

## Reporting for INFORSE – Europe Energy and Climate Education in Schools

Project name: Energy and Climate Education in Schools

Executive Organisation: West Wales Eco Centre (WVEC)

Period of project: August 2004 – December 2004

Project coordinator: Sharon Bannister, Schools Officer at WVEC (funding and work plan completed by Pete West, Renewable Energy Consultant at WVEC)

### The aim of the Energy and Climate Education in Schools Inforce project

Strengthen NGOs working on environmental education on energy and climate by sharing best practice and resources in EU 25 and candidate countries, to pilot and monitor the uptake of climate and sustainable energy education materials in schools and educational establishments, with particular reference to sustainable energy use and the impact of energy use on the environment and health.

### Objectives

- To collate a central resource of environmental educational material on climate and energy from members of the INFORSE network and to pilot the use of this within schools
- To exchange experience and environmental education resources among EU 25 and candidate countries, and addressing the cross-cultural barriers of doing this.
- To further develop relevant environmental education material for use in different school systems with different budgets and different curricula, e.g. mobile units, IT educational material and low cost working models demonstrating renewable energy and climate change; and pilot their use within schools.

Below is a schedule of tasks based on the initial review of the project's aims.

August	<ul style="list-style-type: none"> <li>• collating and preparing some ECO Centre educational materials ready for INFORSE website upload</li> <li>• developing practical projects for primary and secondary pupils</li> <li>• collating information from INFORSE partners, then on to INFORSE website</li> <li>• researching existing educational materials and websites, eg. school4energy to avoid duplication of resources</li> <li>• review curriculum changes for the under 7s</li> </ul>
September	<ul style="list-style-type: none"> <li>• identify specific needs of primary and secondary schools (some doing sustainable schools award in Pembrokeshire) and local education authorities in Wales (ESD and GC in curriculum however we need to identify the best way to help teachers deliver aspects of the requirements)</li> <li>• contact schools for visits and presentations + development of practical projects</li> <li>• identify schools who would like to link with European partners (Global Connections) – probably secondary schools to develop science / technology projects</li> <li>• INFORSE project meeting – dissemination of materials. Decisions taken as to the format of the ultimate resource (website, CD, other form of multimedia?)</li> <li>• Update on Eco Centre website of INFORSE activities</li> </ul>
October	<ul style="list-style-type: none"> <li>• dissemination of information from project meeting to local schools with the view to using new ideas / challenges set by a specific project that schools may decide to adopt</li> <li>• development of educational materials, translation</li> </ul>
November and December	<ul style="list-style-type: none"> <li>• develop a forum for discussion about educational materials used and developed</li> <li>• translation and publication on INFORSE website</li> <li>• Update on ECO Centre website</li> <li>• Review and evaluation, identify ways forward</li> </ul>

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## West Wales Eco Centre

- Established in 1980 - an independent charity and not-for-profit business that provides advice about energy use and the environment. Education has been at the heart of the Eco Centre's activities since its inception with visits to primary and secondary schools in Pembrokeshire and beyond. Presentations, demonstrations, workshops and competitions based on energy efficiency and renewable energy technologies are tailored to meet the requirements of the school, college, etc, so materials are being updated and sourced on a regular basis.
- In service training courses for teachers are also effective ways to encourage schools to examine energy.
- The Information Centre provides the most up-to-date exemplar of low energy living using working examples of current technologies, whilst providing access to a wide range of resources from free energy efficiency and renewable energy advice to research facilities. It provides a high quality point of access to the ECO Centre's work; it is stimulating, informative and free to all.
- The Mobile Exhibition Unit provides practical demonstrations of common renewable technologies. It is self sufficient in heat and power and is equipped with AV facilities as well as measuring and monitoring equipment to illustrate how the technology is used. The mobile unit is used at many external events, such as: The Royal Welsh Show, Glastonbury Festival as well as visits to schools.
- Education for Sustainable Development and Global Citizenship are now 'Common Requirements' that all schools must address in Wales through the National Curriculum. A recent development in Pembrokeshire's local education authority is the instigation of a scheme called the Sustainable Schools Award that looks to local and national NGOs, like WWEC, to provide expertise in eight topics: energy, water, waste and litter reduction, transport, community citizenship, global citizenship, healthy living and biodiversity. The Welsh Assembly Government is examining this scheme to possibly use as a model throughout Wales.

Below is a brief list of the resources the WWEC has developed, including new activities for this project.

Resource	Format	Language	Date developed/ used	Number of schools Using resource	Target age group
Renewable Energy Factsheets <ul style="list-style-type: none"> <li>▪ Geothermal energy</li> <li>▪ Global Warming</li> <li>▪ Hydropower</li> <li>▪ Solar electricity</li> <li>▪ Solar hot water</li> <li>▪ Eco Centre solar roof</li> <li>▪ Transport</li> <li>▪ Wind energy</li> </ul>	Paper / digital	English	1998 - 2004	30	14 -18
Sustainable Schools Award Energy and Climate Change curriculum (ongoing development)	Digital	English	2004	50	6 - 16
Sea Empress CD (including printable worksheets)	CD	English/ Welsh	2001	1400	10- 14
Your World Your Choice CD (includes printable pdf version)	CD	English/ Welsh	2003	250	11-16
Small demonstration models, fuel cells, PV cars, model wind turbines purchased from UK supplier – take them with us on school visits.			2000 - 2004	100	6 - 16

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Cost €25 - € 200 each.					
Presentations, demonstrations and activities, including games	Paper / digital	English	2004	50	4 - 18
Simplified school energy walk-round based on Best Practice guidelines	Paper	English	2004	10	7 - 12
Large mobile exhibition unit, 600W wind turbine, 400W PV, wood pellet stove, etc Includes computer + digital projector.			2002-2004	50	9 - 18

### Project activities - West Wales Eco Centre

#### 1. Partners' meeting at Energy and Environment office, Copenhagen – 20.09.2004

- Meeting chaired by Sharon Bannister
- Partners present:
  - Ilona Jerzok, Polish Ecological Club, Poland
  - Ion Zamfir, FOE, Earth Friends, Romania
  - Dag Høystad, Norges Naturvernforbund / SPARE, Norway
  - Kåre Albrechtsen, OVE, Denmark
  - Judit Szoleczky, Inforse / OVE, Denmark
  - Gunnar Boye Oleson, Inforse / OVE, Denmark
  - Deirdre Raffan, Centre for Alternative Technology, Wales, UK
  - Ursel Beckmann, Inforse, Germany
  - Pete West, West Wales Eco Centre, Wales, UK
  - Sharon Bannister, West Wales Eco Centre, Wales, UK
- Partners absent
  - The representative from MEEREA, Malta

#### Review of meeting

- Gunnar briefly explained Inforse and Inforse-Europe, mainly for the benefit of Sharon (started at the WWEC in August 2004) and Deirdre.
- Each partner explained the projects and activities to date within their respective organisations.
- It was agreed, due to the very limited time remaining for the project, to focus on 'success stories' within partner organisations and to disseminate these on the Inforse website.
- Key points regarding the information and activities on the website:
  - No cost for material and activities
  - Free access for anyone
  - Ease of access
  - Avoiding duplication of existing web resources
  - Including evaluation of activities that can be updated by others that undertake tasks
  - Potential of linking educational establishments
  - Material in English and original language, if possible
  - Template for activities to be provided by Sharon
  - Send tasks / activities to Sharon to put onto web pages to be uploaded by Judit
  - 3 sections: energy efficiency, renewable technologies and general awareness
  - 3 age groups: 3-7, 7-12, 12-16+
- Contact partner in MEEREA to be updated regarding the project.
- Presentation at the Kids4Energy conference – 22<sup>nd</sup> September 2004 publicising Inforse-Europe project

#### 2. Review existing educational materials – identify successful projects and products

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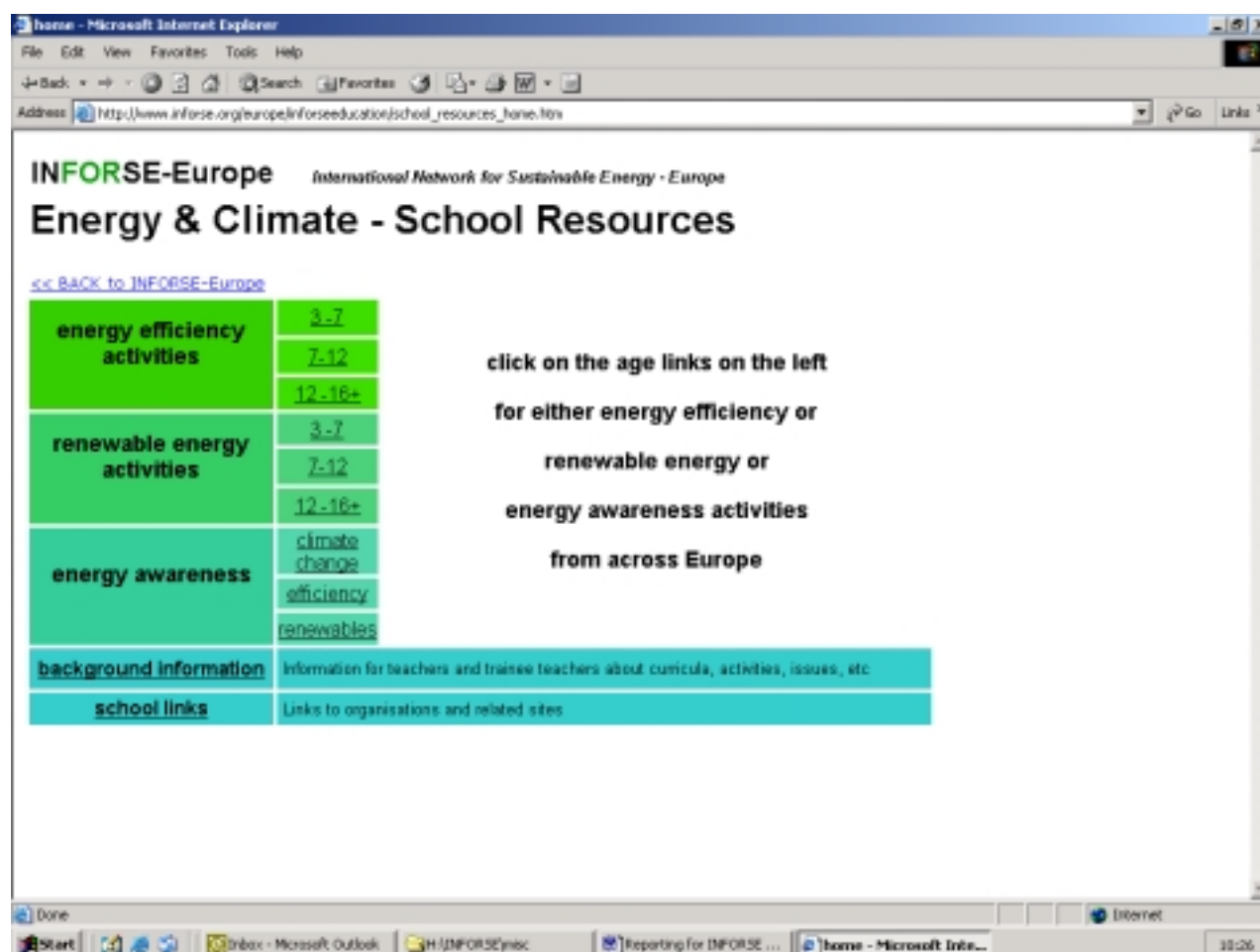


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3. Provide template for the schools resources for inclusion on the Inforse website
4. Create website structure and template – feedback requested
5. 3 Eco Centre activities: Energy Challenge, Your World Your Choice CD, Sustainable Schools Award Scheme uploaded in relevant sections
6. Presentations, demonstrations and activities to service the Sustainable Schools Award Scheme – questionnaires completed
7. CD distribution and feedback given
8. Coordination and processing of material from partner countries into website format to be uploaded
9. Presentation about Inforse and partners' activities at the Sustainable Schools Award Scheme Networking day that had a global dimension theme
10. Inclusion of extra material (WVEC and Earth Friends) with the aim to fill any gaps in provision.
11. Total number of hours for administration and website creation -
12. Write end of project report

### Review of the project

In three months a freely accessible web resource has been created that has the potential for expansion. Each partner has submitted work that is varied, which demonstrates a commitment to incorporating energy and climate teaching / learning into all levels of education.



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The six partners submitted lists of activities that were immediately prepared for upload. Subsequently more information was forthcoming for the activities; three was the agreed number although some partners submitted more and some less (time and funding restrictions, especially for new activities).

The template for the resources was devised when the variety of submissions was examined, the aim being to keep the page uncluttered but to allow for all relevant information to be incorporated.

- organisation – name, web address and email (if available)
- age group – clear guide for suitability
- outcome – learning outcomes relevant to country specific curricula
- resources – items necessary to complete the task
- task – a description of the task with instructions, pictures, etc
- evaluation – an important element that can be updated if someone else does the activity. Descriptions of adaptations for use in different countries can be included.

There are some activities stated with no supporting pages however there are links (school links page) to the relevant organisation if anyone wants the extra information.

The WWEC's activities were chosen from a selection of past and present successes to cover a wide age range and focus:

- The Energy Challenge – a competition for 16 to 18 year olds that encouraged pupils to examine alternative energy sources to create an energy efficient machine.
- Your World Your Choice / Eich Byd Eich Dewis CD ROM. A bilingual (English / Welsh) resource for 11 to 14 year olds that enables pupils to examine the impact of everyday choices.
- Sustainable Schools Award Scheme. A Welsh Assembly funded scheme that encourages schools to embed sustainability into the ethos of the school and within the National Curriculum. Covering defined topics and using the expertise of NGOs, like the WWEC, to enable schools to ultimately achieve the Gold award. The scheme's website resources are freely accessible to anyone.
- Games and quizzes for 3 to 7 year olds.

The commitment of the six partners ensured that material was submitted within the timeframe, transferred/written into web page format under the required headings and then uploaded onto the INFORSE website. However three months is too short to translate, trail and evaluate new material in schools. So the compromise of including successful activities, such as Ion Zamfir using Danish energy experiments in his schools programme demonstrates that the issue of climate change is global and many NGOs are working effectively to engage young people. The WWEC has a link to the project's website.

The Energy and Climate Education in Schools project has been identified and publicised in meetings with teachers within Wales and the consensus is that web based resources with a global dimension help overstretched teachers address sustainability issues. The value of this resource is that it has an energy focus and the practical examples cited will encourage more teachers to tackle this issue more confidently. The potential for expanding these examples lies in the hands of NGOs who need the support and funding to continue.

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