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## Project status

*By Kirsten Dyhr-Mikkelsen, NEE*

As of the start of 2007, our Active Learning project enters the implementation phase, during which children from 150 schools equally distributed between the 15 project partner countries will carry out energy monitoring and try out various other active learning activities.

The Active Learning project is an exciting 3-year European project based on the idea that children aged 6-12 years play an important role in sustainable development, and that pupils learn more and the knowledge is retained longer if they experience things first-hand.

Having developed and compiled active learning education material for a web site for teachers, we are now signing agreements with schools interested in benefiting from the available teaching materials on energy monitoring and other active learning activities. We expect to launch energy monitoring on a large scale in February 2007, and some eager schools have already started the preparations.

The traditions for active learning and the experience with education for sustainable development vary greatly

from country to country. In fact, each of the 150 'champion' schools will choose the approach and the mix of active learning activities that best suits its purposes. In all cases, however, pupils will monitor the energy consumption of their schools for a period of one year, and discuss and try out possibilities for improving school performance.

The three articles of this newsletter illustrate these differences.

The first article presents the Slovenian approach in which large-scale implementation is planned in cooperation with Eco Schools and the FEEDU project. The FEEDU project (persuasive force of children through education) aims at increasing the energy awareness of children in primary schools by educating the teachers.

David Dixon, head teacher, UK, is very committed to education for sustainable development, and a revision of the national curriculum has opened up new, exciting activities at his school.

In Poland, teachers are very interested in better access to high-quality education material, and are keen to start as soon as possible. They will be key in the creation of inspiring champion schools.

## A coordinated effort in Slovenia

*by Aleks Jan, ApE*

It is important to give our children an environmental education in which they have an active role in the entire process. However, the topics renewable energy sources, energy efficient use, and energy efficient transport are not at present truly included in the Slovenian National Curriculum, and interested schools teach these topics on their own initiative in cooperation with Eco Schools – and soon also the Active Learning project.

Our goal for the Active Learning project in Slovenia is ambitious and aims to implement energy monitoring, based on an active learning approach, in as many schools as possible. To achieve this goal we are cooperating with Eco Schools and Slovenski E-forum (the Slovenian FEEDU partner). Implementation in several schools will provide important and valuable experience from teachers on how to

integrate energy monitoring and other active learning activities into the yearly teaching plans, and how the activities can be varied. This information can also be used to form the basis of a more permanent integration into the national curriculum, in dialogue with policy makers.



Headmasters, janitors and teachers are key players in the implementation of energy monitoring and active learning activities in their own schools. We therefore organized two workshops in October and December 2006 in cooperation with Eco Schools and Slovenski E-forum: One for headmasters and janitors, and one for teachers. The aim of both workshops was to promote renewable sources and energy efficiency, and to present possible energy monitoring and active learning activities.

The emphasis in the workshop for headmasters and janitors was on technical and financial issues. Possibilities for energy efficiency measures in schools were discussed, from simple no-cost measures to investments in the replacement of windows, insulation, energy recuperation, switching to renewable energy sources, etc.

The focus of the workshop for teachers was on practical education examples. Existing and future possibilities for energy activities in schools where children play an active and important role were presented. The participating teachers showed great interest in carrying out the presented activities. Some of the teachers present at the workshop already

had experiences with similar activities and provided feedback and suggestion for others.

### **Dr. Climate – An example of an active learning activity**

This activity was suggested by Slovenski E-forum and is made up of three parts. Part 1: A person dressed as a doctor enters the classroom and gives a lecture on environmental changes and how humans contribute to it. Someone is ill and has run a temperature, and this is planet Earth. Part 2: The pupils are now energy detectives divided into several groups, each with their particular tasks. They walk through the school and check the situation of their school (measure the temperature, check the pipes and lights, etc.), and based on the results, they learn more about the opportunities for making things better. Part 3: Each group presents its conclusion, and this is followed by a debate on possible measures to improve the energy situation of their school.



The activity can, for example, be performed as part of a natural science day for the entire school.

### **One school takes the full step in Bowbridge, United Kingdom**

*By David Dixon, Head Teacher*

At Bowbridge Primary School we have been trying to embed Education for Sustainable Development (ESD) into our curriculum. Until relatively

recently, this has been an uphill challenge due to the constraints of the English National Curriculum. However, in the last two years there has been some radical re-thinking of this curriculum and encouragement for schools to adapt it to meet their particular needs. This has included a move away from rigid subject teaching, with more of an emphasis on creative cross-curricular strands. This has been in line with modern research on learning styles, brain function and the need to motivate children to want to learn. It has included the principles of 'meta-learning', i.e. 'learning how to learn', and 'individualised learning', i.e. recognising that we learn in a variety of ways and that these need to be catered for on an individual basis.

To emphasise the drive for more cross-curricular and creative learning, the Department for Education and Skills brought out some voluntary guidance called 'Excellence & Enjoyment'. This provided schools with some practical ideas for delivering a relevant and motivational curriculum for everyone.

The Active Learning project fits very nicely and is 'another string to our bow'. The opportunities it affords in terms of providing motivational and relevant activities for all abilities are marvellous. The added potential for meaningful and active citizenship is another bonus. It embraces the old adage of 'Thinking Globally, Acting Locally'.

So how has Active Learning operated so far in our school? With the assistance of Newark & Sherwood Energy Agency, we had a 'Carbon Neutral Day' in September 2006, encouraging parents, children, and staff to produce as little carbon as possible. Some staff cycled to work when they normally drove, children had another impetus to pester their families to be more energy efficient, and the school kitchen produced sandwich

meals that used local produce. The whole curriculum for that day concentrated on carbon emissions and how to reduce them. The energy agency came in to offer a service for parents whereby they looked at utility bills to see if they could get them a better deal by switching to alternative (hopefully green) suppliers. As our area suffers from 'fuel poverty', this in itself was a very valuable exercise. The day occurred quite early in the academic year, so it helped us to set the scene for other curriculum activities that will regularly take place later. All this was designed to be an introduction to the Active Learning Energy Monitoring, which will take place in 2007.

In addition to the above, we have been hard at work producing plans for a new school building that will be as near to 'carbon neutral' as possible. We hope to make the building part of an 'Eco-Centre' that can be used by ourselves and other schools. The Newark & Sherwood Energy Agency is helping us to put together plans for this.

### **Strong school interest in Lower Silesia, Poland**

*By Grazyna Jaworska, ESE*

The main focus of the Active Learning project is on the energy that we consume in schools and in our homes. Young people, who will constitute the main energy consumers of tomorrow, are through the Active Learning project taught through hands-on exercises how to manage energy wisely.

Polish schools are deeply interested in co-operating with the Active Learning project in order to reduce their energy consumption as it may directly contribute to a decrease of air polluting emissions.

The Active Learning team works in close cooperation with the SPARE project ("School Project for Application of Resources and

Energy") and their activities are coordinated. The ESE also cooperates closely together with the Lower Silesia Department of Education under the Ministry of Environment.

Representatives of Wroclaw Technical University and Lower Silesian Centre for Advanced Technologies - Energy Cluster have also been contacted and the ESE has signed an agreement with both concerning scientific support to the Active Learning project and promotion of the concept of active learning at different levels of education – and not just at primary school level.



So far 15 schools from Lower Silesia have decided to participate in the Active Learning project and become champion schools. As champion schools the pupils monitor the school energy consumption for an entire school year and carry out various active learning activities.

All the information on how to participate in the Active Learning project and the results of the champion schools are published in monthly magazines (such as "EcoWorld" and "Aura"), regional newspapers, school newsletters, and school bulletins.



The schools in Lower Silesia are very active and are highly motivated and we have organised various exhibitions of the most interesting work of both pupils and teachers taking part in energy competitions so that they can inspire others.

On 17<sup>th</sup> May 2006, the ESE organised a SPARE and AL conference in Oborniki Śląskie for local authorities and teachers from 40 schools. The media were notified about the event including details on the presentations, the workshop, the pupils' performance, and the exhibition. This resulted in very

## **Sign up for the project now!**

Should you wish to learn more about the project, or wish to make us aware of great energy education material based on active learning principles, then please feel free to contact the project coordinator

Ms. Kirsten Dyhr-Mikkelsen, [kdm@nee.no](mailto:kdm@nee.no)

or any of the local partners.

More information can also be found on our web-site:

[www.teachers4energy.eu](http://www.teachers4energy.eu)

good media coverage.

In September, the ESE was invited to participate in the 5th Energy Conservation Days in Wroclaw. The conference presented a great opportunity for teachers to meet the representatives of energy agencies from the region of Lower Silesia and learn about some of the new technical solutions for energy saving and exploitation of renewable resources as well as to discuss the Active Learning project and the possibilities for participation.

In October 2006, ESE took part in the Lower Silesian Science Festival, which is a great annual education event organised by the universities and high schools of the Lower Silesia region. During the regional session in Zabkowice Slaskie, we were responsible for an exhibition, outdoor activities, workshops, multi-media presentations, and a poster session illustrating energy problems and active learning methods. We managed to attract about 500 people.



We completed the year 2006 with organising a school competition for the lower secondary schools concerning energy saving issues in the form of a computer workshop and poster session.

More information can be obtained by contacting the consortium partner representing your country:

#### **Belgium**

Le Centre Urbain / Stadswinkel asbl (ABEA), [www.curbain.be](http://www.curbain.be)  
Contact: Eddy Deruwe, [eddy.deruwe@curbain.be](mailto:eddy.deruwe@curbain.be), +32 2 219 4060

#### **Bulgaria**

Energy Agency of Plovdiv (EAP), [www.eap-save.org](http://www.eap-save.org)  
Contact: Liyana Adjarova, [liyana.adjarova@eap-save.dir.bg](mailto:liyana.adjarova@eap-save.dir.bg), +359 32 625 755

#### **Czech Republic**

SEVEn, Stredisko pro efektivni vyuzivani energie, o.p.s., [www.svn.cz](http://www.svn.cz)  
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#### **Finland**

MOTIVA Oy, [www.motiva.fi](http://www.motiva.fi)  
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#### **France**

The French Environment and Energy Management Agency (ADEME), [www.ademe.fr](http://www.ademe.fr)  
Contact: Therese Kreitz, [therese.kreitz@ademe.fr](mailto:therese.kreitz@ademe.fr), +33 4 9395 7984

#### **Greece**

Centre for Renewable Energy Sources (CRES), [www.cres.gr](http://www.cres.gr)  
Contact: Charalambos Malamatenios, [malam@cres.gr](mailto:malam@cres.gr); +30 210 660 3300

#### **Hungary**

INNOTERM Energetics Environmental Protection & Development Ltd., [www.innoterm.hu](http://www.innoterm.hu)  
Contact: Miklós Fráter, [miklos.frater@innoterm.hu](mailto:miklos.frater@innoterm.hu), +36 1 343 1280

#### **Italy**

Eliante, [www.eliante.it](http://www.eliante.it)  
Contact: Mauro Belardi, [belardi@eliante.it](mailto:belardi@eliante.it), +39 348 874 9889

#### **Lithuania**

Lithuanian Energy Institute (LEI), [www.lei.lt](http://www.lei.lt)  
Contact: Romoualdas Skema, [skema@isag.lei.lt](mailto:skema@isag.lei.lt), +370 37 401 802

#### **Norway**

The Directorate for Primary and Secondary Education (DPSE), [www.udir.no](http://www.udir.no)  
Contact: Astrid Sandås, [astrid.sandas@udir.no](mailto:astrid.sandas@udir.no), +47 2330 1318

#### **Norway**

Norwegian Energy Efficiency Inc (NEE), [www.nee.no](http://www.nee.no)  
Contact: Bjørn Moskull, [bam@nee.no](mailto:bam@nee.no), +47 97 098 002

#### **Poland**

EC BREC Institute for Renewable Energy (EC BREC), [www.ieo.pl](http://www.ieo.pl)  
Contact: Grzegorz Wisniewski, [gwisniewski@ieo.pl](mailto:gwisniewski@ieo.pl), +48 22 825 4652

#### **Poland**

European Association of Ecologists (ESE)  
Contact: Grazyna Jaworska, [eseeko@wp.pl](mailto:eseeko@wp.pl), +48 71 34 76 000

#### **Slovenia**

Agencija za prestrukturiranje Energetike (ApE), [www.ape.si](http://www.ape.si)  
Contact: Aleks Jan, [aleks.jan@ape.si](mailto:aleks.jan@ape.si), +386 1 586 3870

#### **Sweden**

The Swedish Energy Agency (STEM), [www.energimyndigheten.se](http://www.energimyndigheten.se)  
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#### **United Kingdom**

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