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Newsletter

Education on Energy

N°5

January 2010



*Managing energy,
Managing our future*

*Apprendre à maîtriser
l'énergie, c'est prendre en
main son futur*

Environmental education and training for sustainable development



The European Economic and Social Committee (EESC), which represents civilian society in the European Union, has recently approved an opinion on the theme "Education and training for a low CO₂ emissions society."

At an audience held on this occasion, organizations of various European countries, including ARENE Ile-de-France, presented their projects in this area. This led to a debate that has highlighted the importance of environmental education and training in energy conservation and energy efficiency, key issues for the future of humanity.

Social, environmental and economic sustainability issues cast doubt on our development model and way of life, which are totally incompatible with the objectives of reducing greenhouse gas emissions and the fight against global warming. A major commitment is required in these fields.

The creation of a European network of active organizations and associations could help educate the young, and young at heart, about the values and principles of sustainable development as outlined by the EESC.

It also suggests using character of Pinocchio, the wooden puppet whose conscience awakens gradually as his adventures unfold, as a symbol for young children, of educational activities for the environment. The Carlo Collodi Foundation, owner of the Pinocchio image rights, has already agreed in principle.

The section of the EESC that deals with transport, energy and media (TEN) supports both projects. In March, it will organize a conference devoted to environmental sustainability education and training. This will be the starting point of the European network of the same name.

We are very pleased that our organization can count on the support and participation of ARENE Ile-de-France.

Edgardo Maria Iozia
Member of the EESC transport and energy group



The solar oven, a green solution

Nearly 3 billion people have only wood to cook their food and most live in hot countries. An estimate assesses the needs of each individual at 600kg of wood per year or about 1.8 billion tons for cooking food for just under half the world's population. This is quite a figure when one considers the extent of the damage caused by deforestation.

Great benefits for next to nothing

An ecological solution exists: the solar oven. Requiring only readily available simple materials a solar oven can save 100 trees in 15 years and thus contribute to reducing the greenhouse effect by up to 1.5 ton of CO₂/year. Another major advantage is that a solar cooker can purify water, thus solving the problem of water contamination that kills 2.5 million people annually.

This system has numerous advantages on various levels:

- health;
- the environment because its use limits deforestation and soil deterioration;
- the climate by reducing greenhouse gas emissions;
- the economy by reducing energy expenditure and the creation of local jobs;
- Human rights by empowering women and children freed from the drudgery of wood (15 hours per week, 4 times 20 kg).

You will find different solar ovens on the site of Bolivia Inti:
<http://www.boliviainti-sudsoleil.org/spip.php?rubrique26>



The Alisée Association

Overview

Alisée (Energy and Environmental Information and Awareness Association of Pays de la Loire) is an association founded in 1991 and based in Angers, which promotes energy efficiency and environmentally friendly renewable energy technologies and the principles of sustainable development. Alisée supports and leads projects for consumers, teachers and schools... The association is a member of the Renewable Energies Liaison Committee (CLER).

Active with young people

To educate young people, it operates in schools and youth clubs through educational activities on the theme of energy. It also participates in educational projects such as;

- “Science Week” where it hosted an information and discussion evening and educational workshops;
- “Exposciences” is an exhibition where young scientists present projects to the general public;
- The project “1000 challenges for my world” led by youth groups under 26 years to implement concrete actions in support of their environment.

Alisée also has 2 resource centres consisting of general and technical documentation, available free on-site in Angers and Nantes.¹

But not only

The association also offers communication tools such as signs, umbrella stands, plates, sheets and participates in many fairs and exhibitions to discuss and raise awareness of energy topics.

The site association² contains extensive information and links on renewable energies and their use to help anyone wanting to know about the different possibilities in this field.

¹ For details of the resource centres Alisée:

http://www.alisee.org/activites_info/ressources.htm (Website in French)

² To visit the site Alisée: <http://www.alisee.org/> (Website in French)



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The EESC's opinion on "Carbon-free energy society - Education and Training"

The EESC in a few words

"The EESC is the only advisory body of the European Union that relays the opinions of people "on the ground" to the Commission, Council and Parliament, representing half of all the places most directly affected by Community legislation. It is composed of representatives from employers' organizations and trade unions, but also farmers, consumers and professional organizations of the EU."¹

A commitment to energy education

At the plenary session of 13 and 14th May, 2009, the EESC presented its findings and recommendations on the theme "A carbon-free energy society - Education and Training"². The importance of energy education at every stage of the school curriculum was particularly highlighted.

"At the Conference of Ministers of the Environment (Kiev 2003), a statutory declaration was adopted: [We recognize that] education is a sine qua non of [Environmental Protection] and Sustainable Development. [We call on all countries] to integrate sustainable development into the teaching system at all levels, from preschool to higher education [...] to promote education as a catalyst for change."

Here are the opening words of the introduction to this report:


The energy and sustainable development education presented here concerns today's children and tomorrow's adults, but not only. The EESC also calls for action from key players in social development. These range from business associations, trade unions, NGOs, building designers (architects and engineers), public authorities, governments and Member States to individual consumers. This wide-ranging approach is necessary because energy efficiency can only be productive if it involves a large number of people and if they are aware of the opportunities available to them.

¹ The EESC website: http://www.eesc.europa.eu/faq/index_en.asp

² To read the report: <http://www.eesc.europa.eu/documents/opinions/avis.asp?type=en> No. Notice: 867 Year: 2009

- go to school or work by bike thus keeping fit and preventing traffic congestion and CO₂ emissions;
- or do carpooling or use public transport;
- properly inflate tires;
- use stairs rather than lifts;
- buy energy-efficient, Class A or A+ appliances;
- insulate doors and windows to prevent heat loss;
- take a shower instead of a bath;
- turn off the switches, lights and computers during your absence from the office...

All these tips are effectively conveyed in less than 4 minutes. Sometimes stories are best told in pictures.

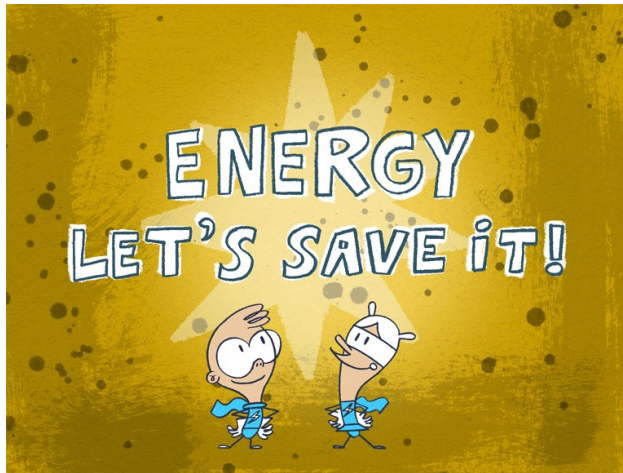
Energy		Washing machine
Manufacturer Model		
More efficient 		B
Less efficient Energy consumption kWh/cycle <small>(based on standard test results for 60°C cotton cycle)</small> <small>Actual energy consumption will depend on how the appliance is used</small>		1.75
Washing performance <small>A: higher G: lower</small>		A B C D E F G
Spin drying performance <small>A: higher G: lower</small> Spin speed (rpm)		A B C D E F G 1400
Capacity (cotton) kg		5.0
Water consumption		5.5
Noise (dB(A) re 1 pW)		5.2
Washing Spinning		7.6
Further information contained in product brochure		



To see the video:

http://ec.europa.eu/dgs/energy_transport/video/energy_cartoon/TRE041MA02_FR_384k.mp4

Energy! let's
save it
Energy do not
waste it!



The Directorate General for Energy and Transport of the European Commission has launched a short video of three minutes forty to promote awareness for all of simple energy-saving gestures to incorporate into daily life.

This cartoon has no spoken dialogue. The soundtrack consists only of music accompanying images of family members who are carelessly wasting energy, until one day something makes them aware of the impact and consequences of their actions. They then become ardent hunters of energy waste.

In a short space of time this very entertaining video highlights wasteful behaviour and then offers us the right thing to do to reduce our energy consumption, and thereby save our planet and our money:

- replace incandescent bulbs with energy-efficient light bulbs;
- limit the temperature of your house to 20° C (68° F) during the day and down to 15° C (59° F) at night and put a sweater on in winter rather than raising the thermostat;
- put a lid on the pan when boiling water;
- do not leave appliances on standby;

In schools and universities

The EESC stresses the importance of education and training for a low CO₂ emissions society. To achieve this, action is required at all academic levels:

- to educate primary school children in a fun way through competitions highlighting individual behaviour at home and at school, to measure the positive or negative impact of habits on CO₂ emissions. The involvement of children will also benefit, educate and involve adults.
- on another level, the EESC advocates a system whereby Member States can exchange best practice between leading and less advanced countries, especially “*in areas of advanced technology training*”.
- It proposes the establishment of “*a European network of national forums for education in the field of clean energy.*” Based on existing structures and initiatives already undertaken, this network would provide educators and teachers with information and tools to facilitate the integration of environmental themes in school curricula.
- The development of courses and qualifications in energy saving, clean energy... is recommended as well as the necessary increased funding of research in these areas.

Some “examples to follow” are given in item 4 of the report, including *Young Energy Savers* and *Kyoto in the home*, presented on the next page.

The report concludes with EESC recommendations on training for technicians and managers based on the Program report of the United Nations Environment Program (UNEP), the International Labor Organization (ILO), the International Organization of Employers (IOE) and the International Trade Union Confederation (ITUC) “*Green Jobs: Towards decent work in a sustainable, low-carbon world*”. Energy, water, waste, transportation are areas that need to be developed to fit tomorrow’s world. Up to 1.7 million jobs should be created by 2010 in these areas and 2.5 million by 2020. Hence the need to train professionals.

¹ To download the report in English: http://www.unep.org/civil_society/Publications/index.asp



"Kyoto in the home", an effective tool

This project is co-financed by the European Program "Intelligent Energy - Europe" for the development of renewable energy and energy efficiency.

Its objective is to establish a common base of knowledge among participating countries, using tools and methodology sheets. Through these, the project addresses the theme of energy efficiency and the various technologies of renewable energy available to households. These tools and fact sheets are intended for students but also parents and teachers.

Participating countries are Spain, Estonia, France, Hungary, Italy, Poland, the Czech Republic, Romania, the United Kingdom and Slovakia.

It includes:

- Teaching resource pack¹ for primary and secondary school pupils on various topics to incorporate awareness into school curricula;
- Green Pack², developed by the Regional Environmental Centre for Central and Eastern Europe, which is a teaching tool for environmental education, available in English. This site contains icons that you click on for details on topics as diverse as health and the environment, civil rights, oceans, acidification, urbanization, noise, transport, energy etc. Each theme consists of sub-categories allowing the user access to further knowledge in chosen areas of interest. Play All would be laborious but it is certain that once past the first click you will want to learn more!

¹To view the teaching notes: <http://www.kyotoinhome.info/UK/deliverables.htm>

²The Green Pack website: <http://greenpack.rec.org./>

The site of Kyoto in the Home: <http://www.kyotoinhome.info/>

The energy notebook



"The energy notebook" has been developed by several partners including Wallonia regional council, IBGE (Brussels Institute for Environmental Management of the Brussels-Capital Region), associations and Green Coren Belgium (specialized in environmental education). It was partially funded by the European Union (European Regional Development Fund) within the INTERREG IIIC.

It is an educational kit designed in the form of a holiday notebook for children aged 9 to 14 years to learn what energy is, what role it plays in our lives and how to consume less, to preserve our beloved planet.

This notebook has been tested in 35 classes and improved over time by teachers and facilitators using the materials.

Its contents

It is composed of two main parts. Part 1 is entitled "I discover energy issues" which covers the following subtopics:

- Man and Energy;
- Daily Energy;
- Why use less energy;
- What are the solutions;
- The second part is devoted to action "I'm acting for my planet":
- Energy in our school;
- Our school's plan of action;
- Our results.

This 84-page booklet is downloadable for free at the address below.

Also in the same series "The teacher's book: I am committed to energy" which provides teachers wishing to educate children about energy with the necessary equipment and information.

Download "The energy notebook": <http://energie.wallonie.be/fr/cahier-de-l-energie-cahier-de-l-eleve.html?IDC=6116&IDD=13958> (Available in French and German)



Action «Réussir avec l'énergie»

«Être acteur ou promoteur d'un projet citoyen pour la maîtrise durable de l'énergie dans son école»



Succeeding with energy in the Wallonia

The action "Succeeding with energy" is an initiative driven by the Wallonia Regional council to foster "citizen projects" in primary and secondary schools. It is intended to unite to bring students, teachers and administrative staff together in participatory approaches that could lead to energy management projects in school. It has the dual advantage of raising awareness and educating while participating in its small way to the European Union commitment to reduce its greenhouse gas emissions by 20% in 2020.

All the information for schools wishing to start the project is given on the website:

- creation of the steering committee composed of students, teachers, administrative and technical staff...;
- two energy education facilitators whose details are available on site, to provide assistance, advice and support;
- the exploration phase begins with measurements using equipment provided by the facilitators. Examples of common causes of energy waste are pointed out on the site. Participatory audit leading to the implementation of actions.

Throughout the project, the site provides support, by proposing lines of enquiry for the investigation of various sources of energy waste, forms to fill in to facilitate the identification of the problems to solve.

It also lists the achievements of other schools, activities offered by organizations working on energy education, teaching resources, but also available funding...

All these phases can very easily be integrated into the programmes of different subjects (history, geography, physics, mathematics, languages).

For all advice on "Succeeding with energy":

<http://www.educenergie.ulg.ac.be/> (Website in French)

ARAEN in the Abruzzo Italy



The ARAEN, Agenzia Regionale per l'Energia della Regione Abruzzo, is the regional agency for energy in the Abruzzo region. It was set up thanks to support from the European Union Save II¹.

The Regional Agency for Energy has various aims:

- to improve living conditions in mountainous areas via the creation of markets for biomass and other renewable energy sources that could generate additional income for local people such as farmers;
- to adopt the best available technology to save energy and support research in this area;
- to facilitate the development of renewable energies (biomass, hydro-electric, thermal solar, photovoltaic solar and wind) to reduce environmental impact and reduce energy supply costs;
- to empower users with regard to energy...

The agency is also working on the whole region to form a network of actors capable of promoting and informing people about using renewable energy. To do this, it is holding an energy education competition called Energiochi.

The Energiochi competition


The 5th competition was launched last November 14th. It is open to all; primary, secondary and sixth-form pupils (3 to 19 years) in the Abruzzo region. The rules are simple, each participant must enter a drawing, painting, musical composition or short film that promotes energy conservation and renewable energy and thereby educates children and adolescents about these themes.

Energiochi won an award at the Ile-de-France regional energy conference in June 2009. The award ceremony was an emotional occasion, two months after the earthquake that rocked the city. The children wore T-shirts with the slogan "I did not collapse on April 6th at Aquila"...

¹ From 1996 -2002, Save II was implemented in European Union member countries to stabilize CO₂ emissions, reduce energy dependence, to incorporate non-technological aspects in technology-based energy conservation programs and to reduce energy intensity by 1% per year.

For more d'information: <http://www.regione.abruzzo.it/energia/araen/> (Website in Italian)

The EL-EFF project

Intelligent Energy  Europe

As part of the European electricity-saving awareness Forum, ARENE IDF participated in the EL-EFF (Electricity Efficiency) project, coordinated by the regional energy agency of Upper Austria. Its objective is the optimization and reduction of electricity consumption in 8 European regions:

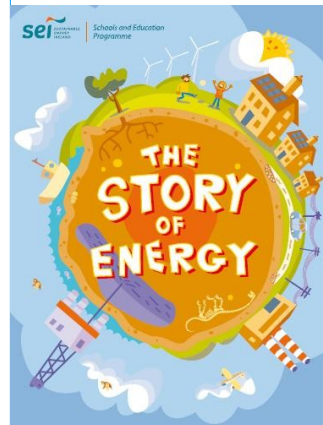


What is its purpose ?

Work focuses on two aspects: changing attitudes and behaviour, the efficiency of the equipment used. The results of the project and examples of good practice are then communicated to the population.

In the current context of rising electricity consumption, and consequently an increase in greenhouse gas emissions and increased dependency on imported raw materials, it is important to focus on energy control as well as on promoting the offering.

- modules and workshops;
- links to websites showing energy through concrete examples (factories, educational visits about different energy production techniques: fossil fuels, solar, hydro-electric or wind generators);
- sites dealing with energy themes;
- many downloadable files on different themes: “how to make your home more energy efficient”, “wind generators in 50 questions and answers”, “the guide to careers in energy”;
- *The story of energy* is an educational film on the history of fossil fuels and their impact on our atmosphere¹;
- *Energy Game* is an interactive game showing the simple actions that save energy in homes²;
- the “One Good Idea School Project” is for pupils to participate in improving climate change awareness in their community by identifying the little things that can be done to reduce each person’s carbon footprint.



Teachers can also contact by email or speak to telephone advisors who will guide and assist them in developing workshops that are both fun and educational. Or be inspired by actions implemented by other schools and receive their feedback.

Examples of resources are numerous, and the above list is not exhaustive.

¹ See the movie *The story of energy*:

http://www.sei.ie/Schools/Energy_Movie/High_Res/

² Play game to Energy: http://www.sei.ie/Schools/Energy_Game

For more information, visit the website of Sustainable Energy Ireland:

<http://www.sei.ie/Schools>

Energy at school in Ireland

The SEI was founded in 2002 by the government as a national Irish Energy agency under the 2007-2013 National Development Plan, financed in part by the European Union to promote and assist the development of renewable energies. For this purpose, the agency website includes a space dedicated to education.

For primary students

The Schools rubric offers a sub-category for the primary teachers to help them promote energy education in their classrooms. The resources available include:

- books, DVDs, CDs, posters, educational questionnaires etc.;
- explanatory booklets by themes: “Our body needs energy,” “Saving energy at home, at school”...;
- colouring activities on many themes are downloadable for small children;
- offers for a range of educational visits around energy themes;
- an interactive film showing the simple things to do at home to save energy.

For the secondary school students

Pages for students and school teachers containing numerous resources to help them learn and understand energy. Teachers will find a variety of resources to help integrate the teaching of energy in their subject, such as:

The stages of the project

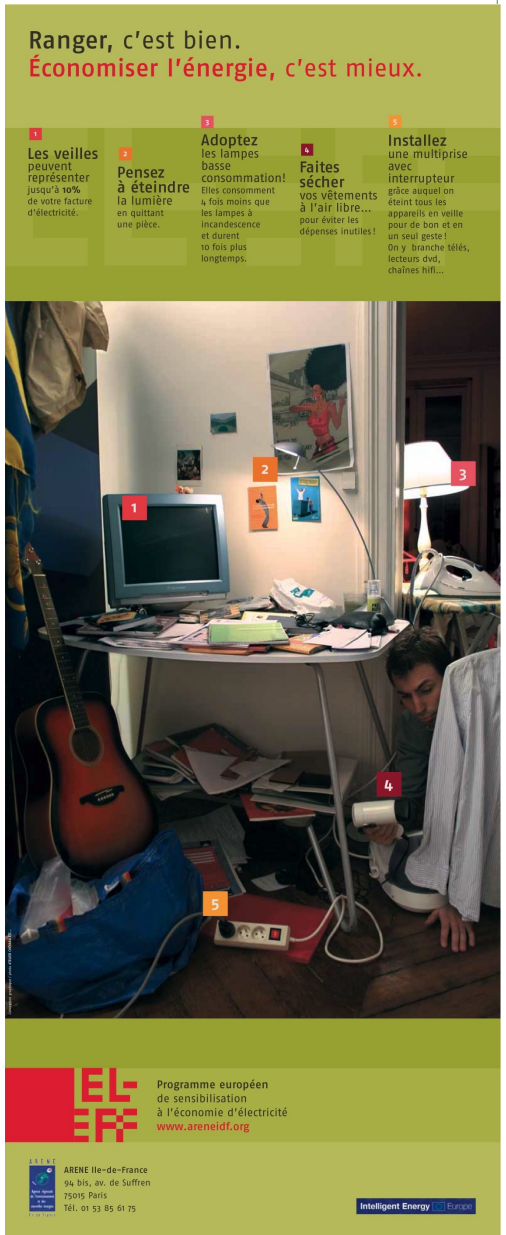
After identifying the sectors with the highest consumption, which are the residential and tertiary sectors for Ile-de-France, two categories of people were targeted. Firstly the staff working in retirement homes for the growing elderly population, and, secondly, students.

The student population, generally does not have the means to afford energy efficient accommodation. A survey has been carried out to assess students’ knowledge on the subject, their electricity consumption habits, means and expectations.

On the strength of the survey findings, ARENE IDF has put together an information kit for students on how to save electricity. This kit comes in the form of a special box which includes a low power light bulb, a leaflet¹ and the insert opposite, providing information on how to consume less electricity and ideas for very affordable equipment that helps save energy. Moreover, awareness sessions have been held in student residences, in partnership with local energy agencies.

¹ Download the energy-saving tips leaflet: http://www.ARENEidf.org/medias/fichiers/brochure_etudiantspdf.pdf (in French)

Visit the Efficient Electricity website: <http://www.efficient-electricity.info/>



**Ranger, c'est bien.
Economiser l'énergie, c'est mieux.**

- 1 Les veilles peuvent représenter jusqu'à 10% de votre facture d'électricité.
- 2 Pensez à éteindre la lumière en quittant une pièce.
- 3 Adoptez les lampes basse consommation! Elles consomment 4 fois moins que les lampes à incandescence et durent 10 fois plus longtemps.
- 4 Faites sécher vos vêtements à l'air libre... pour éviter les dépenses inutiles!
- 5 Installez une multiprise avec interrupteur grâce auquel on éteint tous les appareils en veille pour de bon et en un seul geste! On y branche télé, lecteurs dvd, chaînes hifi...

Programme européen de sensibilisation à l'économie d'électricité www.arenedidf.org

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Intelligent Energy Europe

Intelligent Energy Education

"Let's change our habits for the future"

Brochure outlining the 16 projects funded by the IEE (Intelligent Energy - Europe)

"The IEE supports educational activities that reproduce and expand successful experiences on a local or national level. Ideally, Member States will incorporate intelligent energy education into their national program."

Since 2004 the 16 projects supported by this program have benefited over 1 000 establishments in 26 European countries.

The feedback obtained has shown the importance of strong involvement between public and private sectors. Strong partnerships between energy agencies and schools are often the key to successful energy education projects.

The contents

The 16 projects are summarized on one page as a sheet containing all the relevant information, including the name of the project co-ordinator and its structure, partners, duration, aims, results as well as the total budget and the EU contribution. This brochure provides a very good overview of the various projects in the IEE program.



To download the brochure:

http://ec.europa.eu/energy/intelligent/library/doc/ka_reports/education09_en.pdf

The projects

- **FEEDU**: education programme for children.
- **Active Learning**: Integration into the school curriculum for active learning and consumption monitoring.
- **KITH, Kyoto in the home**: Awareness of renewable energy sources for small-scale home use.
- **Energy Path**: A learning platform dedicated to educating new generations in the field of sustainable energy.
- **Kidf4Future**: Promote action in children sensitized to energy issues.
- **Mobilise Energy/ Aware**: Mobilizing energy awareness.
- **P.E.E.S**: Energy efficiency in schools.
- **YEP!** : Energy for Young People.
- **YES: YOUNG Energy Savers** .
- **Flick the Switch**: Adoption in schools of simple energy efficiency habits.
- **EGS**: Energy, education, governance and schools: a panel of schools across Europe to involve local communities and develop energy efficiency programs.
- **IUSES**: Intelligent use of energy at school.
- **EYEManager Championship**: Championship Manager.
- **SAUCE**: Young pupils in universities for the climate and energy.
- **ENERCITIES**: Platform game - energy-efficient virtual cities.
- **RES COMPASS**: develop and promote the business sector of renewable energies.