



Renewable Energy- what is happening in Pembrokeshire and further afield

**Is nuclear power about to make a
comeback?**

Pete West

Project Manager West Wales ECO Centre

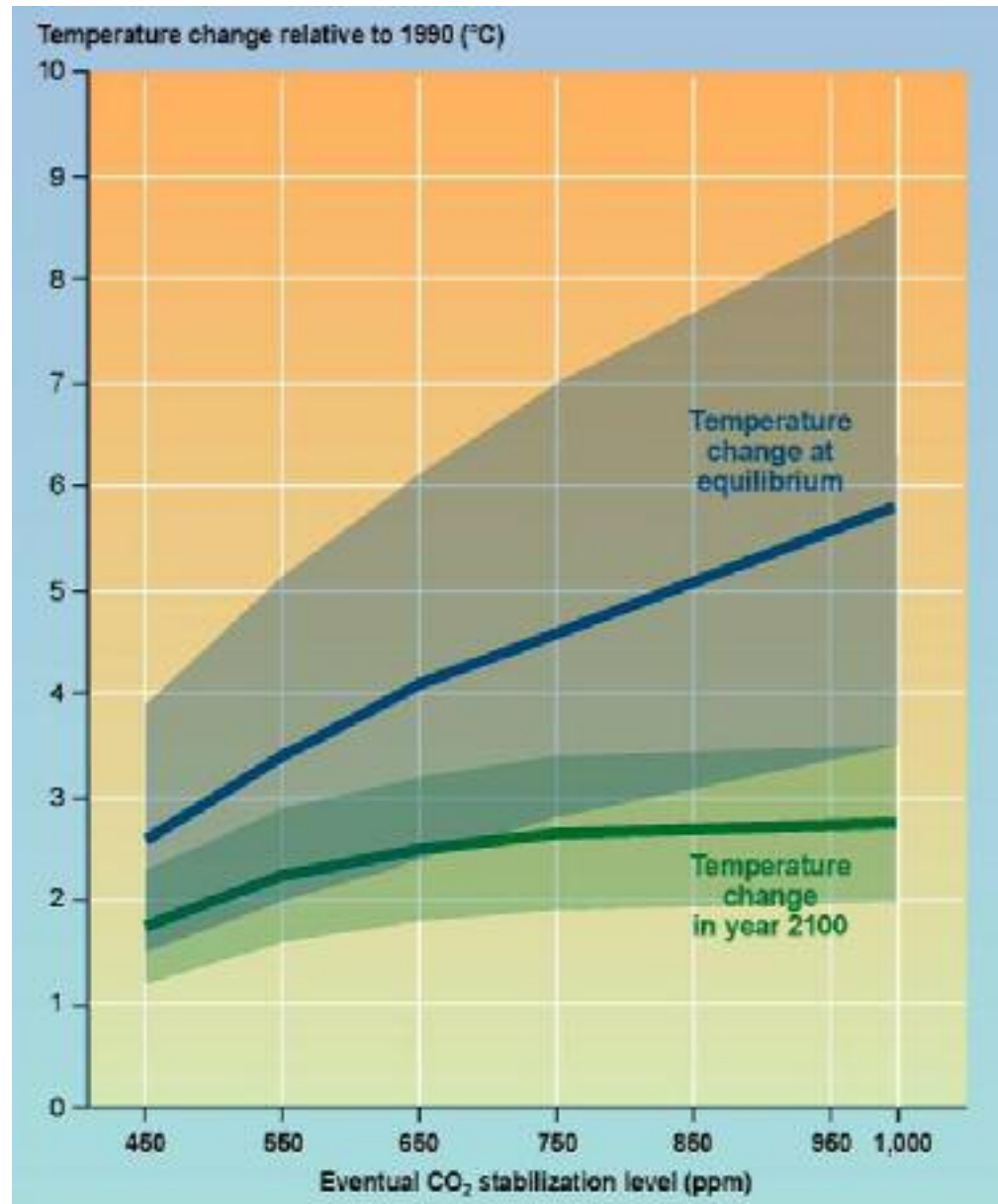


Our organisation - West Wales ECO Centre hosting the Mid and SW Wales EEAC



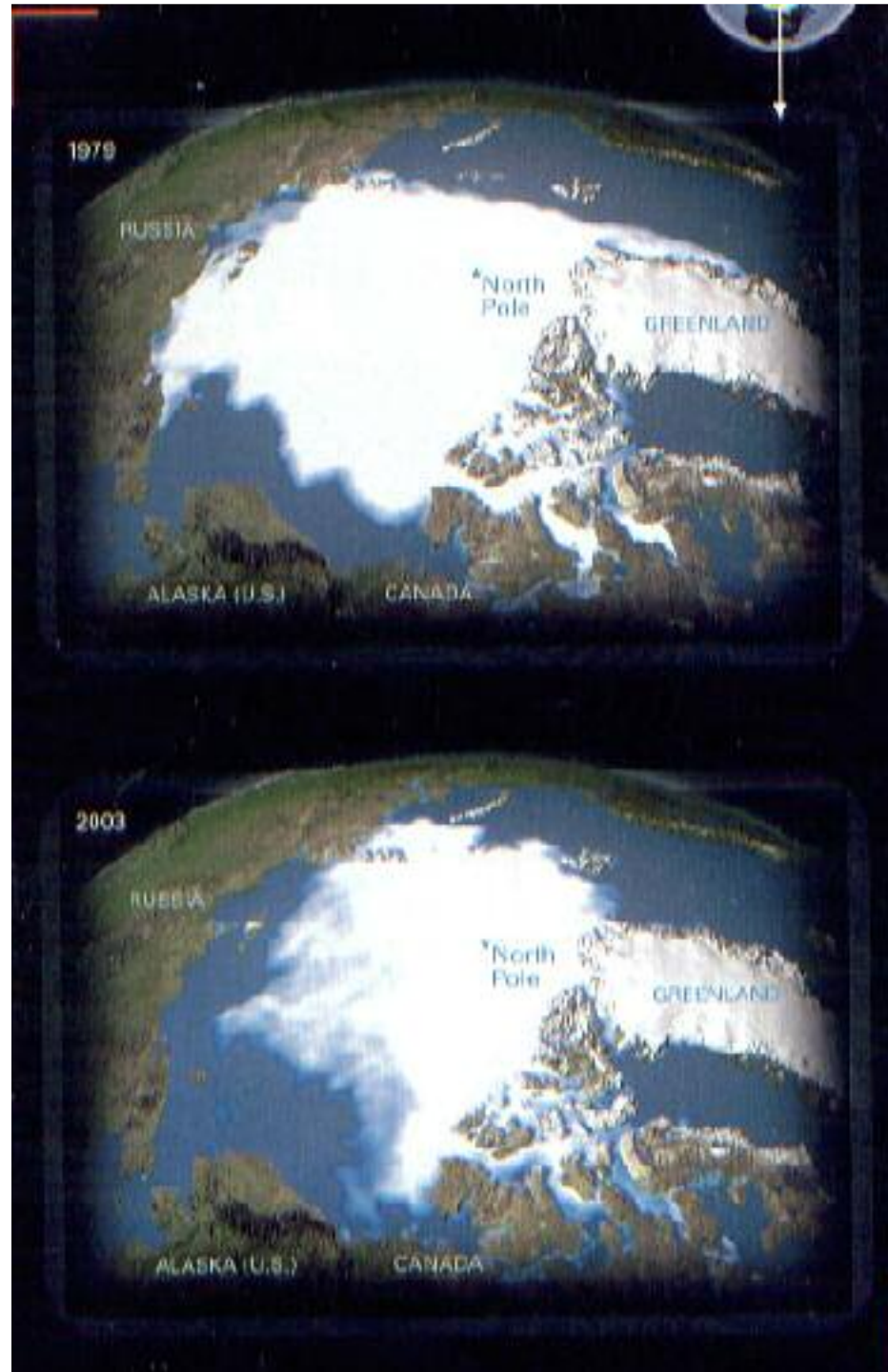


IPCC data on climate change



The Kyoto Protocol if fully enforced will only reduce mean global temperatures by 0.1 degC

On current trends, there will be no sea ice remaining during the summer at the North Pole within 50 years



1979

National Geographic Magazine, Sept 2004

North Pole summer ice coverage is shrinking by 9% per decade

2003



People are interested in doing something!



1000 local people attended a 1 day Eco Festival at Rhydhowell Farm, N. Pembrokeshire, Sept 2004



Energy efficiency vs renewable energy



Six energy saving lights in a house costing approximately £20 will save more money and CO₂ emissions than a solar hot water system costing approximately £2,000



Energy efficiency vs renewable energy



‘A’ rated larder refrigerators are widely available with running costs of only £10 per year. The average power consumption is 18 watts - about the same as a low energy light!



**Feb
2003**

Wind power



Planning granted for a 500kW wind turbine in Pembrokeshire as a partnership between a local farmer and neighbouring community



Wind power

Thumbs-up for huge wind turbine

A 100ft Sleynton wind turbine was controversially given the go-ahead this week and could be up and running within a year.

The massive development - the brainchild of local farmer Keith Knight - was passed by 14 votes to six in front of a packed and noisy crowd at County Hall.

Time and time again planning committee chairman Lyn Davies had to ask both protesters and supporters not to shout out as members made their feelings known.

Although the 50-ton turbine had been recommended for refusal by planning chief, Mr Knight's plea was given a major boost within minutes.

A noise survey showed that any sound from the turbine would fall within acceptable levels and not be grounds for refusal.

One of the turbine's key allies was cabinet member for the environment, Cllr Brian Hall.

"I don't think they (residents) will notice it's there after 12 months. What I'm trying to say is

By Lee Day

that these have to go somewhere and this is as close to the perfect place as possible."

Cllr David Watkins added: "I would certainly not agree with the officers that this would dominate the landscape. I would say it meets all the proposals."

"Like it or not, at some time or another we do have to go along the road to alternative energy" said Cllr June Major.

Paid Cymru leader Mike Williams said "My gut reaction is to vote against these and I have done so consistently in the past but I must say I could see no problem with this one."

Cllr Tom Sinclair said that the Campaign for the Protection of Rural Wales (CPRW) had made a "landmark decision" by backing the turbine.

"I believe it fits the criteria and there will not be a situation of hundreds and hundreds of these appearing."

But leading the fight against, Cllr John Cole said: "It's not a case of not in our back yards, its un-

itary to our policy EV13. It's visually intrusive, it will be 100ft high from base to the top!"

Peter Stock added: "We must plan very carefully here in Pembrokeshire, we have got the best county in Wales, a pretty county. I can't think of anything as all in support it."

Committee vice chairman Brian Phillips added: "I can't go along with this, this is a tourist county, if you go along with this they will be all over the county."

But at the vote the turbine was passed, Mr Knight will use the 100kw turbine to power his organic farm and surplus energy will be transported to the National Grid.

The planning committee's decision was welcomed by environmental support charity the West Wales Eco Centre.

Project Manager Pete West said: "We are extremely pleased that this is the first emergence of renewable energy in Pembrokeshire and extremely pleased that a local person and the local community will benefit."



Pro-wind energy campaigners celebrate outside county hall on Tuesday.



'Victory for common sense'

A victory for common sense was how Keith Knight described Tuesday's decision.

He thanked his family for their support and also the members who spoke in favour of the development.

He told the Mercury: "There are many supporters of renewable energy among the silent majority out there and I am indeed indebted to those that came to the meeting. I am especially proud of my wife and daughter who have carried the bar-

neys, bare staks and tanks of the refineries, what an absurd position that Cllr Cole adopted at the meeting.

"To try and convince sensible people that a single slender structure less than half the height of most of the chimneys would suddenly become the dominant landscape feature was laughable.

"Fortunately, the forward looking and environmentally aware councillors Cllr Sinclair, Cllr Hall, Cllr David Watkins, Cllr Robert Lewis and Cllr Mike Williams



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Keith Knight's 500kW wind turbine will supply the annual electricity needs of 250 households and repay the total financial investment in approximately 4 years



WESTERN TELEGRAPH 29.9.04

Green dream a reality

BY SIMON CARR

THIS imposing structure looming over Castle Pill Farm will soon be a source of green and renewable energy for local people.

Two years on from the planning application being submitted, the 40-metre high wind turbine is just awaiting a transformer and grid connection.

The organic farmer behind the project, Keith Knight, said: "When the turbine starts to provide energy to the area in the next couple of weeks it really will be seeing a dream come true."

Despite the turbine attracting 200 letters of objection at its planning stage and being recommended for refusal by planning officers, he said: "I have had only positive comments about the com-

pleted structure. It's virtually silent and the noise of the wind drowns it out completely.

"I think the tower looks very graceful, but even if people don't like it the only view it spoils is that of three oil refineries."

The energy provided by this 300kw turbine will vary. On a windy day it can generate enough to meet the needs of up to 140 houses and on a calm day as few as five.

Originally the turbine

change.

"Also this turbine is one of only three in Wales to be owned by a local person instead of an energy provider, so any profits made will stay in the area and if local people can get cheaper utilities, everyone will be better off.

"Keith really wants to maximise local benefits."

was intended to provide electricity to Mr Knight's farm with additional energy going to the grid. However, for economic reasons, all the electricity produced will go to the grid.

Mr Knight said: "I have no plans to build another turbine at the moment, I want to see how this one goes. It has been a huge investment." He is planning to start a consultancy and wind monitoring service.

PICTURE: Western Telegraph (WTN02293V04).



Keith Knight and the West Wales ECO Centre are hoping to supply 250 local people at Mount Estate with cheap electricity from the wind turbine



75 kW Community owned wind turbine near the Centre for Alternative Technology.

£38,000 was raised from local people in a few weeks and the share offer was oversubscribed



Party at launch of Dyfi Valley community wind turbine

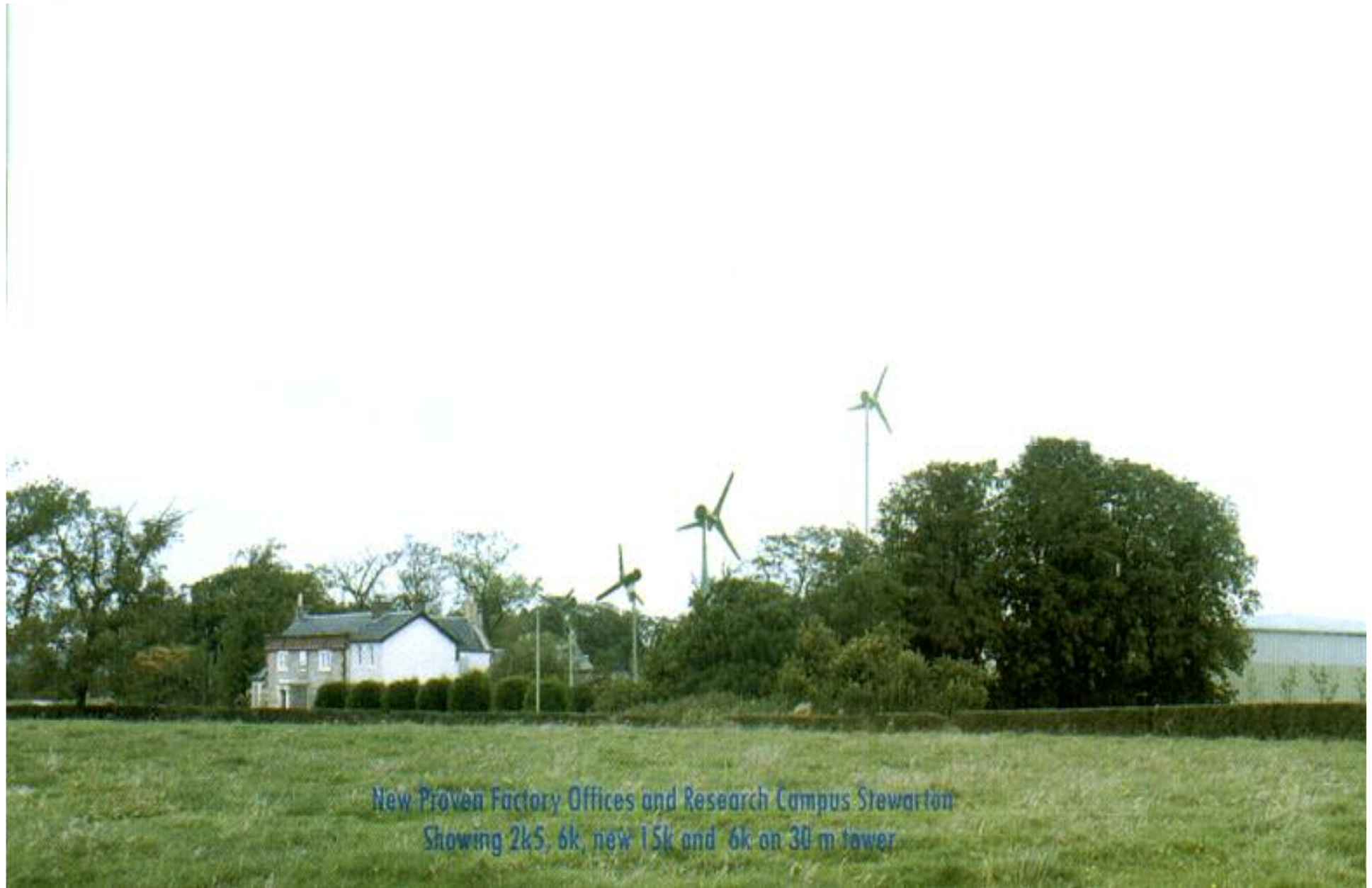




Wind Energy

600 Watt

Proven turbine



New Proven Factory Offices and Research Campus Stewarton
Showing 2&5, 6k, new 15k and 6k on 30 m tower



Solar Hot Water



Solar Club



Solar Hot Water





Solar Hot Water



The West Wales ECO Centre trained 35 local plumbers in solar water heating - 2 day OCN accredited courses



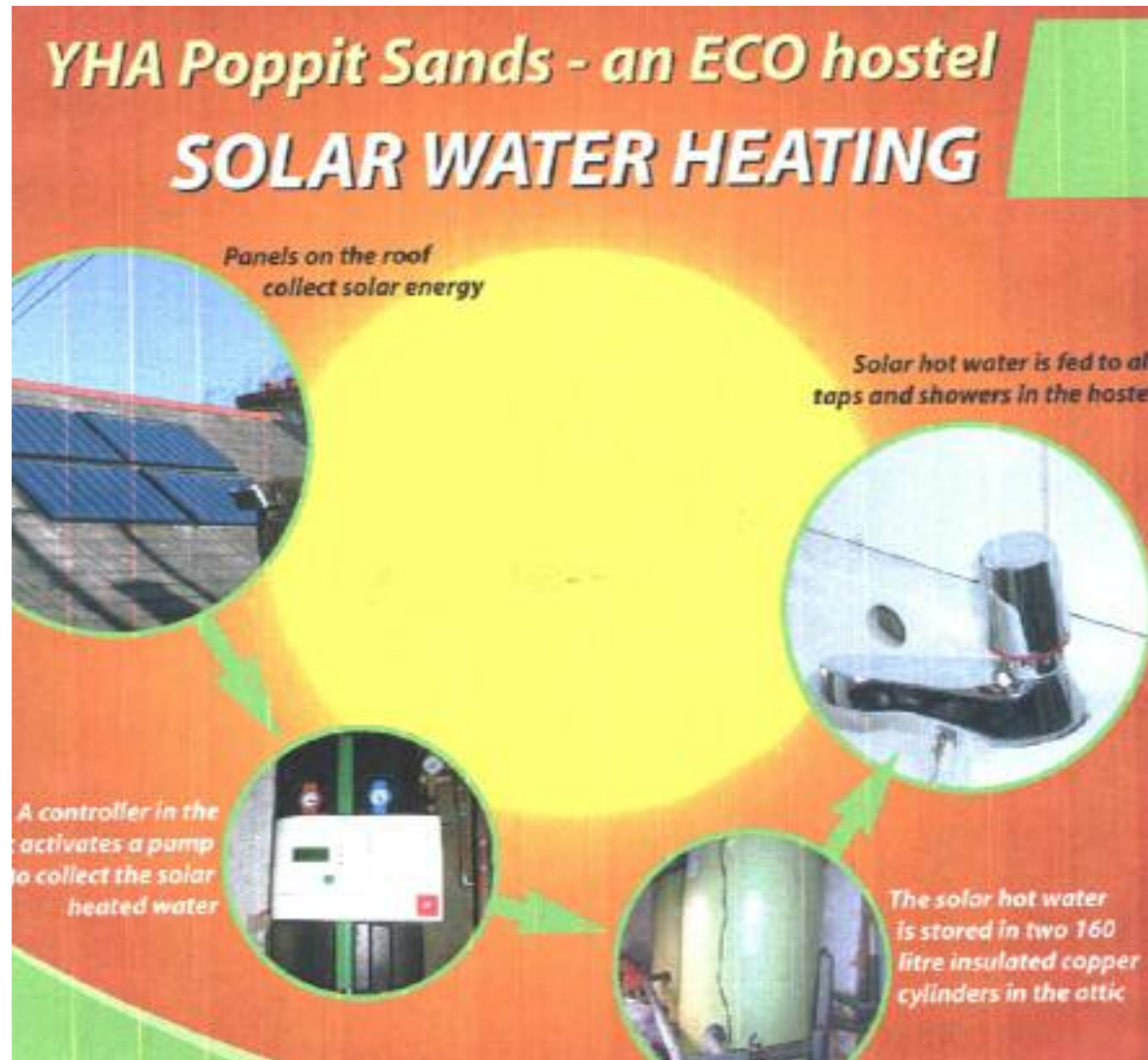
Solar Hot Water



8 sq metres
of flat plate
solar
collectors at
Poppit Sands
Youth
Hostel,
Cardigan



Solar Hot Water



Display panels in the washrooms at the Youth Hostel

Solar powered toilets at Poppit Sands Youth Hostel





Solar lighting in Ceredigion



Gwaen Cae Gurwen school, near Ammanford 14 kW photovoltaic installation



Biofuels -wood and miscanthus



Wood pellet stove in our EEAC office (3kW to 11kW)



45 kW
automatic
wood pellet
central heating
boiler at
Clynfyw
Countryside
Centre,
Abercych





Pembrokeshire Bio Energy Co-operative (PBE Ltd.)



Study tour to SW Woodfuels, a co-operative in Somerset supplying 32 woodchip boiler installations



North Pembrokeshire Eco 2004 Festival



Pembrokeshire farmer Paul Ratcliffe shows samples of miscanthus- a promising energy fuel crop



One tenth of Pembrokeshire's arable land planted with miscanthus would save the heat equivalent of 78 million litres of oil, save 209,000 tonnes of carbon per year and create 260 local jobs in agriculture and the heating industry

Dry miscanthus being harvested in February



Major barriers are developing a local end user heat market and cost of initial planting. Farmers in England are eligible for £950/ hectare establishment grant for energy crops such as miscanthus, but farmers in Wales are not.

West Wales ECO Centre



January 2005



TELEGRAPH **farming** NEWS

WESTERN TELEGRAPH 19 JAN 2005

Park funds boost for energy crop

Pembrokeshire Bio Energy Ltd, recently launched to produce, market and supply biofuels in the county, has received a welcome boost in the form of a grant from the Pembrokeshire Coast National Park Authority's sustainable development fund.

The grant has been awarded for the establishment of ten hectares of energy crop miscanthus, a crop with excellent growing potential in the county.

Compared with fossil fuels, energy crops have environmental benefits of being carbon dioxide neutral and provide protected habitats for wildlife. They also provide a way of supporting farmers and keep money in the local economy. The grant will go some way to promoting interest from the farming sector in establishing several plots of miscanthus.

PBE Ltd is asking all farmers interested in establishing an area of miscanthus on their holding to get in touch with Paul Ratchford on 01654 25224, e-mail pwr@thisispemb.co.uk or Graham Perkins on 01437 22070, e-mail gperkins@wmt.co.uk.

The sustainable development fund is administered by the National Park Authority and funded by the National Assembly. For further information on SDP contact Ruth Cook on 0145 345 7374, e-mail ruth@thisispembrokeshire.co.uk.



PICTURED in a field of miscanthus are, left to right: Paul West, of West Wales Eco Centre; Ruth Cook, Pembrokeshire Coast National Park Authority; Paul Ratchford, chairman of PBE Ltd; and Graham Perkins, South and West Wales Machinery Ring.

William's trip of a lifetime



THE YFC movement offers a wide range of travel opportunities to its members, including the Discovery programme - which provides an opportunity for members to travel, meet new people and experience other cultures - in most cases, just for the cost of the air flight and insurance. A prominent member and current secretary of Pembrokeshire

later this year. He is William Lawrence (pictured), son of Richard and Gail Lawrence, of Point Castle Farm, Pembrokeshire, who will be hosted by the ARY (Australian Rural Youth Movement) - the equivalent of the young farmers in Queensland and New South Wales. William is a graduate of the University of London

WEST WALES ECO CENTRE
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Veg oil and biodiesel



Dan Blackburn, Tegryn Pembrokeshire. Citroen 1.9 Diesel converted to veg oil with Elsbett conversion kit



Rapeseed oil press in Ireland



No road fuel duty is payable on carbon neutral vegetable oil as a pilot project in Co. Wexford. 100 diesel vehicles are running on pure vegetable oil after Elsbett conversions



Rapeseed oil press in Ireland



In Wales, vegetable oil and biodiesel vehicles pay 27p litre road fuel tax, but LPG is taxed at only 7p litre. The same rate of tax applied to vegetable oil would create a large biofuels industry.



North Pembs Eco 2004 Festival



Fleet of vegetable oil powered cars converted by Dan Blackburn of Veg Oil Motoring



The Future? A Danish Eco Village



Irish/ Welsh INTERREG IIIA study tour August 2004.
Solar water heating panels on the roof of a meeting room.



The Future? A Danish Eco Village

Woodchip boiler linking 86 houses at the eco village through a district heating network. In Denmark a 50% loan for woodchip district heating is available from local district councils





The Future? A Danish Eco Village



Gunnar
Olesen gives
the group a
guided tour of
the woodchip
district
heating
system



The Future? A Danish Eco Village

Willow coppice is being grown on site which will eventually provide free carbon neutral heating





The Future? A Danish Eco Village



Irish and Welsh visitors were invited to a meal in one of the 4 communal dining rooms at the Hjortsoj Eco Village