



Thurs 10am - Working with SIG Energy Management Insight Programme... A Council's View 30 minutes

Ecobuild 2011

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Dearne Valley Eco-Vision initiative

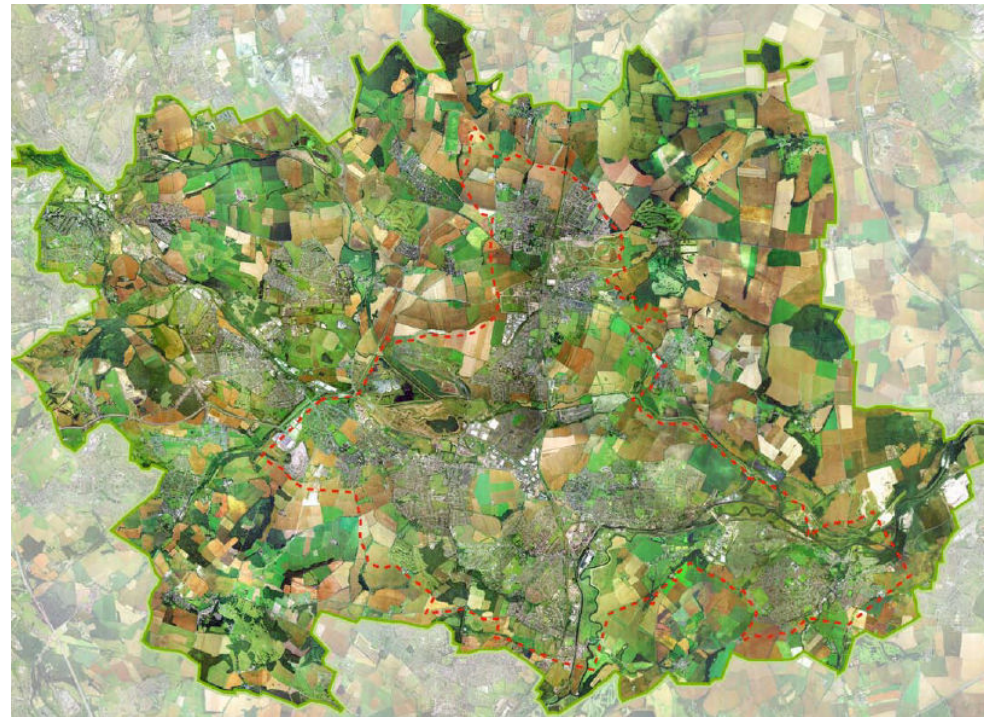
- The Dearne Valley is a very special place. It sits in the heart of South Yorkshire between the boroughs of Barnsley, Doncaster and Rotherham.
- Its mining and heavy industry once powered much of the country.

Dearne Valley Eco-Vision initiative

- Local Government has set out their vision for a new future and a new identity for the Dearne Valley as the first Eco Park in the UK.
- The proposals would see the Dearne Valley acting as a pioneer in the region, aiming to reduce the community's CO2 emissions to enable it to become the lowest carbon community of its type in the UK.
- This vision will drive forward the next stage of regeneration in the Dearne through a package of measures and a framework of policies to accelerate the move to a high quality, low carbon environment.

Dearne Valley Eco-Vision initiative

Funding was secured from the Government as part of its eco-towns and eco-developments programme.



Dearne Valley Eco-Vision initiative

- To showcase energy efficiency and renewable energy technologies to local people and encourage them to introduce these measures in their own property.

Dearne Valley Eco-Vision initiative

- What should we show case?
- Why
- Where
- Who

Heating

- An air source heat pump extracts heat from the outside air in the same way that a fridge extracts heat from its inside. It can extract heat from the air even when the outside temperature is as low as minus 15⁰C.



Heating

- The [solar water heating](#) works by installing [panels](#) on the roof of a property to gather energy from the sun
- This energy is used to heat water which is then used to generate central heating and provide hot water



Electrical Power.

- Solar Photovoltaics, or Solar PV is a technology in which daylight is converted into electrical power.
- It uses energy from the sun to create electricity that will operate electrical appliances and lighting



Others

- External wall insulation
- A voltage optimisation system
- Double Glazing UPVC 'A' Rated Duraflex windows

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- What should we show case ✓
- Why ✓
- Where
- Who

Dearne Valley Eco-Vision initiative

- How best to



show case new technologies ?

Dearne Valley Eco-Vision initiative

- The Ann Rhodes flat lies in the community of Brampton Bierlow Rotherham
- Ann Rhodes Community Centre Bierlow Close Brampton Bierlow Rotherham (Barnsley) S73 0TJ and is surrounded by bungalows whose residents use the community centre below the flat.

Dearne Valley Eco-Vision initiative

- What should we show case ✓
- Why ✓
- Where ✓
- Who

Insight Programme.

- The **Insight** Programme is a new and highly innovative method of understanding housing stock to enable informed decision making.
- The Insight Programme works in 5 stages:

Insight Programme.

- **1 Take stock** SIG Energy Management works in conjunction with the customer using innovative thermal imaging technology and a computer modelling system.
- **2 Prioritise** Once the survey has been carried out, a detailed per-building-report is drawn up, making it quick and easy to prioritise and decide where to best allocate funding.
- **3 Tailored Solutions** It is then possible to decide with the customer the most cost effective and beneficial solutions.

Insight Programme.

- **4 Implementation** Regardless of scale or complexity, SIG Energy Management can manage a project from start to finish through a dedicated Project Manager, who will work alongside you, the client, to ensure a bespoke service and delivery is achieved.
- **5 Monitor** The Insight Programme works all the way through the lifecycle of the energy management system. Further energy savings can be made through monitoring a tenant's hot water, heating and energy usage, as well as the performance of the renewable technologies installed.

Insight Programme.

- As a result at the Ann Rhodes Community Centre we have a number of energy saving measures which will not only improve energy efficiency and save money, but also demonstrate how these technologies can help to improve the lifestyle and wellbeing of the whole community.

Dearne Valley Eco-Vision initiative

- SIG Energy Management has been working in partnership with Rotherham to ensure that this vision become a reality.
- Installed by SIG Energy Management through the Insight Programme.

Dearne Valley Eco-Vision initiative

- Through the Ann Rhodes Community Centre, SIG Energy Management have demonstrated energy efficiency in the home and provided momentum to push forward the eco vision for the Dearne Valley.
- We have also run a 'Green Doctors' scheme in conjunction with the property refurbishment, to inform and advise local people on their homes' energy efficiency and how it can be improved ahead of the Green Deal.

Dearne Valley Eco-Vision initiative

- Rotherham MBC found that SIG Energy Management's Insight Programme is the ideal tool to resolve the energy efficiency challenges faced by this project.

Dearne Valley Eco-Vision initiative

- What should we show case ✓
- Why ✓
- Where ✓
- Who ✓

Dearne Valley Eco-Vision initiative

- **Solar PV Panels** installed a 4.0kWp solar photovoltaic (PV) system with an installed output of 3,282kWh/yr and a yearly CO2 saving of 1,864kgCO2/yr.
- To date we have generated 24345KWh



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- **Solar Thermal Water Panels**
- An on roof solar thermal water system with a total area of 4m² thermal hot water systems can on average provide the user with 60% of their hot water requirements.



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- **Air Source Heat Pump Central Heating System**
- Homes today use 60% of their energy on keeping warm, and 24% on hot water.
- Fitted an 8.5KW system on site to fulfil part of the heating demand and work in collaboration with other renewable energy systems installed on the property.



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- **External Wall Insulation**
- Up to 33% of a home's heat can be lost through the external walls of a property. Insulation will significantly minimise this loss. At the Ann Rhodes Community Centre, SIG Energy Management installed a typical external wall system which provided a post installation U value of $0.35 \text{ W}/(\text{m}^2\text{K})$ an improvement on the original U value of $1.58 \text{ W}/(\text{m}^2\text{K})$. Further benefits of external wall insulation:

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- **Voltage Optimisation**
- A voltage optimisation system was installed at the centre which has the potential to save between £75 and £135 a year on electricity bills.

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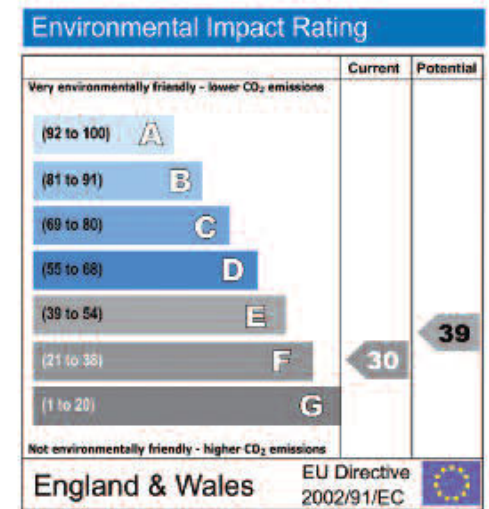
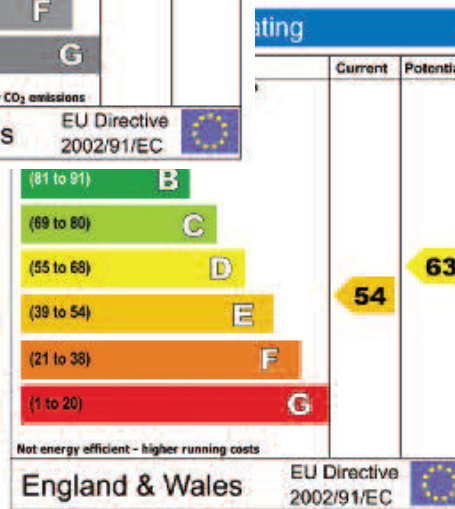
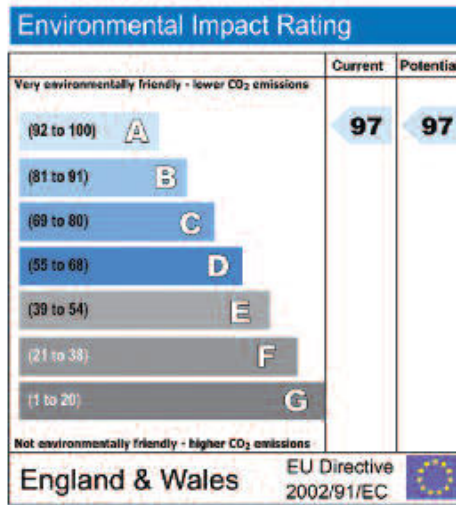
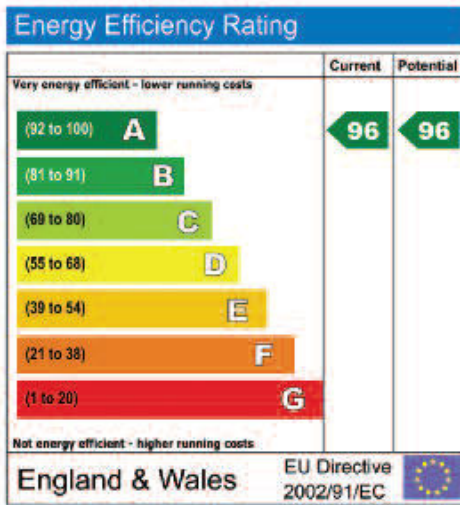
- **Double Glazing**
- UPVC 'A' Rated Duraflex windows were installed on this project,
- And finally
- In the Ann Rhodes Community Project, and as the final stage of the Insight Programme, a remote monitoring system to monitor the performance of the renewable energy measures was installed.

Low cost /no cost measures DIY



The rad reflector panels have an undulating surface that cause a disturbance to the convected airflow, which cause it to turbulate and fall to a lower level sooner, making the room more evenly temperate

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- Through assessing the requirements of a property at the start, the best possible technologies can be decided on for installation.
- SIG Energy Management's national presence and long history means installation runs smoothly and efficiently, ensuring that Rotherham MBC got the best experience possible.

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Questions

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