0.12	10.39
Wiltshire totals	**-**	**0**	**0.08**	**14.37**	**0.02**	**0.62**	**0.22**	**15.30**
Number of projects	**63**	**0**	**1**	**8**	**4**	**3**	**47**	**-**

Table 16 – Wiltshire installed renewable heat January 2010

Local Authority	Number of projects	Renewable heat capacity (MW)					
		ATW*	Biomass	Heat pumps	Sewage gas	Solar Thermal	Area total
Swindon	13	0	0.42	0.01	0	0.02	0.45
Wiltshire	154	0	1.18	0.46	0.20	0.41	2.25
Wiltshire totals	**-**	**0**	**1.60**	**0.47**	**0.20**	**0.42**	**2.69**
Number of projects	**167**	**0**	**18**	**26**	**2**	**121**	**-**

* Advanced treatment of waste including anaerobic digestion and pyrolysis

Somerset's first **anaerobic digestion** or **'biogas' project** was installed at Cannington cold stores, Sedgemoor, in 2009. The **0.65 MW plant** is locally-fuelled with yogurt residue from Yeo Valley and fruit juice residue from Gerber Juice, along with maize and grass silage.

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Celtic Solar Ltd
Cheltenham Borough Council
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Salway Ash CE VA School
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Solar Twin Ltd
Solarsense UK Ltd
Soltrac Ltd
Somerset County Council
Source Energy Ltd
South Gloucestershire Council
South Somerset Hydropower Group
South West Water
Stride Treglown Ltd
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Please note that all figures in this report are approximations within the limits of the survey methodology.

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