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**Ever heard of the Woolly Jumper Day? How about children writing to their Head Teacher to complain about his gas-guzzling car?**



Both are examples of children actively learning about their environ-

ment and the impact of our energy consumption on the planet. This is the first of six newsletters to tell you about this and much more!

Active Learning is an exciting 3 year European project for children aged 6-12 years. The full title of the project is "Integration of Active Learning and Energy Monitoring with School Curricula". Although this title sounds typically 'Eurospeak', its potential is tremendous in terms of promoting

creative and motivational learning, which will help the planet.

The expected outcome is a change in attitudes towards energy use, which is one aspect of Education for Sustainable Development. The project also intends to deliver short- and long-term energy savings in school buildings and private homes. It is hoped that the present generation of children will influence the behaviour of their families through the power of 'pester'!

The project partners are energy and educational experts and together they represent a large geographical area, which stretches from the UK in the west to Bulgaria in the east, from Norway in the north to Greece in the south. It includes private and public organisations of varying size.

**Active learning – children as a resource**

**Children are the decision-makers of tomorrow**

The project is based on the idea that children are important citizens and can take active part in their own education rather than be passive receivers of information and knowledge. The project supports the learning-by-doing pedagogical approach. The engagement and involvement of the children is ensured through hands-on experiences to which they can relate.

It is important to encourage children to play, create, and experiment – together and on their own. The idea is that the pupils learn more and the knowledge is retained longer if they experience things first hand and find research fun. Using this approach the teacher becomes a guide at their side rather than a sage on the stage – an approach that is supported by many materials and ideas for teachers and pupils.

## As a teacher new to this where can I start?

**Would you like to be involved in an exciting, high-profile European project,**



- which offers excellent curriculum enrichment opportunities?
- which involves hands-on practical activities that caters for abilities?
- which makes the school more energy efficient, thus releasing budget?
- which involves at least 150 schools across Europe?

Why don't you try out energy monitoring using an active learning approach? The toolbox developed during the course of our project will contain a teacher's guide and all the necessary material and inspirational ideas that you will need. Some materials are specifically for teachers and some can be used directly by children as a stand-alone interactive resource.

In this context the term "Energy Monitoring" means the weekly logging of electricity and heating consumption in the school and plotting this on a special

poster. The poster approach provides a very simple but clear visual understanding of the energy use in a building, how it changes over time, and how it can be influenced.

The objective of energy monitoring is to use the results as a basis for discussions with the children on energy use i.e.

- What appliances contribute to the energy consumption?
- Why did the appliances consume less this week than last week?



- What can children and teachers do to consciously change the energy consumption?
- What else influences the energy consumption in the schools (weather, holidays, etc.)?

- How can our better use of energy help the planet?

Simple measures, usually with no investment costs, can be tried out to teach the pupils about efficient use of energy. Such measures could for example be:

- switching off the light when the class room is empty;
- closing doors and windows

when they should be shut;

- keeping the room heating at the correct temperature level;
- use of daylight as well as sun screening;
- heating the school only when in use;
- using a thermos instead of keeping the coffee warm on the coffee maker; and so on.

A special school 'Energy Team' could be tasked to do energy monitoring and report back to fellow pupils and teachers, or energy monitoring could be an activity for the entire school!

Children could be encouraged to replicate energy monitoring at home so that the behaviour of their families is influenced for the better. They could also use an on-line tool to calculate their family's 'carbon footprint'.

This might be a stand-alone activity if it isn't possible to do monitoring in school. Alternatively another local building could be used.



## Background

A survey on education was launched by ManagEnergy in 2004.

The conclusions of the survey states that the following elements are needed for developing cost-effective sustainable development activities:

- Active involvement of students through experimental or hands-on approach;
- Integration of energy into curricula to create room (time) for energy issues which in turn requires cooperation with education authorities;
- Combination of theoretical and experimental aspects;
- Educational material produced in or adapted to national languages;
- Training of teachers.

The active learning project is based on the recommendation made in this survey and the "Reflection Document on Sustainable Energy Education".

agreement with the consortium commit to

- letting the pupils monitor the energy consumption of their school for a long period of time, preferably one year; and
- carrying out various fun active learning activities related to energy monitoring, more sensible use of energy, renewable energy resources, and energy efficient transport.

In return the schools are given access to good education material, publicity, and upon request free advice from energy and education experts. We will also facilitate contact with champion schools from other countries should a school wish to carry out energy monitoring in parallel with a foreign school in order to add an extra educational aspect.

The second element of the project is to ensure that better use of energy, renewable energy resources, and energy efficient transport becomes a more permanent topic in school education. In other words we will try to influence the contents of national school curricula so that teaching these topics become obligatory for all schools.

The project includes national seminars where the participating schools can present and discuss their experiences with energy monitoring and active learning.

## Project Learning Activities

The project promotes sustainable development education with the aim of:

- reducing energy consumption in school buildings and homes;
- highlighting renewable energy resources; and
- encouraging the use of energy efficient transport.

All this is achieved by creating easy access to already existing energy education material and marketing its existence to educators, agencies and ministries.

Successful case studies are by far the best way to promote such material. We therefore intend to flag up these case studies by inviting at least 150

schools - termed "champion schools", equally divided between the partner countries, to test our active learning and energy monitoring toolbox with selected material.



The toolbox will be in the shape of a website with suggestions for active learning and energy monitoring activities and links to relevant expert organisations and additional information.

The schools that enter an

## Project progress so far

The project started in January 2006 with a brief mapping of the school systems of the various partners and an examination of the contents of the national curricula. Next we carried out a survey of existing energy education information and ongoing projects using the active learning approach – our intention being not to reinvent existing activities. Instead we intend to create a better format of existing active learning material and to disseminate it widely including making sure it is actually used in 150 schools.

Focus for the next six months of the project will be to develop the active learning tool box and recruiting champion schools in the partner countries to try out the energy monitoring and active learning activities.

## 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, then please feel free to contact the project coordinator Kirsten Dyhr-Mikkelsen, [kdm@nee.no](mailto:kdm@nee.no) or any of the local partners. More information can also be found on the project web-site [www.teachers4energy.eu](http://www.teachers4energy.eu).

Should you wish to join the project and become a champion school, then please contact the consortium partner representing your country.

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### Sweden

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