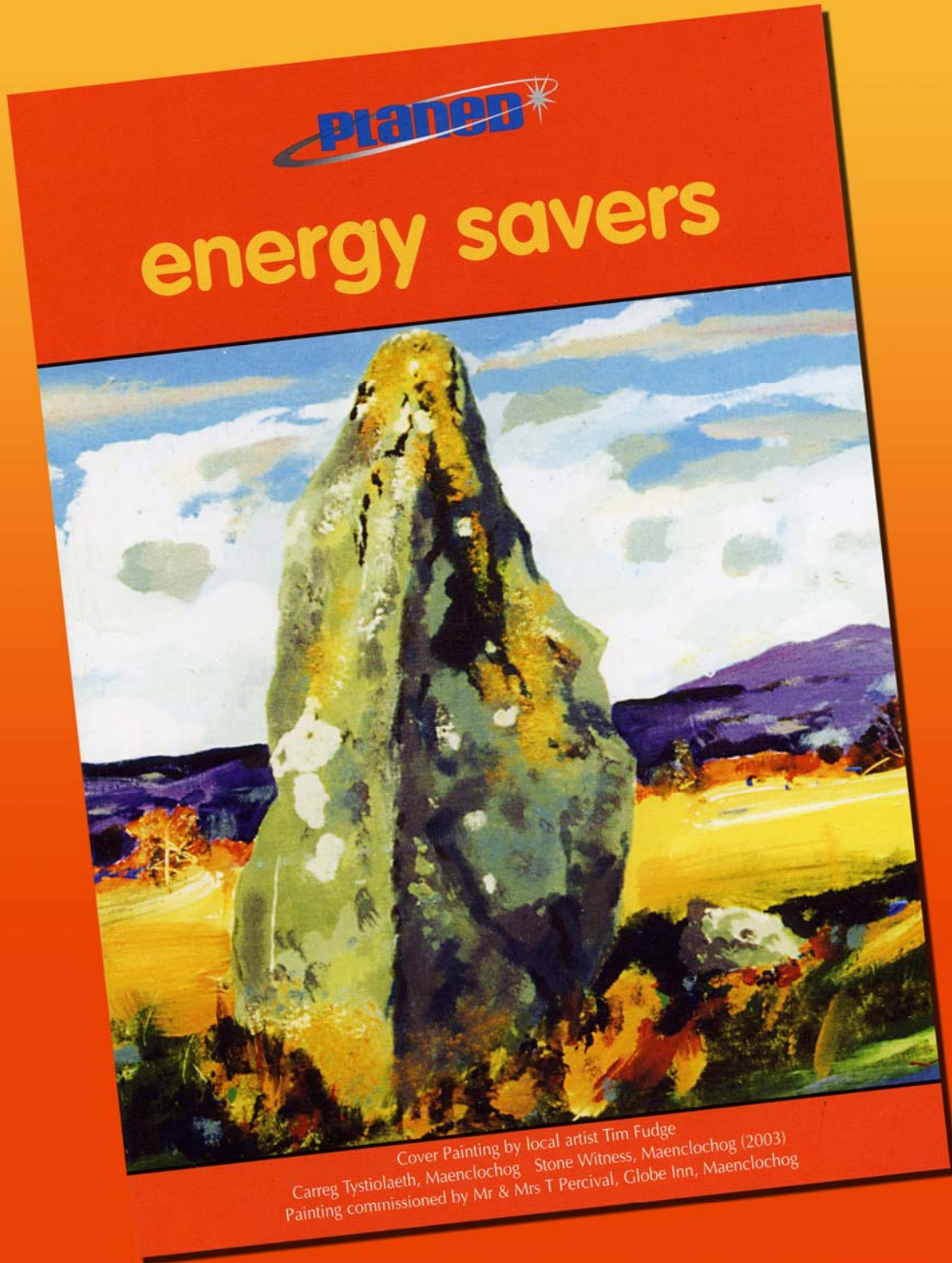


PLANED

Energy Savers

September 2008



Cover Painting by local artist Tim Fudge
Carreg Tystiolaeth, Maenclochog Stone Witness, Maenclochog (2003)
Painting commissioned by Mr & Mrs T Percival, Globe Inn, Maenclochog



Energy Savers

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Synopsis

This report is structured chronologically to show how the Energy Savers Project has evolved and progressed beyond the original remit and developed wider projects such as Energy Awareness Raising Events, Energy Groups, Community Energy Network and a Renewable Installation Map for Pembrokeshire, all of which may have an equal or longer lasting effect than the original project.

The report discusses the background to Energy Savers and how it was developed from PLANED Community Visioning and Plugging the Leaks Processes as a pilot and progressed to a Pembrokeshire-wide project. The results of the audits that took place and energy saved are analysed and the project's failures and successes are discussed.

Throughout the Energy Savers Project Energy Awareness Raising Events took place which helped to promote the free energy audits but also introduced individuals and community groups to the benefits of energy saving and renewable energy and how they could get involved. These individuals and community groups have gone on to form energy groups and develop Community Energy Projects which have been supported and facilitated by PLANED through the Energy Officer.

In addition to this report the following documents are available on request from PLANED's offices or via the PLANED web site www.planed.org.uk

- "An evaluation of the Energy Audits carried out for small businesses in Pembrokeshire"
- Renewable Energy Guide
- Plastics Recycling – conference report September 2005
- Constitution template for use by energy groups (and similar)

Background

PLANED Context

PLANED, (Pembrokeshire Local Action Network for Enterprise and Development) established in 2001 evolved from SPARC (South Pembrokeshire Partnership for Action with Rural Communities) 1991-2001; TCRI (Taf and Cleddau Rural Initiative) 1987 – 2001. PLANED is a charity, a company limited by guarantee and a Development Trust. It has 20 years experience of community engagement in local development.

PLANED's role is to engage local people in Pembrokeshire in improving their quality of life - culturally, socially, environmentally and economically.

PLANED's aim is to play a vital role in empowering and enabling local communities to be full and equal partners in the development of their area, through accessing EU programmes, Welsh Assembly Government (WAG) initiatives and other opportunities.

PLANED was established to involve all who have a role to play in the development of communities – the local people themselves, elected representatives, agencies and funding bodies. As a result, the structures and processes utilised are designed to achieve maximum partnership and integration that can be built up from the grassroots. Working throughout Pembrokeshire, PLANED is building on a local community led approach in which communities, public sector and voluntary partners and special interest groups come together to undertake locally integrated development.

PLANED has long experience of introducing and developing pioneering methodologies, tools, techniques and processes for the engagement of communities in local development, including Community Appraisals, Visioning, Future Search, Plugging the Leaks and Irrigating the Desert.

All communities are encouraged to establish Community Forums, open to all local organisations and individuals. Through the Community Visioning process the communities identify local needs, opportunities, and priorities, which are set out in Community Action Plans which PLANED assists the forums to implement. This process ensures that::

- All who wish to participate at the local level can come together
- There is an agreed long term shared vision for their future through an holistic action plan Assistance is given with the implementation of action plan proposals

LEADER+ & 'Plugging the Leaks'

PLANED's LEADER+ initiative was designed to develop a change in the thinking of local people so that looking for enterprise opportunities over the widest range of activities and resources becomes part of the way of life. Key capacity and partnership building processes assist local people and organisations to work in partnership:

- Plugging the Leaks
- Irrigating the Desert
- Economic Gardening
- Local Enterprise Development Plans

The New Economics Foundation (NEF) developed the 'Plugging the Leaks Process' and PLANED co-piloted the process in 2002.

Money that is re-spent in a local area is the same as attracting new money into that area. Either way – it is new money into the hands of the person who receives it. And so plugging the leaks in an economy (which focuses on encouraging people to re-spend as much of their income as they can in their local area) is an additional strategy to inward investment (which focuses on attracting in new money). It is often also a much easier strategy for a community to control.

Money stays locally if it is spent on wages for local people, buying locally grown vegetables and granting tenders to local contractors. Money leaves the community in energy bills, salaries to non-local people, profit to investors based outside the area, and 'imported' produce.

With increasing globalisation, today money flows much too quickly out of local economies, especially poorer ones - just like a leaky bucket. To grow a stronger economy it is therefore advisable to plug some of those leaks. But to do this you first of all need to know where the leaks are. Even government policy has recognized the need to increase the local circulation of money: The National Strategy for Neighbourhood Renewal says that ,
'The problem is not necessarily that too little money flows into a neighbourhood. Rather it is what consumer, public services & businesses do with that money. Too often it is spent on services with no local presence, and so immediately leaves the area.'

Since 2003 PLANED has been delivering the LEADER+ programme '*Creating a culture of entrepreneurship*'. As part of this programme a series of the Plugging the Leaks workshops took place to identify ways in which local people can work together to strengthen their local area economy. There are two ways this can be achieved - first, by increasing the flow of money into an area and second, by keeping the money circulating longer within the local area.

The 'Irrigating the Desert Process' was also used. This process looks at ways of making the most of all flows of money into the area (adding value).

A key area of interest that has arisen through these consultation processes is **energy**. As well as achieving environmental benefits saving energy can result in less money being spent on services with no local presence, providing an opportunity for more local spending.

One way of saving energy is by being more energy efficient both on an individual and a collective basis. There are also opportunities for local energy generation that can, in turn, provide new jobs.

During 2003 PLANED worked with local people living and working within the Maenclochog area, facilitating the process of 'Community Visioning' and 'Plugging the Leaks'. Through 'Community visioning', the principal communities within the ward - Maenclochog, Mynachlog-Ddu, Llys-y-Fran and New Moat - were each helped to produce a Community Action Plan. It was through the 'Community Visioning', 'Plugging the Leaks' and 'Irrigating the Desert' processes in the Maenclochog Area that the pilot Energy Savers Project was developed.

Other countywide initiatives were also planned in 2003. These included the production of a feasibility study into the use of waste plastic, an energy road show and the production of sources of information for community use. Some of these initiatives achieved better results than others, and the remit of some evolved during development.

Energy Savers Pilot Project

Background

The 'Plugging the Leaks' process brought the Maenclochog, Mynachlog Ddu, Llys-y-fran and New Moat communities together to work together and develop an area perspective on how to improve the local area economy, looking at ways of keeping money circulating longer within the area and identifying opportunities for maximising the economic potential of existing resources and activities. These ideas were brought together in an Area Entrepreneurship Action Plan and taken forward by an Area Development Group.

Participants in both the local and area based workshops indicated a keen interest in energy and recycling. An area Energy Group was established to carry out further work on investigating options for local energy generation.

In order to focus this interest it was decided that a very useful starting point would be to identify current activity in the area and gauge awareness of the issues. It was agreed that these objectives would be met by carrying out a comprehensive energy audit throughout the geographic area covered by the Maenclochog Ward.

Discussions with potential key partners were thus arranged in order to elicit their support and involvement and to identify key target groups.

Aims

The project has a number of aims that are all linked to the principal objective of the 'Plugging the Leaks' programme, which is to develop ways to strengthen the local economy by encouraging local spending.

The project contributed to these objectives by:

- Gathering data that gives a detailed picture of energy use and CO₂ emissions
- Making recommendations based on the data for ways in which energy efficiency measures could lead to financial savings
- Raising awareness of the broader issues relating to energy efficiency
- Producing a methodology that can be used by other communities seeking to achieve similar aims.

Methodology

- Establishment of partnerships with key agencies to provide expertise and networking: ARENA Network; Mid and West Wales Energy Advice Centre (EAC); Environment Agency Wales; FUW; NFU and West Wales Eco Centre.
- Selection of target groups:
 - households
 - community buildings
 - businesses
 - farms (see detailed breakdown of methodology).

- Public Launch at Llys-y-fran Country Park in November 2003 by well known political figure and advocate of sustainable development Cynog Dafis. This event attracted 50-60 people drawn from throughout the area.
- The establishment of a steering group comprising members of the community forums established during the 'Community Visioning' process. Part of the work of this group was to advise on best practice for community participation.
- Production of literature for distribution to all households, businesses, farms and community groups within the area. This literature, which included an introductory explanatory brochure plus a 'Home Efficiency Check' form, was delivered by hand to every household within the area utilising local community groups, in this case the YFC's because of their local knowledge. This also served to engage local community groups at an early stage.
- High profile marketing campaign through:
 - Presence at community events
 - Articles in local journals supported by photographs
 - Coverage on local radio with interviews in Welsh and English
 - Poster and leaflet displays in local shops
 - Reliance on key community leaders for support via word of mouth
 - Targeted events aimed at attracting wider media coverage i.e. T.V and national journals
- Regular meetings of delivery partners
- Regular consultation with steering group

Detailed Breakdown of Methodology

Four key target groups were identified:

- Households
- Businesses
- Community buildings
- Farms

Households

The forms were to be completed and returned by post to the EAC where they were analysed and returned with recommendations as to what measures could be undertaken to improve the energy efficiency of the household. Each householder would also be issued with a voucher on completion of the questionnaire. The voucher would entitle that person to a free low energy light bulb that could be collected from one of the local shops taking part in the project.

Drop-in surgeries were also to be organised in each of the communities where expert advice could be given face to face and also advice on possible grant and funding options that were available.

Businesses

Businesses were to be contacted by telephone and offered a free energy audit of their business by an environmental consultant contracted from ARENA Network. The businesses would then be provided with a written confidential report on the energy efficiency of their business as well as being given guidance as to appropriate grant and funding organisations that would be able to help them undertake energy saving measures.

Businesses were to be provided with information as to the projected financial savings that could be made by implementing the recommendations and also the CO₂ emissions incurred by their business and how they too could be reduced.

Community Buildings

This category was to be open to all buildings used by the community i.e. places of worship and community halls though it was not including schools.

A site visit was to be offered to the buildings, undertaken by the EAC and a written report provided, once again offering advice on improving the energy efficiency of the building as well as projected financial savings.

Farms

ARENA Network with the support of PLANED's agriculture officer, would offer a comprehensive and free energy audit of the farm and its buildings as well as offering peripheral advice on waste management. The farm was also evaluated for its CO₂ emissions.

The farm was provided with a confidential written report presented in a format familiar to farmers for ease of analysing and comparing financial data.

Outcomes

The success of the awareness-raising element of the project was not quantifiable through statistical information. However, the participation levels were above those usually achieved by the EAC, and those partners representing the agricultural sector were pleased with the number of farms that had participated.

For participation numbers and projected savings across the ward see the full Maenclochog Energy Savers Report from the EAC in Appendix 1

A Summary of Results from EAC

HECS Returned Total 132
This is a 10.6% return rate¹

Light bulb vouchers given out 508

Potential CO₂ savings just on 508 light bulbs:
Over their lifetime [508x41kg] - 20,828kg CO₂
Over 1 year 2,828kg

Potential £ savings just on light bulbs:
Over their lifetime [508x£100] - £50,800
Over 1 year £5,800

*For potential savings on specific measures recommended please see 'HECs figures' table.
¹ Mail drops have average return of 3%
MES mail drop to 1243 households*

Community Buildings [Halls, Chapels, Churches]:

Venues audited 15
Outstanding bookings 1

Methodology:

Number of events attended

Surgeries	8 in 4 venues
Trailer	2 days
Workshops in schools	3
Planned Community meetings	4
Others events [e.g. clubs etc]	3

An additional outcome, that was not identified as an aim of the project, was the production of a 'template' for the auditing of community buildings that has been used by partners on other projects.

Business Energy Audits for Maenclochog Area

Results

In total 33 businesses and farms had energy audits, 13 were farmers and 20 businesses. There were 8 dairy farms and 5 mixed cattle and sheep farms.

The quality of information/data available varied greatly, some kept good records others had no idea what was being spent or indeed how much should be spent on energy. In general most had financial information available but did not know what quantity of an energy source they had been using. One particularly bad area of record keeping was water consumption; this is particularly worrying in water dependant businesses such as dairy farms. This means that much of the data and conclusions are approximations and only give a good impression of what is happening in the area.

Savings Identified

Total savings of £10,806.00 have been identified which includes savings in water, oil, electricity, coal and gas use. This is not however a definitive figure for several reasons. Some of the recommendations made need comparatively large amounts of capital outlay and some businesses may not be able to afford this in the short term. Also some savings have not been calculated as of yet, for example 2 companies were referred to the Action Energy Trust¹ for specialist advice, and savings will be identified when the Trust has finished.

¹ Action Energy Trust www.actionenergy.org.uk

The average saving per business is £327 per annum. This figure was calculated by taking the total savings identified and dividing by the number of project participants. This figure is not a one off and the savings would be made year on year, in some cases equipment would need to be replaced after time.

Dairy Farms

Cost comparisons were carried out for the dairy farms who took part. The numbers were fairly small so the quality of the information is not particularly good. However it could be used as template for farmers across the area to compare their costs.

Farm	Number of Milking Cows	Units of Electricity Used	Cost	Cost per Cow	Kwh per Cow	Kg Carbon Dioxide Per Cow
1	160	42801	£2,824	£17.65	267.51	115.0277
2	100	43275	£2500	£25.00	432.75	186.0825
3	66	27586	£1,600	£24.24	417.97	179.727
4	70	28810	£1,500	£21.43	411.57	176.9757
5	57	17241	£1,000	£17.54	302.47	130.0637
6	50	20689	£1,200	£24.00	413.78	177.9254
7	115	36741	£2,131	£18.53	319.49	137.3794
8	110	86206	£5,000	£45.45	783.69	336.9871
9	75	27965	£1,622	£21.63	372.87	160.3327

Average Cost per Cow = £23.94

A worrying trend amongst all the farms was that a tight rein is kept on expenditure on the farm, but the farm house is left behind. Some very energy efficient farms had extremely inefficient homes which will affect the profitability of the business as a whole.

Carbon Dioxide Emissions

The total Carbon Dioxide emissions per annum for all the businesses is 757 tonnes, the average CO₂ emission per annum is 24.4 tonnes. If all the savings were achieved this would lead to savings of at least 80 tonnes per annum. Similarly if all the businesses switched to Green Electricity suppliers 439 tonnes worth of emissions would be saved per annum.

The Rosebush Experiment

In a concerted effort to raise the profile of the project, as well as serving the function of an additional element to this pilot project, it was decided to target one community within the ward for an intensive study. This was to be achieved by officers personally visiting each household and business within the small community of Rosebush. The aim of this was to be able to provide more detailed data on the potential savings within one community.

Special Feature: Rosebush

<i>Doors knocked on</i>	3
<i>HECs from Rosebush</i>	2
<i>15% of total HECs [15% of figures table =]</i>	
Potential annual financial saving	£1,69
Potential annual CO2 saving	20 tonne
<i>Home visit/ case study</i>	

Evaluation

- A high rate of contact with households was achieved though the officer time spent at the drop-in surgeries was not deemed to be cost effective in relation to the number of householders attending.
- It was difficult to obtain comprehensive data on business contacts in the ward, and the amount of time needed for establishing initial contacts was significantly under-estimated.
- The range of energy efficiency measures recommended to businesses varied greatly with those with the greatest needs being referred to more specialist organisations recommended by the ARENA network consultant.
- A number of the community buildings were very similar in design and usage and it was therefore possible to produce a template that could be easily developed for future use.
- Farms were very apprehensive about taking part and needed the greatest re-assurance as to the confidentiality of the audit but nonetheless more were involved than had been expected.
- One of the most telling discoveries of the work was that there is currently no energy efficiency advice readily available to farmers.
- The project officers were able to make many recommendations as to the energy saving measures that could be undertaken but a gap was identified in signposting agencies that would be able to support those wishing to implement those recommendations.
- A greater lead-in time would have benefited the project, especially in the early stages when public awareness was low.

Recommendations

It was recommended that a period of time was dedicated to using the data collected as part of a further awareness raising campaign highlighting the savings that can be made. It was desirable to monitor a participant from each of the four categories as they implemented the changes. It was hoped that, once some early successes were achieved, the demand for the audits would then increase and that the partnership consultants could then be re-engaged to carry out this specialist work.

It is possible that undertaking a similar targeted approach as in the Rosebush experiment at the front end of a project when rolling it out to other parts of Pembrokeshire, might be a good opening awareness raiser. This method was successful in increasing participation rates and also achieved considerable media attention which drew focus to the project as a whole.

Recommendations Made by ARENA Network

The project should be extended but on a less intensive basis. Some businesses need encouragement and support in carrying out the work recommended and possible help in making grant applications, at least three of these have been referred to ARENA Network.

Many business expressed interest in renewable energy sources in particular wind and hydro. These could become important revenue streams either for individual businesses or for the community as a whole. Holding specialist work shops detailing how such projects are achieved and what people can expect out of them may help to move people on to the next stage.

If it is possible the opportunity to have an energy audit should be offered to any businesses coming forward in the future.

Conclusions

It seemed apparent that expectations for the project may have been too high and, in particular, expected participation rates. This could have led to the project being seen as a failure as a further 87 participants would have been needed to meet the target.

This would have been an unfair conclusion for several reasons. The number of businesses in the area seemed to have been over calculated. Farmers are not generally keen to have 'strangers' on their farms and the consensus was that 13 farms in three months was a reasonable achievement. The savings identified amongst the participants were not inconsiderable for a small area and the information collected could be used for raising awareness and as a basis for further projects.

In any future project it would be better to raise awareness and sign up a good number of people to receive energy audits before employing specialist people to carry out the work. In this project the help of the community and members of PLANED was invaluable as their local knowledge and familiarity within the community made it far easier for them to promote the project. It would be cost effective to use these resources for awareness raising in a long run up to a project.

It was evident that businesses did not give enough attention to their utility bills, these should be dealt with in the same way as other outgoings, however they are often treated as fixed costs when they are clearly not.

Some of the Audit Reports for the Maenclochog Area can be found in the Appendix 2

Other Energy Related Work through Pilot

Other Energy Related Project work during this time included Energy and Recycling Roadshows, a Plastics Recycling Feasibility Study and Energy Fact Sheets.

The Roadshows were held in Milford Haven, Fishguard and Crymych and consisted of energy displays and presentations on different renewable technologies.

The Plastics Recycling Feasibility Study for Pembrokeshire - "What can we do with our Plastics?" was completed in September 2005 and presented at a seminar at Rhos y Gilwen, Cilgerran organized in conjunction with Cylch. Full details of this event can be obtained from PLANED.

Energy Savers Project 2006 – 2008

Moving the Project Forward

The lessons learned were analysed and incorporated into a two year project covering areas that had shown interest in Energy Saving after the Plugging the Leaks exercise.

The project was co-ordinated by PLANED; liaising with all the partners, the community groups and residents, arranging meetings, presentations and launches, promoting the scheme and providing advice to participants.

The Project was implemented in partnership with West Wales ECO Centre, who analysed home energy audits and carried out energy audits in Community Buildings, and ARENA Network, who carried out energy audits for farms and businesses.

PLANED liaised with farmers through the Farming Connect Programme. The results of these audits showed participants where energy is being wasted and how energy efficiency can be improved. Advice was given on how this can be done and whether grants were available.

The areas chosen for the next stage of the Energy Savers Project had all had Plugging the Leaks workshops carried out and the process highlighted the need for energy saving.

More Detailed Methodology

Establishment of **delivery partnership** with key agencies to provide expertise and networking: ARENA Network; Environment Agency Wales; FUW; NFU and West Wales ECO Centre *amongst others*.

It was important that a wider group of **support partners** who themselves had an interest in encouraging sustainable energy efficiency was identified and engaged in the process from the outset e.g. Pembrokeshire County Council, and the involvement of any localised bodies can also be key to the success of the project

The partnership organisations carried out the audits: - ARENA Network – business and agricultural audits; Energy Advice Centre and West Wales ECO Centre – households and community buildings. PLANED employed a project co-ordinator (Energy & Recycling Officer) and each partner supplied skilled practitioners to undertake aspects of the audits and provided recommendations on reducing energy use.

- Each partner analysed the collected data and produced a report on their work made available for the partnership
- Community buildings committees, businesses and agricultural and horticultural holdings were contacted by PLANED and offered individual visits to conduct audits.
- There were regular meetings of delivery partners.
- There was regular consultation with the local steering group established in each area comprising: PLANED Board members living in the area,

- members of the area development group, interested members of groups identified during the 'Community Visioning' process, and any environmentally concerned local people and voluntary groups in the area.
- The group oversaw local implementation and helped to identify key local organisations and local publicity for the project to ensure maximum participation.
 - The group also agreed Lead-in time - A project of this nature could not achieve its full potential unless all the spade work is done in advance to prepare the ground for what is an innovative project. Many people need to become familiar and supportive of a subject of which, up to that point, they may have little or no knowledge. The value of this stage of the project cannot be underestimated.
 - The group oversaw the awareness raising campaign - Including production of project information and marketing literature for distribution to all households, businesses, farms and community groups within the area. The timing and method of the delivery of literature was crucial in order that it compliments the other awareness raising activities and is not discarded because of a lack of awareness of its relevance.
 - The high profile awareness raising and marketing campaign was conducted through such activities as:
 - Presence at community events
 - Articles in local journals supported by photographs
 - Coverage on local radio with interviews
 - Poster and leaflet displays in local shops
 - Reliance on key community leaders for support via word of mouth
 - Targeted events aimed at attracting wider media coverage i.e. T.V and national journals.

Area 1 - South East

Background & Methodology

The first area to be targeted was South East Pembrokeshire, which includes Tenby, Saundersfoot, Penally, New Hedges, Manorbier and St Florence.

Members of these communities who showed an interest in energy saving or who were PLANED Board members were invited to form a Steering Group. Chaired by Mike Neal, this group met regularly for seven months and were joined by the key partners.

The Steering Group planned how the project would be best implemented from the residents' point of view. Ideas included:

- Rolling out the programme ward by ward so that mail outs and home audit forms can be delivered with maximum publicity
- Having a regular column in the Narberth & Tenby Observer on energy saving advice
- Post offices supplying free energy saving light bulbs
- Promoting the scheme in a variety of ways.

Key partners and other Agencies with an interest in energy saving in Pembrokeshire also met to offer their advice and support to the project, they included Pembrokeshire County Council, CCW, FUW, NFU, YFC, Environment Agency and Pembrokeshire Coast National Park Authority.

The local advice was noted and the South East Area Energy Savers Project was officially launched at a presentation evening in Saundersfoot by TV presenter Jane Harvey, and was attended by local people, councillors, businesses and community groups. The Home Energy Check forms were then sent out, using the electoral role, first to Tenby Ward, then Saundersfoot, St Florence and finally Penally. The mail out also included a welcome letter introducing the need for the project, the dates for all the energy advice surgeries in these wards, and the Energy Savers leaflet that had been printed. All local businesses and community building managers were sent individual letters inviting them to take up the offer of a free energy audit, Green Dragon Environmental Standard information and other related energy advice.



An incentive to send back Home Energy Check forms was introduced in the form of vouchers for energy saving light bulbs received with the Energy Reports sent to participants. These vouchers could be exchanged at local shops and post offices.

The Energy Advice Surgeries or Energy Savers Open Days were held in each ward shortly after each mail out, providing people with advice on filling in the Home Energy Check forms, energy saving and grant information, renewable energy displays and workshops.

Energy Savers was promoted at meetings and all other energy awareness raising the media to the South East Area. Energy Community Group meetings in order to promote the Project, and at various events and shows. At all times the media were sent press releases to publicise the activity.



Bright Ideas

At the same time the Energy Officer began a fortnightly energy advice column in the Tenby Observer called Bright Ideas. This included seasonal and topical energy saving and recycling tips, news of energy-related events and promotion of the Energy Savers Project.

	Tenby	Saundersfoot	St. Florence	Penally	Total	%
HEC Forms Returned	164/1688	132/1210	71/645	54/332	421/3875	10.8
Business Audit Requests	5/439	4/282	7/99	2/64	18/884	2
Community Building Audit Requests	2				2/15	13
Open Day Attendance	30	32 (<i>100 to outside display</i>)	32	16	178	
Energy Group Interest	10	19	22	14	65	
Other Energy Enquiries	5	12		2	19	

Outcomes

The results for the South East Area take up of audits at the end of the roll out programme November 2006.

Sixty people redeemed their light bulbs at the five participating shops or post offices in the South East.

Energy Savers Action Report					
	South East Area				Totals
	Tenby	Saundersfoot	Penally	Rest	
Letters Sent	1688	1210	332	645	3875
HECs Returned by Mail	164	132	54	71	421
HECS Returned at Surgery					0
Verbal Advice Given	30	32	16	32	110
No. of CFLs Distributed	45	47	31	47	170
Empty CW?	27	22	21	17	87
Empty Loft?	19	14	2	6	41
Loft Top-up Needed?	67	45	28	30	170
Assumed Savings Made	Total			t/Carbon lifetime	
Verbal Advice Given	110	=		215.16	
Home Energy Report	421	=		189.871	
Total				405.03	

Potential for Savings					
All Assumptions Based on Figures From est.org.uk	South East Area				
	£		kg/CO2 per year		
From CFLs	£9	£1,530.00	62	10540	CFL
From CWI	£145	£12,615.00	1000	87000	CWI
From Loft Insulation	£200	£8,200.00	1,379	56539	LI
From Loft Top Up	£50	£8,500.00	344	58480	LTU
Total:	£30,845.00		t/CO2/year	212.559	Tot:

Assumptions Made for Analysis

1. Every respondent was by post and therefore had a written HEC report.
2. Everyone eligible for cavity wall insulation got it.
3. Everyone eligible for loft insulation and loft top ups got it.
4. In order to give consistency the existing data for savings per measure was used in analysis, although this has changed over the last year.

The table above shows the amount of financial and CO2 savings made if the measures recommended in the HEC reports were carried out. It can be seen that if all the homes receiving a report installed energy saving light bulbs, insulated cavity walls and lofts to the highest recommendation £30,845 would be saved and 212.559 tonnes of CO2 per year would be saved in the South East area domestically alone. Also if all measures were taken up 405 tonnes of CO2 per measure would be saved in a lifetime.

Evaluation

Feedback on the Energy Savers Project from the Steering Group, Key Partners and advice surgery attendees was used to assist evaluation.

- Although on first view the return rates seem low for all type of audits, the actual Home Energy check return rate was above the normal rate expected by the EAC.
- The project was rolled out at the busiest time for local businesses, especially those who were part of the tourist industry, and had no time for attending meetings, surgeries or taking up audit offers.
- The businesses were re-approached in the autumn to get better take up, but in fact a small stream of audit requests from the SE Area continued for the next year and a half, possibly due to the increase in Climate Change news in the media and fuel price rises.
- More people may have attended advice surgeries held in the evening.
- Those people who had ticked the 'no junk mail' box on the electoral role registration form would not receive the Home Energy Check forms or other Energy Saving Promotions. There are many people who were excluded this way.
- The Post Office returned many letters that had the previous occupants name on it, although it would have been better if new occupants had received the mail out.
- Local businesses had been approached and asked to help promote the project which meant that they had been more inclined to take up audits themselves.

- Meetings had been held in Community Buildings encouraging the building managers to take up audits, although this did not always happen.
- There had not been a particularly good take up for audits of community buildings. Many of them had been undergoing renovation or had recently been renovated, and felt an audit was not appropriate at that time.
- Some energy reports had not been received by participants, especially in the Penally area, therefore another energy advice surgery (held in the Post Office) and remailing took place later to encourage new participants.
- Renewable Energy and Energy Saving Measures were too expensive for most people and either there was not enough grant advice or no grants available to help.
- Study visits to see renewable energy & energy saving in action, i.e. to CAT and local sites, had been useful to encourage people in the SE Area to take up energy saving measures and to form an energy group. Local people wanted to find out more about the issues.
- The Bright Ideas Column in the Tenby Observer was read by many. The information in the Column was well received and considered useful.

Conclusion

Although seemingly a low take up by November 2006, more audits were requested later throughout the whole programme from the South East partly due to further promotion and partly due to increased awareness through the media. Also those who have participated through the programme are keen to increase their energy awareness and to take up energy saving measures.

Area 2 - North East

Background and Methodology

The second area to be targeted for the Energy Savers Project was North East Pembrokeshire, which included Cwm Gwaun, Dinas, Nevern, Newport, Moylegrove and St Dogmaels.

Residents, community groups, shopkeepers and businesses were invited to join a Steering Group to assist in the running of the project, giving local advice. The first meeting took place in July 2006 and was well attended by vibrant and well informed local people.

However the feedback from the first meeting was that the local people were already working towards energy saving and knew much about it already. The Eco Centre had already covered a large part of the area, giving out Home energy forms and given energy advice, so much of the Energy Savers Project could be seen as duplication. The Newport Environment Group was also hoping to roll out its own programme in conjunction with the Eco Centre. They therefore saw no need to mail out Home Energy Check forms.

The partners decided in October 2006 that the project should be run in a different way in the North East Area

A shift in focus towards community owned buildings to include churches, chapels, farms and businesses and away from households by PLANED was agreed. Therefore the direct mailings to households would not be undertaken by

PLANED. It was felt that the activity did not represent value for money in terms of resources and that effort should be re-directed to sign-post householders direct to the Eco-centre where household audits are readily available anyway.

The Revised Methodology was:

- Promotion of the free energy savers audits continued to businesses and farmers especially through Business Groups and Business Directories and personal visits.
- Presentations were to be made to Chambers of Trade & Tourism, and at meetings of organisations such as the WI.
- Community buildings were also targeted through mailing and presentations.
- Liaison with the Eco Centre and ARENA Network continued but not through a Steering Group.
- Publicity brochures & leaflets were distributed at events, local shops and meetings.

Outcomes

- There were no Home Energy Check forms to analyse.
- The spreadsheet of the uptake of audits by Community buildings by the Eco Centre can be found in Appendix 3.
- Only one Community Building was audited in the north East Area.
- The report of the uptake of audits by businesses and farms by ARENA Network can be found in Appendix 4.
- Only two businesses took up the offer of energy audits in the North East Area.
- Many good contacts were made with interested and informed people and environment groups. They are all keen to further their knowledge and carry out energy related projects and were 'tagged' as being interested in energy awareness events and the Community Energy Network.

Evaluation

The outcomes for the North East Area seem very disappointing, especially as the area is generally very well informed about energy saving, the Eco Centre being situated in Newport. However the Eco Centre has already provided energy advice and targeted householders throughout the area, and possibly many businesses and community building committees feel they know enough to carry out their own energy saving measures, and don't need any more advice.

Those people spoken to wish to be kept informed of any energy related events.

Further Promotion of the Energy Savers Project

In order to encourage a greater number of business and farm energy audit take up, those in the South East, Cymdeithas Cleddau Ddu and North East Area were targeted again at community meetings and events, and through individual letters.

Clunderwen had not been included in the Cymdeithas Cleddau Ddu area during the pilot project so it was decided to offer audits to Clunderwen businesses, farms and community buildings at this point.

New community buildings and churches in the South East Area were also researched and offered energy audits.

Area 3 – East Central

Background

The third area to be targeted under the Energy Savers Project was East Central Pembrokeshire which includes, Narberth, Lampeter Velfrey, Llandewi Velfrey, Lawrenny, Landshipping, Llawhaden, Llanteg, Martletwy, Tavernspite and Templeton.

The Project Partners decided to roll out the programme in a similar way to the South East Area as the project had better success there than in the North East, however there were some minor adjustments using lessons learned from the previous areas. It was also decided to include The Rhos and Slebech in this area and the project began in April 2007.

Methodology:

- Four mail outs and four surgeries in shops/post offices/popular venues
- The four surgeries were:
 1. Narberth – Queens Hall
 2. Llanteg – Tavernspite Garden Centre
 3. Templeton – Templeton Post Office
 4. Martletwy/Lawrenny – Lawrenny Post Office
- The mail outs included: An Energy Savers Leaflet; invite letter, Home Energy Check Form and pre-paid envelope (as another incentive to return the form).
- The invite for the mail out included all four surgery venues and dates.
- The invite also stated that two free light bulbs could be claimed at surgeries by returning HECs or filling one in there.
- Light bulb vouchers were given out with reports listing all the locations that held bulbs.
- Promotion of East Central Energy Savers continued in the Tenby Observer (Bright Ideas column) as the paper also covers Narberth area.
- A Steering Group was set up made up of local people who gave their perspective on how the project should be managed.

The first Steering Group meeting was held in April 2007 and attendees gave positive suggestions on how the project could be successful. They all were willing to promote the project in their community. The suggestions were:

- Shop workers could ask customers if they would like to sign up to 'say no to a bag' campaign. 'Stuff your bag'
- Bethesda Farm shop could help promote Energy Savers.
- The Rhos Community Association was encouraged to assist the project.
- Retired people with spare time could become Community Champions and inform neighbours on how to save energy and help fill in their Home Energy Check forms.

- Spread word through Friends of Narberth School.

Outcomes

Unfortunately due to time commitments of the Steering Group none could attend further meetings. However The Rhos Community Association were given a presentation on the Energy Savers Project and many members were keen to participate.

As a result of other reusable bag campaigns and general increased awareness shops began promoting reusable bags and not giving out so many plastic ones. Other community associations were also given energy saving presentations to help promote the project.

The advice surgeries were timed to attract the most people (especially those held in the local Post Offices) and were more successful in collecting HEC forms, giving energy advice and recruiting businesses to take up energy audits, than in the South East Area.

There was a 9.6% return rate for Home Energy Check forms in the East Central area. This is slightly lower than the rate in the South East Area but still around the average rate expected by the EEAC for this type of mail out.

Please see table below.

Energy Savers Action Report					
	East Central Area				Totals
	Narberth	Llanteg	Templeton	Lawrenny	
Letters Sent	1022	248	403	219	1892
HECs Returned by Mail	54	26	49	43	172
HECS Returned at Surgery	8	0	2	0	10
total HEC Response	62	26	51	43	182
HEC Response %	6.07%	10.48%	12.66%	19.63%	9.62%
Verbal Advice Given	16	9	16	6	47
HEES Referrals Made	0	0	4	0	4
No. of CFLs Distributed	32	18	32	12	94
Empty CW?	17	11	5	6	39
Empty Loft?	5	2	2	6	15
Loft Top-up Needed (50-200mm)?	42	12	35	28	117
CWI Referred	0	1	0	0	0
Loft Referred	0	0	0	0	0
LT-Up Referred	0	1	2	1	0

The energy saving measures given for the East Central Area Home Energy Check forms were analysed in terms of assumed savings made if the measures were taken up.

Assumed Savings Made	Total		T/Carbon lifetime
Verbal Advice Given	47	=	91.93
Home Energy Report	182	=	82.08
Referrals Made:	4	=	3
Total	233		177.01

The table above refers to an estimate of how many tonnes of Carbon Dioxide will be saved per measure in a lifetime if the recommended energy saving measures were taken up. The figures in the first column refer to the number of measures recommended through the Home Energy Check forms, the advice given out at Advice surgeries and referrals to insulation companies. It can be seen that if all measures were taken up 177 tonnes of CO₂ would be saved, which is not inconsiderable.

Actual Savings Made:					
All Assumptions Based on Figures From est.org.uk	East Central Area				
	£		kg/CO ₂ per year		
From CFLs	£9	£846.00	62	5828	CFL
From CWI	£145	£5,655.00	1000	39000	CWI
From Loft Insulation	£200	£3,000.00	1,379	20685	LI
From Loft Top Up	£50	£5,850.00	344	40248	LTU
Total:		£15,351.00	t/CO₂/year	105.761	Tot:

The above table refers to the cost of certain energy saving measures, how much energy costs will be saved by installation and how much CO₂ will be saved from each measure per year. These costs were used to make the estimations of assumed savings above. This data is also useful for anyone wishing to estimate savings they make.

It can be seen that if all the homes receiving a report installed energy saving light bulbs, insulated cavity walls and lofts to the highest recommendation £15,351 would be saved and 105.761 tonnes of CO₂ per year would be saved in the East Central area domestically alone. This figure is not inconsiderable however is almost exactly half the amount saved in the South East Area if all the recommended measures were taken up.

Two community buildings had been audited by the Eco Centre at this time and 18 businesses or farms were audited by ARENA Network.

Details of the savings made by businesses after energy audits took place can be found in the ARENA Report in Appendix 4. This report will be discussed on Page 22.

Evaluation and Conclusion

An average number of households took part in the project in this area, which is reasonable, but it would have been preferable to see a higher than average take up as a lot of work was put in place to make sure the project developed as planned, and as much promotion as possible was carried out in the circumstances. It was also disheartening that the Steering Group did not continue, as the initial enthusiasm if continued, could have encouraged greater take up.

At this stage in the Energy Savers Programme it became clear that more business audits were being carried out, and reports being returned much more quickly, to business clients than those for Community Buildings. The Eco Centre carried out audits in different ways to those done by ARENA Network. The Eco Centre first sent a questionnaire to the Community Building Committee asking for details of utility bills and building structure so that the auditor knew information in advance to help assess the building. ARENA Network auditors asked the client to have utility bills to hand on the date of the audit and used the information at the time.

The Eco Centre's approach seems sensible as they could assess needs in advance but often the questionnaire was lost in the post, got sent to the wrong contact on the Hall committee or no-one on the committee took responsibility for sending the questionnaire back. This led to a long delay and even cancellation of some of the audits as the Eco Centre could not always carry out follow up calls to all Hall Committees who delayed.

ARENA Network appeared to have better success with their method which may be because the auditor, client and bills were in the same place at the same time, and they were not so reliant on the post and other committee members.

Decision to Widen Energy Savers to all Pembrokeshire Communities

After an increase in the number of energy audits requests from business and community halls from outside the Project areas it was decided that Businesses and Halls in the whole of Pembrokeshire should be included in the project. The offer of free energy audits through Energy Savers was promoted with general publicity, at Community Forum meetings and events, with a special emphasis on Community Halls. This promotion occurred from June 2007 onwards.

Outcomes of the Energy Savers Project

Becci Johnson, energy auditor for ARENA Network was commissioned to write an evaluation of the audits carried out for businesses and farms in Pembrokeshire. The report was published in January 2008 and led to further promotion of the project.

Towards the end of the project in March 2008 there was a rush of requests from Community Buildings to take up the offer of a free energy audit. The Eco Centre did not have the capacity to carry out all the audits requested therefore ARENA Network offered to carry out the rest.

The take up of all business and farm audits can be found in Appendix 1

In total 47 audits were carried out for businesses and farms during the project. Many of these have been contacted since to discover whether the recommended measures had been taken up.

Of the 42 companies that responded to an evaluation survey, which was carried out in December 2007 by telephone, 18 had gone on to take some kind of action following receipt of the written report. The actions taken by then equated to an annual saving of 63,021KWh and 26,388kg of carbon dioxide. A further seven organisations indicated that they intended to implement measures in the near future and of those who had already implemented measures nine intend to implement further measures. Satisfaction with the reports was generally high with 53% rating it 4 or above on a scale of 1-5.

Tenby business, Frank B Masons Holidays (FBM) asked for PLANED's assistance to help 'green' their holiday cottage business. FBM manage 340 properties in Pembrokeshire and wanted to have energy audits carried out in a sample of these, so that they could make energy savings in all of them. ARENA Network agreed that they would be able to carry out 30 audits under the Energy Savers Programme once FBM had decided which to audit. (Unfortunately FBM did not follow through with this before the end of the project but they may carry it out in the future)

FBM also asked PLANED to produce a pack for guests that provided environmental information such as the location of the nearest bottle banks and how to be more energy efficient while on holiday. This was carried out for FBM. This was a good opportunity for PLANED and partners to work with the Tourist Industry.

Community Hall Audits

In total 19 Community Buildings had energy audits, which shows that although there were not many carried out initially, the need for them increased during the two year programme, it took some time for the value of what was on offer to get through and further promotion of the project was effective.

Evaluation of the Energy Savers Project

Discussion of the take up of the project as a whole

Due to the other energy awareness raising events organised by PLANED and other organisations and the increased coverage in the media, more people began to show interest during the project and became more knowledgeable about energy saving and renewable energy. Fuel prices were also rising and businesses especially felt it was the right time to take up audits to show where to make savings. This became more apparent towards the end of the project, especially when requests for Community Hall audits increased. Some Halls were unable to have audits due to time constraints of the partner organisations.

ARENA Evaluation Report

The report, prepared by Becci Johnson for PLANED, on the uptake of energy saving measures recommended for businesses taking part in the Energy Savers Project, was published in January 2008.

The full report can be found in Appendix 1.

This report has led to further promotion of the project, publicity for local businesses and presentations at events.

The report shows that some businesses have saved considerable sums by changing lightbulbs and behaviour and installing simple energy saving devices as well as reducing CO₂ emissions. In an article for the Western Telegraph one local business, TP Hughes, gained publicity by showing how the change to energy saving bulbs has saved £2,291 per annum and reduced CO₂ by 12,316 tonnes. After this article at least two more businesses requested energy audits and there were many enquiries about the bulbs.



Other businesses such as Bloomfield Community Centre publicised their environmental credentials by creating recycling displays and putting up energy saving notices on appliances in rooms used by the public.

The findings of the report were presented at a Community Energy Network event in Maenclochog on 16th February, showing that not just businesses benefit from energy audits and energy saving measures, but that communities could also set up projects to install energy saving measures collectively saving money, fuel and reducing carbon emissions. A community should first carry out its own energy audit to measure the amount being used now. This can act as a baseline to measure any energy savings against. One way of energy auditing is by Community Carbon Footprinting, and a local training course was held for communities in March 2008.

Conclusion of Business Audits

The take up of business audits during this project was good, and the report carried out by ARENA Network was useful to follow up whether businesses had carried out recommendations.

The follow up also served as a reminder to those businesses that had forgotten or delayed doing anything, and acted as a pat on the back to those who had.

Highlighting case studies in the media also proved useful in promoting the project.

Businesses are now much more aware of the need to save energy and are finding it economically beneficial to do so.

As well as audit requests there were many requests for information on energy saving by businesses since the project began and especially after the ARENA Report was published.

Enquiries that could not be answered immediately by the Energy & Recycling Officer were referred to relevant organisations, including the West Wales Eco Centre, The Energy Saving Trust and ARENA Network.

Eco Centre Reports and Analysis of Results

Home Energy Check Analysis

Analysis of the amount of financial and CO2 savings made if all the recommended measures in the Home Energy Check reports were taken up, was completed for the South East Area and East Central Area only.

In the South East £30,845 and 212.559 tonnes of CO2 per year would be saved and in the East Central area £15,351 and 105.761 tonnes of CO2 per year. The figures for the East Central Area are almost exactly half the amount saved in the South East Area. This is partly due to less HEC forms returned and analysed as there is less population in the East Central area. However the return rate may have been less due to the fact that there was no local East Central Steering Group promoting the Energy Savers Project within the communities.

Community Building Audit Analysis

As mentioned previously the Community Hall audits carried out by The Eco Centre tended to take longer than those carried out by ARENA Network for businesses. Also more audits were carried out by ARENA for businesses and Community Buildings, so it would appear that their method was more successful. For Community Buildings this was probably due to the nature of Hall Committees that may not be as organised with paperwork as businesses and that are made up of volunteers who have lives outside the Hall!

Because of this not all of the requested community halls' audits had been completed by the end of the project. It is hoped that the reports that were done will be finished and returned to the clients.

Achievements of the Energy Savers Project

- Householders, businesses and Community Hall Committees are now much more aware of the need, and the benefits of, saving energy and reducing CO₂ emissions.
- Many have taken advantage of the project and have been given the chance to make changes that will save energy and save them money.
- By saving money on fuel costs there will be more spent within the local economy and less 'leaks'.
- Energy saving individuals are willing to group together to carry out community energy projects or to form Energy Groups.
- Businesses are promoting their Green credentials by carrying out audits and joining Green Dragon.

- The Energy Savers Project has signposted many people towards other energy related organisations for advice.

Recommendations for Future Energy Savers Project Work

Not all the recommendations from the pilot project were taken up during the main Energy Savers Project. These include fully preparing the given area for the project by running promotional events before the start of the project. However, in the south east area the project did begin with a launch and publicity in the media, which appears to have geared the area reasonably well. They were not at that time inundated with offers of energy saving information which is now the case. If they had the mail outs may have been ignored by more people, or they may have helped to show the need for energy checks.

How to carry out a mail out is always a problem. Using the Electoral Roll means missing out many people who have ticked the 'No junk mail' box. Using a personal address on the envelope means it is more likely to be opened but the Post Office will return those whose names are wrong. More people are likely to take part if friends or neighbours tell them about it, especially if they have full knowledge of the project. This could be achieved by training Community Champions from each community willing to do-door-to-door canvassing, however not enough people in any area showed much interest in this, mainly because of time constraints. If local Energy Groups that are now being established could carry out their own advice surgeries, bringing in outside experts to help, this may get more community members participating.

It is difficult for a new member of staff to cold call or meet with groups to promote a project, as a bond of trust needs to be established. This bond has now been established with many groups engaged and the Energy Officer, who was also new to the area at the start of the project, well connected and informed of contacts and activities. If the project was to continue in the future these 'relationships' would assist to increase the take up of the project.

Energy Groups

Throughout the Energy Savers Project Community Forums and individuals in communities have been encouraged to develop Energy Groups, to work out ways to reduce CO₂ emissions, save energy and save money as a community. There are Energy Groups that have been established as a result of previous Community Consultation with PLANED. One group to emerge as a result of the launch of the Community Energy Network was The Havens Going Carbon Neutral Group, which will be discussed in more detail later.

The original Energy Savers Project Areas were also encouraged to set up Area Energy Groups following on from the work achieved and interest generated from the Energy Savers Project. The most successful is the South East Area Energy Group.

South East Area Energy Group

Background

The South East Energy Savers Steering Group last met in September 2006 deciding that the mission to lead and promote the Energy Savers Project in that area was accomplished but that there was interest in developing an Energy Group to expand the interests of local people in the area.

After corresponding with those who had shown interest in energy saving by either participating in the energy Savers Project, attending energy awareness events, or by through the Community Forums in the area, it was decided in early 2007 that the time was right to launch the South East Area Energy Group. The media was increasing coverage about Climate Change which also fired the need for energy saving and also saving money.

Launch

The launch took place on 26th March 2007 Gower Hotel Saundersfoot and 20 people attended.

Tessa Pearson, a local and active resident of Saundersfoot, introduced the evening, explaining how she had been involved with PLANED activities for many years, had been on the Energy Savers Steering Group for the South East and how, when she ran a B & B, she was assisted by ARENA Network to reach the Green Dragon Environmental Standard.

The Energy & Recycling Officer for PLANED explained that, as around 300 people had participated in Energy Savers, attended energy awareness days or came on study visits, there was a great need to improve knowledge and reduce CO₂ emissions. Therefore an energy group can assist to focus relevant issues into aims & objectives and set targets to achieve them. Also an Energy group, supported by PLANED, can invite speakers to meetings or run study visits and apply for funding.

Three presentations were made including:

- **Christine Gwyther, AM**, outlined the WAG targets for reducing CO₂ emissions especially focussing on policy affecting buildings regulations. Every new build in Wales will have to meet the new BREEAM standards that aim to reduce emissions by 20% by 2020.
- **Sue Mackie from ARENA Network** presented the background to the Green Dragon Environmental Standard and how it can help local businesses financially, with prestige and marketing, as well as helping to improve the environment.
- **Tim James from the West Wales Eco Centre** explained how the Energy Efficiency Advisory Centre, which is based at the West Wales Eco Centre in Newport can help groups with energy advice. He then gave a brief explanation of local climate change and sea level rise. He then told us how and why we should be more energy efficient, the different types of renewable energy systems, the HEES grants for insulation and the Low Carbon Building Programme grants for renewables. He also gave a few examples of Community Energy Projects to show the group what can be

achieved on a local level, including Talybont-on-Usk hydro project and the different organisations that can give assistance, for instance Community Action for Energy (CAFÉ).

The Energy & Recycling Officer then showed a few more examples of community energy action, including training for those who want to disseminate energy saving measures to friends and neighbours at coffee mornings, and solar clubs. Then followed a short question time before the attendees were asked to provide the topics for the new group to discuss and develop.

The most important topic turned out to be 'Energy Saving Measures' and this was chosen as the main theme for discussion at the next meeting. The second biggest topic was 'Recycling & Composting', so the SRS officers were invited to speak at the next meeting. Other main themes for future discussion included 'using methane from sewage for power', 'transport issues' and various 'renewable energy systems'. The attendees were also asked to discuss practical solutions to reduce CO₂ emissions that a group could achieve, plus any speakers or study visits they were interested in.

The suggestions included:

- Set up a CRAG (Carbon Reduction Action Group) – Adopt government targets of 60% reduction in CO₂ by 2050 at small group level and agree individual steps to take to reach it
- Identify and set up recycling and composting schemes
- Need practical speakers able to lead and inspire by example, i.e. Paul Ratcliffe from PBe
- Take up opportunities for accessing grants
- Study visits include St Fagans House of the Future and speakers include the Recycling Officer from PCC and Bill Dunster from BedZed.

Aims and Objectives

Aim

To reduce carbon emissions and help tackle climate change on an area basis.

Objectives

- Discuss practical solutions to reduce CO₂ emissions that a group could achieve. For instance, the group could adopt government targets of 60% reduction in CO₂ by 2050 at small group level and agree individual steps to take to reach it, similar to a CRAG (Carbon Reduction Action Group).
- Member's electricity usage will be recorded over a period of time and the group will work out ways to reduce their use through energy saving.
- Organise events to present practical energy saving solutions to the public using speakers able to lead and inspire by example or showing films that provoke discussion.
- Take up opportunities for accessing grants and training.
- Organise study visits.

Progress & Achievements of Group

Launch attendees agreed that the next meeting would be at the beginning of June, there would be a speaker on Energy Saving measures and that a basic group structure would be developed.

The second South East Energy Group meeting was held on 6th June at East Williamston Community Hall and 13 people attended. Becci Johnson, an energy advisor for ARENA Network held an Energy Saving Quiz which was very informative and led to a lot of debate.

One member showed the group his energy saving light bulb adaptations for all his sockets at home. One couple signed up to train as Energy Saving Community Champions and it was decided that at future meetings everyone's electricity usage will be recorded over a period of time and together they will work out ways to reduce their use through energy saving.

James Kerrison Strategic Recycling Scheme officer for PLANED gave an entertaining & interesting presentation about Community Recycling and Composting, which also stimulated discussion.

Other ideas for future meetings included visiting US Energy's new bio fuel pump in Fishguard and showing Al Gore's film 'The Inconvenient Truth'.

At subsequent meetings, which now occur monthly, the group analyse and discuss their weekly electricity meter readings, discovering where there is a need to reduce consumption or showing others how they have achieved a reduction.

Group members swap news and information on renewable energy and energy saving measures and some regularly bring in new gadgets to help save energy.

The idea of holding an evening, where a film on Climate Change (11th Hour) would be shown and discussed, was developed. Gordon James from Friends of the Earth offered to talk and liaise with the Narberth Film Society. The SE Energy Group also wishes to show their progress by producing displays of Energy Saving Tips that are easily done at home. This event was scheduled to take place in the Autumn of 2008.

Some members attended study visits and Energy Awareness Events and have provided the group with the suggestion of developing a Community Wind Turbine Project. The group has agreed to take this suggestion on board and are now actively carrying out research. They have had presentations from wind turbine companies and discussed community projects with other groups who have gone down the same route.

They have joined the Community Energy Network and are hoping to become more financially independent by signing a constitution. They will continue to be supported by PLANED but they wish to gain funding for a Feasibility Study into developing a Community Wind Turbine Project in the area and to make a full consultation with the rest of the community.

Evaluation of the Achievements of the South East Energy Group

From a group of people who barely knew each other a year ago, a well informed and balanced group has been established, able to constitute and manage themselves and carry out import research.

The group appreciated PLANED's role in their development and would like a representative to attend meetings when possible.

Although the group have agreed to pursue and develop the Community Wind Turbine Project they have concerns. They realise the potential opposition to it and hope therefore to promote the benefits to get the community on board. They know from the experience of others that it can take a long time to develop such a project, and feel they need younger members to achieve their aims.

The group have recorded and analysed their meter readings, and have researched energy saving measures. They feel able to impart this knowledge to others, either through information leaflets, displays at events and through giving presentations. Some members would like training in making presentations.

Energy Awareness Raising

Background

Holding Energy Awareness Raising Events was always considered an important method for the promotion of the Energy Savers Project, but these activities also introduced individuals and community groups to the benefits of energy saving and renewable energy, and how they could get involved and get further advice.

Awareness Raising can be achieved in many different ways, by articles in the press or on radio and TV, by holding presentation evenings or workshops on certain subjects, by sending out information in the post, by running study visits to see case studies or to hold a public event where anyone can visit to meet the experts. All these methods have been used to raise the awareness of the importance of saving energy, showcase new renewable technology, give advice on where to get funding, grants etc and to incorporate all this into the context of sustainable living.

During the Pilot Project advice surgeries were held so that people could get help in filling in Home Energy Check forms but at the same time further energy awareness raising took place. Energy Awareness Road Shows also took place in different areas to show people the different technologies available.

The advice surgeries developed into Energy Savers Open Days during the rolling out of the Energy Savers Project, and energy experts put on displays or carried out workshops for those who came to get energy advice.

Attendees were able to see renewable technologies available to them, energy saving measures such as sheep's wool insulation and double glazing, and talk to suppliers. Businesses could get advice on the benefits of joining the Green

Dragon Environmental Standard, grants and how to promote energy saving in the workplace.

The Community Action Plans prepared by PLANED showed that communities were increasingly interested in energy related issues, but knowledge and experts were hard to find. Also through the Energy Savers Project many people from all over Pembrokeshire with an interest in renewable energy, sustainable building, energy efficiency and recycling, contacted the Energy Officer with requests for further information. This was encouraging, but levels of interest and knowledge varied from complete energy efficiency novices to long-term energy self-sufficient experts. Most people were enthusiastic and wanted to do something to become more energy efficient and/or use renewable energy but were in danger of becoming frustrated, perceiving that bureaucratic systems and costs were thwarting their efforts.

In order to address these issues Study Visits and Energy Awareness Events were organised by PLANED to bring the knowledge and expertise to a location that everyone could access.

Study Visits

These were carried to discover Community Champions who would present their findings to their communities at Community Forum meetings and other events. Study visits also show renewable energy and sustainable living in action. Thirteen study visits were carried out from 2006 to 2008.

1. The first study visit was to the Centre for Alternative Technology in Machynlleth, mid Wales in June 2006, and 21 people attended. Feedback showed that many people were interested in forming Solar Clubs (members buy solar panels in bulk and benefit from discounts), or bio-diesel clubs. Attendees were also interested in future presentations on subjects such as planning regulations for installing renewable systems, especially in the National Park, discovering what it is like to live with renewable systems (benefits & pitfalls), DIY systems etc. It was felt that these ideas could form the basis of Area Energy Groups, if there was similar feedback from other visits or events.

2. Two study visits were made to Caerfai Farm near St Davids in July and September 2006. 21 people attended in total. Caerfai Farm is an organic dairy farm where organic farmer Wyn Evans has installed solar heating, an aerobic digester, a 20kw wind turbine and two Ground Source Heat Pumps to help heat farm, camping facilities and his home. Mr Evans enjoyed sharing his knowledge and expertise with



others, and this was a great opportunity for people to see the possibilities that can be achieved even within the National Park. The feedback was very enthusiastic. It was clear that people wanted to join the debate about climate change, peak oil and renewable energy. It was suggested that an E-Forum linked to the PLANED website was established so that

Pembrokeshire people could discuss and swap information. On the same visit the new bio-diesel filling station in St Davids was also studied.

3. A study visit to see the sustainable buildings at Druidstone Hotel and Scolton Manor was made in October 2006 and 14 people attended. The 'Roundhouse' at the Hotel has been renovated for accommodation purposes using sustainable building materials. The hotel's proprietor, Jane Bell, explained why she wanted to use these methods and how doing so has been good for business.



- Many of the attendees were in the Tourism business and were interested in promoting Green Tourism by using environmentally friendly building methods in any renovation work that they may do. The sustainable architect Julian Bishop gave a very informative guided tour of both locations. Attendees were interested in finding out information for their own building work. Feedback forms indicated that most attendees wanted to join Energy Groups and would carry out changes in their lives to reduce CO₂ emissions relating to information gained on the study visit.
4. In November 2006 a visit was made to see the wind turbine at Castle Pill Farm in Steynton. 16 people attended and they were able to see how the 500Kw turbine produced little noise but sent a lot of energy to the grid. This provided the owner with a very good income from the sale of electricity.
5. A visit was made to see the Strawbale House and Flour Mill in St Dogmaels in January 2007 and 16 people attended. The owner, Rachel Shiamh has built a sustainable building that uses renewable resources to reduce the CO₂ impact on the environment. Solar water heating was installed, which in conjunction with a wood burning stove is providing adequate hot water. She also has a solar PV panel and a wind turbine to provide power, rainwater harvesting system and waste composting system. The house is also the UK's first two storey load bearing straw bale house. It is built out of straw bale bricks, without any supporting structure. Women's building team and straw bale pioneers, Amazon Nails, designed and assisted in the construction of the house while training those that wanted to learn about eco-building at the same time. The walls have been lime plastered inside and out by Rachel and a team of dedicated volunteers. The house was the winner of the TV series Grand Design Eco House 2008. The Study Visit attendees loved the feel of the house and were intrigued with the construction. Many were impressed that Rachel had done so much work herself and that she had so little problems with planning. Rachel has organised a training event for Planners at the house showing them that 'alternative' building structures can pass planning and building regulations and be sustainable.
6. 25 people were taken to see the Carmarthenshire Recycling Facility in Carmarthen in January 2007. The visit proved very interesting and many attendees said they would be taking their plastic there to be recycled and would lobby Pembrokeshire County Council to recycle in a similar way.

7. A coach load of 30 people were taken to visit the work of Eco Dyfi Community Renewables in Machynlleth in March 2007. They were given a tour of solar installations on buildings in the town of Machynlleth and a presentation by project organiser Andrew Rowlands on the work that Eco Dyfi has done including community gardens, youth areas and a hydro project. There was also a strenuous



walk up a mountain to visit the community-owned wind turbine. Andrew showed attendees the Dyfi Eco Park which Eco Dyfi helped set up. This is a Business Park built using sustainable methods, passive heating and some renewable technology as well as housing a variety of eco-related businesses such as Dulas Ltd.

8. Two study visits were made to see Old St Lawrence ground source heat pump installation in Yerboston in May 2007. In total 38 people attended. The old church was being renovated and converted to a residence using traditional and sustainable building methods. The visitors were very interested in all aspects of the tour and were especially interested in the ground source heat pump which heats the under floor heating. Groups were targeted that wanted to renovate their village or church halls, and many visitors took back ideas to their groups.

9. Two study visits were made to Nick Dorrell's wind turbine at Crinow near Narberth in February and March 2008. In total 17 people attended. Nick showed the group the invertors and meters for the turbine and explained how the excess electricity gets sold to the National Grid and then showed them the 5kw turbine. After installing his own wind turbine Nick discovered that no-one in the area was supplying and installing this type and he decided to train to become an installer himself. The visit also inspired enthusiasm for developing a community owned turbine project by the South East Energy Group.



10. Nineteen people attended the final study visit to see micro hydro power in action. A visit was made to two sites in the upper Cych Valley at Cwm Morgan near Newcastle Emlyn on 30th July 2008. One site is an ex woollen mill that used water to drive a wheel. This has now been renovated by Mike Godsell who runs a saw mill and lighting using the power of the River Cych. Over



local cheese and wine he gave the group a fascinating insight into the old workings, how he discovered most of the machinery in undergrowth at the site that local people in the pub told him how to put it back into working order and his plans for future installation of another more up to date turbine to run alongside. The second site is a micro hydro turbine in the process of being installed lower down the Cych Valley. The site owner, metal sculptor Tony Woodman, has built a micro hydro turbine and is doing the construction work himself. The site had an original mill and mill leat going back 200 years which has been abandoned for 80 years. He has opened up the leat, obtained the necessary abstraction licence from the Environment Agency and will be completing the whole system including a sluice and fish screen in September 2008. He hopes to be gaining electricity for his house and workshop by Christmas 2008. Despite heavy rain the group were inspired by the simplicity of both systems and encouraged that the cost and licensing was not prohibitive.

Achievements of Study Visits

- Many people have now attended study visits to see renewable in action. They have had first hand encounters with people living a more sustainable lifestyle, using renewable technologies, and were able to discuss costs, benefits and pitfalls.
- Many attendees returned to their communities and imparted their findings to community groups to raise awareness amongst the rest of the community.
- Almost all attendees gave positive feedback at every visit, stating that they had learnt a lot, were inspired to carry out further research or actually invest in similar technologies.
- Many attendees felt that they would not have been able to find out all the information they had learnt on visits without the assistance of PLANED who organised them.
- Individuals and community groups attending visits were able to network together, discovering that people all over Pembrokeshire wished to carry out similar projects. This has led to the formation of energy groups and the Community Energy Network.
- Hosts of these visits were often surprised that so many people were now interested in their activity or lifestyle. Some have now taken part in presentations at other energy related events.
- Wyn Evans of Caerfai Farm actually built a portable anaerobic digester to demonstrate at the LLys-y-fran Energy Awareness Day. This mobile unit could be used as a prototype for education or for use in developing countries.
- Nick Dorrell now regularly gives talks at Energy Awareness Events on siting wind turbines and both speak at Pembrokeshire Sustainable Agriculture Network Events.

Energy Awareness Events

Llys-y-Fran Energy Awareness Day

The first of these days was held at Llys-y-Fran Reservoir Visitors Centre on a Saturday in October 2006. Displays, workshops and stalls were held inside and outside (for demonstrations such as wind turbines, solar panels and anaerobic digestion) and presentations were made on the following subjects:

- Planning for renewable energy & sustainable architecture by Julian Bishop
- Pembrokeshire Bio-energy: Fuel for the future by Paul Ratcliffe
- What Sundance can do for you by Jan Cliff, Sundance Renewables

The event attracted over 127 people and the presentations were fully booked and well-received. Attendees felt they had gained more knowledge about renewable energy systems, sustainable building and planning issues. Most left motivated to do something new to reduce CO₂ emissions. Verbal feedback confirmed the need for other similar events and a variety of subjects were suggested that could be covered.



Bloomfield Energy Awareness Day

The second Energy Awareness Day was held on a Saturday in November 2006 at Bloomfield Community Centre in Narberth.

The 23 displays were mostly held inside as the weather was colder, solar workshops also took place and 4 presentations were given which included:

- Steve Cranston on Community Renewable Projects
- Chris Lord-Smith, from the Association of Environmentally Conscious Builders, on Which Renewable System do I go for?
- Dan Blackburn who talked about his Veg Oil Fuel Company
- Keith Knight, a farmer in Steynton who has installed a Commercial Wind Turbine on his land.

There were installers showing displays of renewable energy systems including solar heating, solar PV, wind turbines, and heat pumps. There were also examples of green building and recycling, and energy and planning experts were on hand to answer questions.



This event was bigger than the first and publicity even more widespread. An article in the Western Telegraph after the first event also advertised the second event. Mail outs targeted those who had shown an interest in environmental or sustainability issues, community group activists, farmers, tourism and farm businesses and those in the construction or electrical business. Schools also had flyers to distribute and the event was publicised in the Western Telegraph, other local newspapers and local radio.

This awareness Day attracted over 175 people despite the weather being cold and showery. The evaluation forms showed even greater positive feedback with attendees wanting to do more to reduce CO₂ emissions as a result of the day.

Study visits to see renewable energy in action were also advertised at these events and attendees could book places. This proved a very popular method of attracting people as most study visits were over subscribed and some needed second visits. These will be described in further detail later.

Pembroke Dock Energy Awareness Day

The third Awareness Event was held at the request of people in the West of the County and the preferred venue was Pater Hall in Pembroke Dock. It was decided to attempt to attract different clientele by holding the event on a weekday afternoon, so that people who were shopping or taking children from school could visit or just pop in off the High Street. The event was held on a Thursday in late June 2007 and advertised a children's activity area.

There were 2 presentations:

- Alistair Pollard from Celtic Bio Diesel
- Keith Knight who has a commercial wind turbine near Milford Haven.

There were four renewable energy suppliers; Wave Dragon Ltd who are installing a pilot wave turbine off the Pembrokeshire Coast; Recycling & Composting organisations; Bio fuel & bio energy producers; a local community bus; The West Wales Eco Centre, and a papier mache workshop for children using recycled material.

The event did not attract as many people as had been hoped and not many just 'popped in'. Only one child took advantage of the papier mache workshop. The timing of the event on a weekday afternoon was not conducive to those who wished to attend. The feedback however showed that those who attended learnt a lot from the event and were keen to put their knowledge into action.

The fourth Energy Awareness Event was an evening of presentations and workshops specifically on community wind turbines, as it had been suggested at several previous events and by community groups.

Community Wind Turbine Evening

Background

The reduction in CO₂ emissions is now being recognised as an extremely important and urgent issue and most people, from the Government to the lay person, are trying to save energy and develop renewable energy initiatives.

Many communities in Pembrokeshire expressed an interest in developing a Community Wind Energy Project. Therefore the event was organised so that those Community Groups could meet organisations that could help them achieve their aims. The evening of presentations and discussions was held at Pembrokeshire College on 4th July 2007 with a very positive attendance of 43.

Speakers from two established community energy projects spoke about their experiences and discussion workshops introduced people to a variety of issues that need to be covered when developing a wind turbine project. The feedback from the workshops showed that most groups were at the early fact-finding stage of development and that further meetings were needed to increase the knowledge of the groups. Therefore a Community Energy Network should be formed to assist this. Details of the Community Energy Network will be featured later in this project.

The evening was chaired by Peter Davies, Vice-Chair of the Sustainable Development Commission for Wales, who emphasised the importance and urgency of reducing CO₂ emissions and generating energy through renewables, especially relating to Government targets. He also explained the change in views of the Assembly Government and how they are now looking more favourably towards any measure that reduces emissions.

Speakers included Duncan Kerridge from Bro Dyfi Community Renewables Ltd in Machynlleth and Cris Tomos from the Cwm Arian Project in Pembrokeshire. Their experiences should help Community Groups understand how to develop their projects, obtain funding and how to get the whole community on board.

Attendees were then able to attend one of three workshops:

Workshop 1 Planning for and siting a turbine

This was facilitated by Ifor Jones, Head of Planning at Pembrokeshire National Park, Duncan Kerridge, Nicholas Dorrell a local installer for SEGEN wind turbines and Jo Brookman.

The main issues arising from Workshop 1 were:

It was obvious from the discussions that most communities are at the fact finding stage and not ready to make the next step. There were some individual attendees that were interested in setting up a turbine and had gone as far as having a wind survey, and those who had a small turbine already but were interested in a community project too.

More information is needed by all regarding size and type and siting of turbines and whether planning permission will be granted. Ifor Jones gave out the National Park's and Government's planning guidelines for turbines and explained that working with the National Park at an early stage would be favourable for any renewable project. He reiterated that the Park Authority were very receptive to wind turbines as long as the balance is kept between the landscape protection and energy production.

Workshop 2 Setting up as a Co-op or Social Enterprise

The workshop was facilitated by Serena Allen from the Wales Co-operative Centre, Kathryn Bradbury, Social Enterprise support officer at PLANED and Barry Griffiths from PBI.

The main issues arising from Workshop 2 were:

The discussion centred on legal structures suitable for projects of this type and the rules governing cooperative organisations. Sources of finance were discussed but not in detail as different projects may match different funding criteria and this should be considered by individual project. Questions were asked as to how to engage the wider community surrounding a potential project. This was considered important especially in pre-empting potential opposition. PLANED have extensive experience in engaging communities and could potentially help with this. The income generation potential of a community wind project may also help influence peoples decision for or against a project.

Therefore the initial stages to developing an energy project;

1. Overcoming the opposition to large turbines in visually sensitive areas.
2. Finding out the financial benefits to localities.
3. Which legal structure is best for any given group?
4. Create a Route Map – Who to talk to, which websites etc to find out more info.

Workshop 3 Getting the whole community on board

This workshop was facilitated by Cris Tomos and Mike Purcell from Cwm Arian.

The main issues arising from Workshop 3 were:

- Gaining community support was not necessarily just about energy creation.
- There is a need to emphasise the financial benefits as some individuals respond better to monetary gain.
- Community groups should link with, borrow and learn from others experience, i.e. Cwm Arian and Bro Dyfi.
- Look at alternatives to the original idea, maybe another form of energy project could be developed.
- Build on a sense of strength of the community in general.
- How can community coherence be strengthened?
- Are there benefits for different age groups so that they can get involved?
- A common emergency can be useful, like threatened school closure.

Feedback from Evaluation Forms

Most of the feedback was very positive stating that the level of enthusiasm was very good, the presentations were inspiring and helpful, and most will be reporting back to their communities. Negative feedback showed that people didn't like to choose between workshops, the planning workshop did not have enough time and that smaller communities' projects need to be considered. It was also mentioned that it was a shame that PCC were not there to share their policies.

Issues to be discussed at future meetings included the siting of turbines, Council policies, liaising with other communities, practical information, funding and grid connection.

Future Work

This evening helped community groups and individuals decide on the best direction for them and they agreed that a network should be developed to assist each other through the process. They felt that network should look at all types of community energy project including, CHP, biomass, solar as well as wind power. Therefore it was decided that the Community Energy Network would have an inaugural meeting in October 2007 with informative speakers and the opportunity to ask questions of a variety of experts.

Neyland Energy Awareness Day

The final energy awareness event was held at the request of the newly formed Neyland Ahead Community Association. A presentation had been given at the inaugural NACA meeting where the members agreed to assist promote the event.

The Neyland Energy Awareness Day was held at Neyland Athletics Club in June 2008 and the event was open from 11am to 4pm.

A variety of displays were on show, including several local renewable energy installers, environmental organisations and funding bodies. There were also cars on show running on water and veg oil.

There were 3 presentations:

- Dan Blackburn from Veg Oil Motoring on biofuels versus food production
- Dan McCallum from Awel Aman Tawe on wind power and community energy projects
- Johnathan Rowles from Dragons Breath Solar on domestic solar technology.

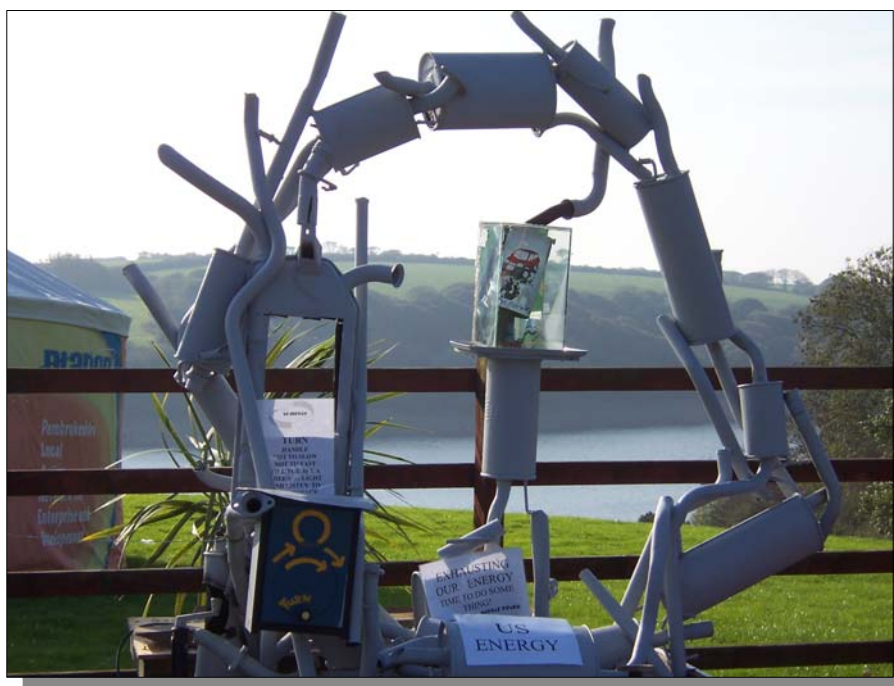


Although there were only 28 attendees their feedback showed that they found out a lot of new information and most will be using the information to reduce their carbon emissions. One group (South East Area Energy Group) were interested in setting up a community wind turbine project in the Saundersfoot area and found talking to Dan McCallum very useful. Several individuals

obtained quotes for solar installations for their homes and two churches signed up for energy audits and obtained energy saving and grant advice.

Achievements of Energy Awareness Events

- Over 400 people attended energy awareness days. They have met energy experts, renewable technology installers, sustainable living practitioners, environmental organisations, funders and advisors, and were able to discuss expense, technological facts, benefits and pitfalls.
- Most attendees gave positive feedback, stating that they had been well informed, were inspired to invest in similar technologies or they would carry out further research.
- Many attendees felt that they would not have been able to find out all the information they gained at the Energy Awareness Days without the assistance of PLANED who organised them.
- Attendees were able to network together, discovering that people all over Pembrokeshire wished to carry out similar projects. This has led to the formation of Energy Groups and the Community Energy Network.
- Installers, suppliers and organisations were provided with the opportunity to promote their business to many people and network with each other.



Community Energy Network (CEN)

Background

Many Communities have expressed a desire to develop community energy projects through their Action Plans, through the Sustainable Toolkit and through 'Plugging the Leaks' workshops. The latter identified major 'leaks' of money out of the economy including fuel bills. It was suggested that these 'leaks' could be 'plugged' by encouraging energy saving at home, in businesses and within community buildings. Local energy could also be generated using renewable technology which is non-polluting and does not use finite resources such as coal, oil and gas. Locally generated energy can be sold to the National Grid providing income that can benefit the community. Therefore community energy projects could be developed.

The aim of The Community Energy Network is to provide community groups with the opportunity to learn from others who have developed energy projects, share ideas and expertise with other community groups and also to develop projects within your community.

Community Energy Network Launch

The inaugural meeting of the Community Energy Network was held on 23rd October at Bloomfield Community Centre in Narberth. There were 38 attendees representing 14 communities.

Dan McCallum from Awel Aman Tawe spoke about the variety of energy related projects they have developed.

Garry Charnock gave a very inspirational talk about how his small village of Ashton Hayes in Cheshire decided to Go Carbon Neutral. He also showed their award winning DVD which explained simple positive ways that communities can achieve carbon reduction. As a result at least one community group has decided to show the DVD and follow Ashton Hayes example, e.g. The Havens Energy Group.

Ideas for projects, training and network structure were also discussed and there was a request for volunteers for the initial steering group. Attendees were also asked to pool all their skills and resources that may be used within the group. The result was very positive, with 8 people offering to be part of the steering group and offering their various skills and resources.

Suggestions & Comments gleaned from Community Energy Network Events – 23rd Oct 07 & 16th Feb 08:

- St Dogmaels Community offered a meeting place for the Community Energy Network.
- 15 acres of new trees have been planted in East Williamston as part of a community group's action which could be measured as a carbon sink.
- Climate Change Champions could be trained up in schools encouraging community-led climate change actions.
- Community Voice could be a website for the network? Allows a suggested topic in a community to be put to a poll to survey public opinion etc. also a log of visitors can be seen.
- One member joined Community Council to attempt to influence decisions.

- Micro hydro event and training needed.
- Run practical days, e.g. construct your own solar panels.
- Run study visits to see running projects.
- Many members were willing to speak about their own experiences.

Steering Group

Representatives from eight Community Forums around Pembrokeshire volunteered for the Steering Committee and met for the first time at Wilton house Hotel in Haverfordwest on 18th March 2008.

Main points discussed at this meeting:

- The group discussed the Terms of Reference and amended the Aims & Objectives and added suggestions. The main addition was that CEN should inform WAG & LA strategy and policy for the area.
- The role of PLANED was discussed and it was agreed that the Network would be able to continue even if the support from PLANED was reduced in the future. The Group offered their support for PLANED.
- There was a discussion on the merits of public consultation by the Internet or by face to face discussion and the consensus was that a balance must be kept using both methods.
- Other suggestions for projects included the development of a biomass project using waste from forestry, Combined Heat & Power stations and presentations from Hydro power experts.

The agreed initial Action Plan included:

- Produce a Energy Project Tour Guide for Pembrokeshire
- Run a Micro & Pico Hydro Event in April in St Dogmaels
- Develop a Programme of Awareness Raising of Climate Change issues in Schools
- Develop a Pembrokeshire standard for Community Carbon Footprinting for the UK
- Produce a quarterly newsletter for the CEN
- Produce DVD of the Community Energy Projects in Pembrokeshire.
- The Steering Group will set up task and finish groups for certain activities such as newsletters, school awareness raising, etc.

Aims, Objectives and Terms of Reference for the Community Energy Network

Aim

To develop community energy projects which benefit the whole community and tackle climate change.

Objectives

- Information exchange on renewable energy, carbon reduction and energy efficiency via meetings, email and by post.
- Events to provide communities with relevant information.
- Events where communities can meet to share experiences and swap ideas and expertise.
- Collaboration with existing projects that have relevance to community energy projects, such as community hall renovation.
- Training programme for communities in setting up energy projects, DIY solar/wind etc, admin, funding and other training where needed.
- Lead by example to other communities in UK and share resources.
- CEN should inform WAG & LA strategy and policy for the area.
- Set up joint task and finish project groups to take forward specific initiatives.
- Organise quarterly events throughout the year.

Membership

- Community groups in Pembrokeshire
- Partners and Associates

Structure of Network

- The Network will be initially chaired by Peter Davies, Vice Chair of Sustainable Development Commission Wales.
- Quarterly meetings and events.
- Open to all community groups.
- Secretariat provided by PLANED to be reviewed.
- To formally constitute the Network over the next year.
- Establish a temporary steering group to set up projects.

Community Energy Network Achievements

Events

The Community Energy Network hosted a second event on Saturday 16th February at Maenclochog Village Hall to attract more Communities from different parts of Pembrokeshire to join the Network. This event championed the success of The Havens Going Neutral Campaign and showed how other communities could do their bit to tackle climate change. There was an opportunity to find out how communities can save money while saving the world and Nicholas Dorrell from Dorrell Renewables gave a talk on harnessing wind

efficiently for a Community Turbine find the best places to install it. Local Renewable Technology Suppliers were also present to answer questions.

Attendees were impressed by the turnout and the information they obtained and were willing to support the community energy Network at other events and on the Steering Group.



The CEN Micro Hydro Event was held on 24th May in St Dogmaels Memorial Hall with 5 speakers, a film and tour of the water powered flour mill. Over 60 people attended showing that hydro is currently a popular subject. A local sawmill owner, Mike Godsell, was at the event and he runs his mill using hydro power and is a member of the British Hydro Association. He was able to answer many questions and PLANED then arranged a study visit to his mill, near Newcastle Emlyn.

The Micro Hydro Event was held at the suggestion of many members of the Network to provide expert information on hydroelectric power to those communities who may be interested in using their local river resource to generate electricity. Since then CEN members have requested assistance from PLANED in organising practical training in micro-hydro installation and other events.

There were presentations from five speakers including Richard Drover, a UK Hydro expert, Gideon Carpenter from the Environment Agency's Hydrology Department, Matt Leese, the Renewable Energy Officer at the Eco Centre, Alice Goldstone from Talybont on Usk Community Hydro Scheme and Jamie Ashe, a local small-scale hydro installer. There was also a short film about renewable installations in this area and Peter Davies, Vice Chair of Sustainable Development Commission for Wales, chaired the day.

The Havens Going Carbon Neutral

As a direct result from hearing Garry Charnock talk about the Ashton Hayes example at the Community Energy Network Launch, Karen Thomson and Peter Anderson from Broadhaven decided that The Havens could also 'Go Carbon Neutral'. The Launch was in October and by December the pair had got so much community support for their campaign that they felt it was time to launch. So The Havens Energy Group launched their Going Carbon Neutral Campaign on 10th December. The Energy & Recycling Officer supported the development of this project and spoke at the launch event.

The Group has set up their own website and newsletter and is now supported by The Havens Community Forum, local school, churches, businesses and shops. They have provided the Community with simple steps to achieve each month, from changing to energy saving light bulbs (and offering free bulbs) to recycling ink cartridges (with drop off points in the local shop). They are also

involved with the Environment Group to improve their local nature reserve (which can be used as a carbon sink). They have received grants to achieve their aims and have asked PLANED to provide support for grants and data.

Renewable Installation Map

The Community Energy Network of Pembrokeshire decided it would be useful to compile a Renewable Installation Map of the County and they asked the Energy & Recycling Officer at PLANED to carry out the work with their assistance. The sheer number of current installations should encourage those who are considering investing in renewable technology installation.

The Map also goes further, showing Case Studies of certain significant installation projects. These range from Pembrokeshire County Council's school installations which should greatly reduce carbon emissions, to individual homes that have reduced their carbon footprint and that save money too.

The Case Studies provide facts and figures regarding the technology installed; give a background to the reasons for investing in renewables, the pitfalls some of the owners/managers have faced and how they were overcome. They also offer useful contacts for those who want to find out more. Some of the most important facts to be included were the cost involved to install and to run the systems and whether grants are available to do so.

The interactive Map and the Case Studies can be found on the PLANED Website and they are downloadable for print. Hard copies bound in Eco-friendly ring binders are also available on request at PLANED, National Park Offices and West Wales Eco Centre.

The CEN, PCNPA, PCC, Eco Centre and Renewable Energy Installers provided the data for the map, and the data for the case studies were provided by the case study site owners, PCC, PCNPA, through email, letter and interview.

The feedback for the Renewable Installation Map has been extremely positive, both from users of the website and through the Community Energy Network and organisations such as Pembrokeshire Coast National Park Authority.

Micro Hydro Training Course

Following on from the micro-hydroelectric event in St Dogmael's, there has been a lot of interest in the suggestion that a 'Practical Micro Hydro Course' could be run. Six potentially interested site owners in North East Pembrokeshire wish to progress this idea. The Newport Area Environment Group, the St Dogmael's Green Living Group and Transition Bro Gwaun may run the event, but would like support from PLANED.

PCNPA Renewable Energy Assessment

The Pembrokeshire Coast National Park Authority is keen to identify potential opportunities for renewable energy production in the National Park. To this end Land Use Consultants (LUC) and the National Energy Foundation (NEF) have been helping the Authority develop a strategic understanding of the greatest areas of potential for renewable energy

production within the highly valued and sensitive landscape of the National Park. The findings of this work will provide the evidence-base for the new development plan.

The National Park Authority realised that the future of renewable energy and low carbon technologies² in the Pembrokeshire Coast National Park is a very important topic.

The Authority has requested the views and guidance on the emerging thoughts and findings by the consultants based on their first hand experience and local knowledge. The Energy & Recycling Officer has been representing PLANED and the Community Energy Network on the Steering Group for this Assessment, as has the Sustainable Development Officer at PLANED.

The National Park Authority recognizes the Community Energy Network as being an important group with which to liaise, in terms of finding out information and the views of Communities and to ask for approval for the work the Park is doing. There is a stakeholder meeting to discuss the consultants' findings in September. Not only are Community Energy Network members invited but the Chair for the event is Peter Davies, who is also the Chair of the Community Energy Network.

Conclusion and Recommendations

Since October 2007 the Community Energy Network has achieved a great deal and has been recognised by the Welsh Assembly, the National Park and other authorities as being an important group with which to discuss planned developments. The achievements so far have had positive feedback and are deemed very useful, and have led to further project suggestions.

Some of the actions highlighted in the Action Plan have been achieved but there is a need for PLANED support to carry out the other actions and other suggested projects. The Network is still new and the Steering group has only met once, therefore without encouragement from PLANED the Network may not be sustainable.

Conclusion of the Progress from Energy Savers to Community Energy Network

Some aspects of the Energy Savers Project could be deemed unsuccessful, such as the programme in the North East Area or the Steering Group support in the North East and East Central Areas. However, most of the outcomes were positive; energy, money and CO₂ has been saved; and some of the project work has led to the development of an active Energy Group and the Community Energy Network, recognised throughout the rest of Wales.

Recommendations

- Energy Saving advice is currently being offered through utility companies and the media, and, if Energy Audits were offered now through a similar scheme to Community buildings and businesses, the take up could be much greater. However there is a danger of 'Energy Savers Overkill' and the marketing of such a scheme would need careful guidance.
- Many Communities have recognised the benefit of measuring the carbon footprint of the community before trying to improve it. The Community Carbon Footprint can act as a baseline for measuring against. This type of project can be time consuming and relies on good organisation and dedicated volunteers. This is a project that PLANED could support, with its knowledge and expertise.
- There is currently no standard recognised Community Carbon Footprinting Tool, at present the different methods used give varied results. Members of the Community Energy Network who attended the Community Carbon footprinting training suggested that they, with PLANED assistance, could develop the Pembrokeshire Standard for Community Carbon Footprinting to be used universally.
- Energy Awareness Events and study visits are considered very useful by attendees and should continue, developed through the Community Network but with support from PLANED.
- Continued PLANED support has been requested by the Community Energy Network, and this is currently necessary for the Network to remain sustainable and help with writing a constitution. Steering Group meetings need to be arranged and chaired by PLANED at this stage and help with event organisation.
- South East Area Energy Group should have some continued support from PLANED however the group is now constituted, semi independent and should continue with or without PLANED support.