

# Case Study 8: Dyfi Valley Community Renewable Energy Project



This case study forms part of **Community Action for Energy**, a major programme designed to promote and facilitate local community-based energy projects. The programme is an initiative for the Environment, Education & Community group of the Energy Efficiency Partnership for Homes.

# Dyfi Valley Community Renewable Energy Project

## Introduction

This case study provides an overview of a project based in the Dyfi Valley, near Machynlleth, mid Wales. Several organisations have come together to enable local people to carry out small-scale schemes using various renewable energy technologies.

## When?

The project began in earnest in June 1998. The initial funding was for three years and elements of it have been extended until June 2002. A similar project for the whole of Powys is beginning and will continue the work.

## Who's involved?

The Dyfi Eco Valley Partnership, a company limited by guarantee, manages the project. It was created by Powys and Gwynedd county councils, Dulas Ltd (a leading specialist renewable energy company based in Machynlleth), the Centre for Alternative Technology, the Welsh Development Agency and Snowdonia National Park. It has drawn in other partners and local people in becoming the sustainable community regeneration body for the area. It is now managed by a board of local people.

## How is it funded?

The European Commission provided 35% of the funding from the European Regional Development Fund through the Objective 5b structural funding programme. The Welsh Development Agency, Powys County Council, Dulas Ltd and the Shell Better Britain Campaign all contributed. Investments by local private sector participants/owners in individual schemes counted as part of the matching funding for the EC support. Ceredigion County Council and Cymad (a regeneration body for Gwynedd) provided additional funding for feasibility studies.

## What are the targets and aims?

The Dyfi Valley Community Renewable Energy Project aims to benefit the community's 12,500 or so residents by:

- encouraging local people to engage with energy issues
- establishing some community-based renewable energy installations
- improving understanding and support for renewable energy by maximising the local benefits and by taking a consensus approach.

**“These are difficult times for hill farmers. This diversification gives me hope that we'll be able to keep our sons employed on this family farm. It's also developed my skills – I've learnt a lot and hope to do something similar again!”**

Tegwyn Jones from Mallwyd, nr Machynlleth, who project-managed the installation of a 112kW grid-connected hydro-electric unit on his farm



1.4kW photovoltaic array supplying about 10% of the annual electricity demands of the offices of Dulas Ltd, Machynlleth

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Specific targets for the project are to:

- complete five individual schemes by June 2002
- establish 350kW of energy capacity (whether electricity or heat) for the community
- put in place a forward planning strategy for the local energy economy.

## How was it implemented?

EU funding has been secured, which enables the project to provide grant aid for eligible community-based renewable energy schemes. The criteria for 'community-based' are that the scheme must:

- be of local benefit
- have local support
- have (at least) majority local ownership
- have (at least) majority local control.

Schemes may be held in private, joint or common ownership.

The grant aid covers up to 30% of a scheme's capital costs, and financial help is also given towards feasibility studies. The project also offers staff time in the form of the Project Officer, who responds to project suggestions but also initiates them in some cases. He provides, at no cost, first-level feasibility studies, together with other administrative support and guidance as necessary, including acting as planning agent for schemes or as secretariat for community groups.

Feasible scheme ideas are worked up into applications for grant aid, and the successful ones are guided forwards to implementation. Scheme proposers/owners include schools, farmers, other businesses, householders and community groups. The project also promotes, via the Dyfi Solar Club, solar water heating to householders, and puts them in a position where they may install their own system.

Promotion of the project is through visits to various local groups, including councils, and through making contact with those known to be already active in local networks. There have been public meetings, door-to-door leafleting and articles have appeared in the local media, including the three very local Welsh-language monthlies. Word of mouth is also crucial in this rural community.

## Achievements

65 scheme proposals have been carried through to 28 grant offers. Schemes completed to date include:

- a 112kW grid-connected hydro-electric unit, installed by a farmer
- three 800–1000W (domestic) solar electric installations, one of which powers a ground-source heat pump
- a 1.4kW solar electric array at Dyfi Eco Park
- two 690W solar electric arrays at schools
- 124m<sup>2</sup> solar thermal array, plus a 'heat main' (carrying heat between buildings), installed at the Centre for Alternative Technology
- two domestic wood stove/solar water heating systems
- 10 solar hot water systems installed by Solar Club members.

## Key success factors

- each scheme has access to grant aid, officer support, technical expertise and assistance
- the involvement of keen individuals has ensured that schemes are realised
- the project is a means to attract and inform potential investors without infringing the Financial Services Act (which requires any investment advertisement to be accompanied by a full prospectus verified by legal and accountancy professionals).

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## Lessons learnt

- the provision of grant aid for eligible schemes was crucial: very small schemes tend to be economically marginal, with long payback times
- it's difficult for people to risk investing in development work before planning permission, finance, etc. is secured, so subsidised or free feasibility work is important
- landowners and community groups often need a lot of 'hand-holding' – providing information, signposting to technical assistance, and/or doing some of the legwork or administration for them
- people wanting to develop a scheme need access to financial, legal and community development expertise, as well as technical input
- small schemes are more easily accepted by neighbours, planners and the community generally. However, they suffer from diseconomies of scale, particularly with regard to grid connection costs and legal costs
- working with communities takes a long time (for example, finding and involving the community's 'movers and shakers' and trying to address local misgivings). Also, volunteers' time is limited due to other commitments
- individuals with enthusiasm and persistence are needed to make schemes happen. Others will then follow the example
- landowners can make or break schemes
- regulators play a crucial role. Planning authorities should be shown the context and general benefits to be gained, so that they are informed when individual applications come in. Projects are vulnerable to changes in the regulatory environment: during this project, the Environment Agency tightened up the way it dealt with applications to abstract water for hydro-electricity schemes, significantly reducing the viability of sites
- creating a market for 'new' fuels is difficult (for example, for wood chip from forest residues and farm woodlands), as there is not enough confidence in the economics when a supply infrastructure is not in place.

## Next steps

Dyfi Eco Valley Partnership will continue to develop schemes under the new Powys-wide initiative. There are plans to address reducing energy consumption in transport as well as households, and to work towards 100% renewable energy supply. The Solar Club continues to expand its membership to a wider geographical area.

## Further information

For further information about this project contact:

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