



**EDT(2) 01-06 (p.7)**

**ECONOMIC DEVELOPMENT & TRANSPORT COMMITTEE**

**Date:** 11 January 2006  
**Time:** 9.00 to 12.30  
**Venue:** National Assembly for Wales, Cardiff Bay  
**Title:** Carmarthenshire Energy Agency



**Cyflwyniad i Bwyllgor Datblygiad Economaidd a Thrafnidiaeth  
Cynulliad Cenedlaethol Cymru  
11<sup>ed</sup> o Ionawr 2006**

**Presentation to the National Assembly for Wales'  
Economic Development and Transport Committee  
11<sup>th</sup> January 2006**



## **1 Introduction**

### **1.1 Carmarthenshire Energy Agency**

Carmarthenshire Energy Agency has been established under EU INTERREG funding in partnership with Waterford Energy Bureau in Ireland. The Agency is developing sustainable energy projects in partnership with the public and private sector to help combat climate change and boost economic development. Please see the accompanying handout and [www.ynnisirgar.org](http://www.ynnisirgar.org) for further details.

### **1.2 Presentation to the EDT Committee**

Carmarthenshire Energy Agency is providing evidence in the form of:

- i. an introduction to our projects to inform the Committee of existing work which complements the EC Green Paper on Energy Efficiency;
- ii. some examples of best practice from outside Wales which could be applied here;
- iii. presenting an illustrative example of a 2010 Zero Carbon Organisation.
- iv. by offering brief observations on how to implement sustainable energy actions in Wales in line with the EC Green Paper on Energy Efficiency.

### **1.3 Climate Change**

Carmarthenshire Energy Agency's work is dominated by the urgent need to address climate change. 2005 saw scientific evidence of the alarming and growing threat posed by climate change which promises to dwarf all other future issues. However, if tackled quickly, climate change also presents enormous economic opportunities for the countries which are trailblazers in leading the world towards a low carbon economy.

## **2 Carmarthenshire Energy Agency Projects**

Carmarthenshire Energy Agency is developing projects in three areas:

1. Practical projects – Seeing is believing
  - a. £200,000 Community Halls Solar Energy Project
  - b. £60,000 ENSRC, Energy Self-supply in Rural Communities
  - c. £200,000 Wales and Ireland Rural Hydrogen Energy Project
2. Strategic
  - a. Carbon Emissions Study for Carmarthenshire CC and support in developing its Climate Change Strategy
  - b. Advice on and adoption of TAN 8
  - c. SEW, the National Assembly and a streamlined service for energy advice and support



3. Advice, Information & Events
  - a. Roadshow
  - b. [www.ynnisirgar.org](http://www.ynnisirgar.org)

Briefly, our three main practical projects are as follows:

#### **a. Community Halls Solar Energy Project**

A £200,000 project funded by the 1 Fund and Clear Skies to install solar water and space heating panels on 30 community halls across Carmarthenshire. The panels will showcase solar energy in the heart of communities and be the focus for raising awareness of energy efficiency and climate change. Installation of the solar panels is the 1<sup>st</sup> phase, future phases include installation of other sustainable energy technologies in the halls in order to provide showcases across the county for people to see sustainable energy in action and for them to follow suit.

#### **b. ENSRC, Energy Self-supply in Rural Communities**

Energy Self-supply in Rural Communities, ENSRC, is a 2 year project led by our Irish partners Waterford Energy Bureau and includes partners in Bulgaria and Portugal.

The project aims to develop locally available renewable energy for electricity generation, supply of heat and/or sustainable fuels. ENSRC will:

- investigate the barriers to developing locally available renewable energy and the incentives required to overcome these barriers;
- carry out energy audits of existing buildings;
- prepare a Manual for local rural groups on how to establish a self-supply energy co-operative; and
- establish a co-operative as a demonstration model in Carmarthenshire.

#### **c. Wales and Ireland Rural Hydrogen Energy Project, WIRHEP**

Hydrogen is seen as the fuel of the future. It is very efficient, abundantly available and extremely versatile – it can be used in buildings, vehicles and electronic devices. WIRHEP builds on the existing strong partnership between Carmarthenshire Energy Agency and Waterford Energy Bureau and will deliver a cross border co-operation on hydrogen energy which has huge potential for the rural communities and economies of Wales and Ireland. This project is highly innovative and will be the first ever cross-border partnership on hydrogen energy between Wales and Ireland.

WIRHEP will include the Hydrogen Farm - piloting the use of biomass as a viable hydrogen-producing option as an exemplar for rural economic development in diversifying land usage for energy crops. The project will



deliver Phase 1 of the Hydrogen Farm covering Research and Development, Socio-Economic Analysis, Technical Specifications and Appraisals and a Public Perception Assessment.

Please see the accompanying handout for further details of these practical projects.

### **3 Best Practice Examples**

The following examples are provided as evidence of actions undertaken in other European countries and which could be emulated in Wales:

#### **European Electricity Feed Laws**

Electricity Feed Laws in Germany, France and Spain permit the interconnection of renewable sources of electricity with the grid and guarantee a rate to be paid for every kWh generated. Applies from small-scale to large-scale and has contributed to buoyant renewable energy industries in Germany and Spain especially.

#### **Italy – Domestic Solar Electricity**

In Italy a recent law has been passed which provides homeowners who sell electricity to the grid from solar pv panels with 3X the buying price. The result has been a boom in the installation of solar pv panels.

#### **Italy – Smart-metering**

Electricity utilities in Italy have carried out a widespread programme of installing smart electricity meters in homes which are prominently placed to show homeowners an accurate picture of electricity consumption in their homes. This has resulted in a 7% decrease in electricity consumption as homeowners revert to more efficient electricity use.

#### **Upper Austria – Priority to Renewables**

In new public buildings in Upper Austria, priority has to be given to renewable energy sources for the supply of domestic hot water and heating. For example, if a new school is built, the municipality **has to** favour biomass and solar systems. Upper Austria is one of the leading regions in Europe for biomass installations.

#### **Navarra – Priority to Solar Thermal**

The energy agency in Pamplona, Navarra, (Agencia Energetica Municipal de Pamplona) can enforce a law prescribing that in new buildings at least 60%



of required energy for hot water has to be produced using solar thermal energy.



## 4 Zero Carbon Organisation 2010

### An illustration of how to maximise use of sustainable energy.

The Zero Carbon Organisation could be a company, school, hospital, office building or other. The actions are all achievable by 2010 using today's technologies. The specific technologies and figures used are illustrative but the general principles apply for all users of energy i.e. that on-site generation of renewable energy together with robust energy management practices can almost negate carbon emissions and reduce costs.

Area	Action
Renewable Energy	<ul style="list-style-type: none"> <li>On-site 50kW wind turbine and 20kW solar pv array provides most of the organisation's electricity. Excess electricity is sold to grid.</li> <li>Biomass boiler provides heat to buildings, the biomass is locally sourced.</li> <li>Solar thermal panels provide heat for water &amp; space (&amp; summer cooling).</li> <li>Passive solar design maximises daylight.</li> </ul>
Energy Management	<ul style="list-style-type: none"> <li>Organisation policy dictates the following hierarchy of energy use which is displayed prominently and forms an integral part of staff training: <ul style="list-style-type: none"> <li>- Do not use energy</li> <li>- Use as little as possible</li> <li>- Re-use where possible</li> <li>- Use one with overall least cost always.</li> </ul> </li> <li>The hierarchy applies to direct energy use and also to the energy impact of using materials, goods etc</li> <li>Regular thermal imaging of buildings and processes is undertaken and images are prominently displayed.</li> <li>Annual energy audit is undertaken.</li> <li>Energy efficient lighting, appliances, devices, machinery and fittings are deployed throughout.</li> <li>Smart technology switches off lighting, appliances, devices and machinery when not in use.</li> <li>Smart electricity meter and ICT is used in monitoring and targeting energy consumption and sales.</li> </ul>
Transport	<ul style="list-style-type: none"> <li>Efficient fleet vehicles run on biodiesel/diesel mix – a local company supplies the biodiesel from local waste.</li> <li>Bicycle allowance is available to every worker.</li> <li>Company cars are petrol/electric hybrids.</li> <li>External meetings are often held by video-conference to minimise transport use.</li> <li>Home-working is encouraged where practicable to mitigate unnecessary commuting.</li> </ul>
Procurement	<ul style="list-style-type: none"> <li>Organisation on a green electricity tariff for when on-site supply is insufficient.</li> <li>Preferential procurement policy towards suppliers who can demonstrate similar energy/environmental standards.</li> <li>Procurement policy also applies to sourcing supplies as locally as possible to minimize transport and encourage local economic development.</li> </ul>
Carbon trading	<ul style="list-style-type: none"> <li>Revenue is generated from trading its annual CO<sub>2</sub> savings.</li> </ul>
Certification	<ul style="list-style-type: none"> <li>Green Dragon Level 5</li> <li>'A' rating under the Energy Performance in Buildings Directive</li> </ul>
Future	<ul style="list-style-type: none"> <li>Convert fleet to hydrogen fuel.</li> <li>Install fuel-cell CHP unit to become totally self-sufficient in electricity and heat and increase revenue from sales of excess.</li> <li>Further improve energy management.</li> </ul>



## 5 Observations on how to develop the sustainable energy agenda in Wales

The following observations are provided to illustrate actions which the National Assembly could take or, where taxation is concerned, lobby for at a UK level in order to mainstream and strengthen the implementation of sustainable energy in Wales. All actions could be undertaken by 2010 and would result in increased, long-term economic competitiveness for Wales and help combat climate change

The actions highlight a more prescriptive approach to implementing sustainable energy. Such actions should be a natural consequence of Scheme 121 on sustainable development of the Welsh Government Act.

### Grant Support

**ALL** grants (ERDF, AIG, RSA, LAs, Lottery etc) should demand that sustainable energy is a key component of any project. This may increase the capital costs but it minimises the far more financially damaging running costs. There are specific grants available for sustainable energy but these are dwarfed by mainstream grants.

### Public Procurement

Determine what is the level of clean energy spending and investment in Wales' public procurement and move to a system which incorporates life-cycle costing and which favours the uptake of sustainable energy in buildings and vehicles. This spending is perhaps the most potent lever available to Wales for significantly boosting the level of installed clean energy technologies and boosting the market for domestic and business users.

### Life-cycle costing

Developers must include life-cycle costing as an integral element of their developments.

### Planning

Strengthen TAN 8 so that sustainable energy is favoured in developments and all other forms of energy must be justified if the development is to receive planning permission. Feasibility studies are a requirement of all new developments to determine whether an on-site total sustainable energy solution can be applied for the development but with a target that 10% renewables **must** be in place upon completion of the development.



## **Energy Performance in Buildings Directive**

The Energy Performance in Buildings Directive should be extended to all buildings including homes so placing more value on and a market advantage to the more energy efficient buildings (c.f. white goods where A and B rated goods are the most popular).

## **Fiscal Measures**

Address and build-on the improving economic case for sustainable energy technologies due to factors such as the increasingly competitive price of renewables, the immediate benefits of energy efficiency, the climate change levy and carbon trading. Lobby at a UK level for stronger fiscal measures including the introduction of zero VAT rating on energy efficient products, lower fuel duty on biodiesel and tax breaks for investing in sustainable energy technologies.

## **Support Agencies**

Determine the extent and effectiveness of the government-sponsored support mechanisms for delivering sustainable energy in Wales. Can a more streamlined and enhanced government agency support service enhance energy management and renewable energy take-up?

## **Infrastructure**

Determine whether Wales' energy and transport infrastructure is in place to deliver a sustainable energy economy and strengthen infrastructure in the areas of embedded generation and public transport.

Guto Owen  
Rheolwr / Manager  
Asiantaeth Ynni Sir Gâr / Carmarthenshire Energy Agency

Ionawr 2006 / January 2006