



# Renewable energy

All the right elements



South West England

## All about our region

South West England has a track record of developing 'firsts' in renewable energy. This includes the first wind farm in the UK, the first centralised anaerobic digestion power station, the first commercial pyrolysis plant, the first green electrical company in the world and the first underwater tidal stream turbine in the world. Currently, there are over 470 renewable electricity schemes in the region with an installed capacity of 154 MW. There are also 1500 renewable heat projects representing 56 MW, including biomass heat, solar thermal, heat pumps and sewage gas CHP (Regen SW Annual Survey 2009 figures).

South West England has a thriving renewable energy industry, good natural resources and enjoys the UK's highest rates of relocation of professionally qualified people. Our workforce is highly motivated, it is no wonder therefore, that the region also has the highest survival rate of businesses in Britain. Today our regional industry is made up of over 750 businesses working directly in renewable energy, employing over 2900 people and contributing some £215 million to the economy. The sector has also seen a 37% annual employment growth rate since 2005. 90% of all these businesses expect to see a marked increase in their activity over the next three years. All this means the South West is the perfect environment for your renewable energy business.

## Resources for growth

South West England boasts companies with expertise across all renewable energy technologies. For example our region has a strong base in consultancy services, and is home to Garrad Hassan and Wardell Armstrong amongst others, who support companies and projects throughout the UK and around the world. Bristol alone is home to two tidal turbine device developers, reflecting our world leading status in marine renewables. Our innovative companies also have the support of world class expertise, resource and graduates from 13 world leading higher education institutions and research organisations such as the Peninsula Research Institute for Marine Renewable Energy (PRIMaRE), Bristol Technologies for the Environment Institute (BRITE Futures) and Bath Institute for Sustainable Energy and Environment (I-SEE).

## Support for your business

Core funded by the South West RDA, Regen SW is the sustainable energy agency for the region and works to support the South West sustainable energy industry by:

- 1. Unlocking sustainable-energy business opportunities**
- 2. Accelerating the uptake of the region's renewable energy resources**
- 3. Championing effective energy-demand-reduction initiatives in the region.**

Regen SW develop all aspects of the sustainable energy industry in the region by providing independent advice to decision makers, acting as a sounding board for developers, supporting projects across a range of micro and utility scale technologies and brokering new business through their supply chain service.

**To find out more information about the industry in the South West, and Regen SW, visit their website at**

[www.regensw.co.uk](http://www.regensw.co.uk)

### Our sectors

Aerospace • Biotechnology & Bio-medical technologies • Composite technologies • Creative Industries  
Environmental technologies • Financial services • Food and drink • Information Communications Technologies  
Manufacturing & advanced engineering • Marine Industries • **Renewable energy**

[www.southwestengland.com](http://www.southwestengland.com)

South West  
England

### Renewable heat technologies

Studies in the South West suggest that 16% of the regions 2.1 million homes have no access to mains gas, as they are too far from the gas grid network. These homes currently use expensive fuels such as oil, electricity and liquefied petroleum gas for their heating. Normal boiler replacement cycles mean that at least 60% of these homes are likely to replace their boiler between 2009 and 2020 (Regen SW – Road to 2020 Report). Therefore there is a huge opportunity for developers of renewable heat technologies to invest in the region, with future demands growing rapidly in the future. In particular the region is looking for:

- District heating systems
- Micro-CHP
- Renewable heat technologies suitable for retrofitting to hard to treat homes.

### Photovoltaics

South West England boasts the highest levels of solar radiation in the UK, up to 1300kWh/m<sup>2</sup> on a solar collector inclined at 30o facing due south, compared to only 900kWh/m<sup>2</sup> in Scotland. In 2008/09 there were 1.35MW of installations of PV in the South West compared to 1.10 MW in 2007/08. However, these two years combined represent only 1.6% of the total potential capacity of 151 MW of PV generation within the region. Subsequently there is huge potential for solar PV expertise and development within the South West. In particular, there is a requirement for:

- **Leading edge solar PV technologies**
- **Solar PV manufacturing and assembly**
- **Joint solar PV research and development**

### Marine (wave and tidal) energy

South West England has a unique combination of resources, knowledge, infrastructure and support for businesses that provide an ideal environment for the development of a world-class marine energy sector. This is matched by our financial commitment to developing the sector with a planned £70 million low-carbon programme between 2008 and 2012. Our marine energy resources are among the best in the world. We are actively working to accelerate ground-breaking initiatives such as the Wave Hub and Severn Tidal Power projects. And we also have access to another type of resource – knowledge. Recognising it as a key component of success, we are investing heavily in supporting new research, and encouraging direct links with the business community. In particular there is a requirement within the region for:

- **Marine energy technology developers**
- **Marine energy (Wave and Tidal) Project developers**
- **Marine manufacturing and fabrication.**

### Large scale onshore and offshore wind

With the potential of over 1000 MW of developable onshore wind capacity in the South West and only 52 MW built to date, there is scope for a large increase in the rate of installation of onshore wind turbines. Equally, there is the capacity and potential for offshore wind projects of over 1000 MW in the region (Regen SW—Road to 2020 Report) These offshore wind projects are critically dependant on being able to construct foundations for water depths of 30—50 meters at reasonable cost. Therefore the South West welcomes innovative and leading edge wind developers who wish to expand into this accelerating market and is particularly looking for:

- **Large scale wind component manufacture and assembly**
- **Offshore wind deep water foundation technology**
- **Expertise in composite design and manufacture for large scale wind systems.**

## Opportunities for investment

The South West offers a strong investment climate for renewable energy, being the UK base for Triodos Bank, and the Ernst and Young renewables team, with an extensive network of Business Angels and other investors. We are also fortunate to have one of the most highly qualified and productive workforces in the country in addition to a strong political inward investment climate through support by South West RDA (South West England's economy development agency) and UK Trade and Investment (UKTI).

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