

Changing with Climate network

Newsletter | Issue 2 | July 2011



Lifelong Learning Programme

This newsletter will appear at four-monthly intervals and will highlight the activities of the CwC network which is supported by a grant from the Lifelong Learning Programme of the EU's Directorate General for Education and Culture. The newsletter will not only describe past and present activities, but will also discuss current issues related to changing with the climate.

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The news this month is dominated by the estimates of global pollution in 2010 by the International Energy Agency (IEA). Other noteworthy news items are also recorded together with reports from our members and partners. Finally the outline programme has been released for our first annual network meeting to be held in Barcelona, Spain on 25/26 October.

1. Recent climate change news

Global pollution rises sharply

The global estimates of carbon pollutants released into the atmosphere in 2010 are the highest ever. Fatih Birol, Chief Economist of the IEA, commented that in spite of the best endeavours of many individuals, organisations and governments, the ever rising emissions suggested that it was almost too late to limit the earth's temperature increase to 2° C. The importance of this limit is that climate models suggest that above this limit, irreversible changes in climate could occur which could affect a considerable proportion of the earth's population.

It is now more urgent than ever to reach a political agreement to follow on from the Kyoto Convention on Greenhouse Gas Reductions, Mr Birol commented. Disaster could yet be averted, but only if Governments take bold, decisive and urgent action very soon.

The global concern is that emissions are rising at a very rapid rate at a time when the world's growth rate is at its lowest for a decade. The IEA has calculated if emissions rise in 2011 by the same amount as in 2010, the limit in global greenhouse gas emissions to the atmosphere would be reached nine years ahead of projections.

Likely impact of 2° C temperature rise

Heat waves which killed thousands of people in Europe in 2003 could occur every year with southern England seeing summer temperatures up to 40° C. Agricultural yields will decrease and some 500 million people could suffer a greater risk of starvation. Glaciers will continue to recede threatening water supplies to tens of millions of people. A third of species will become extinct limiting the biodiversity on which life on earth depends.

from the Guardian, 30 May 2011

Reduced prospects for nuclear power

One outcome of the earthquake and tsunami in northeast Japan has been the irrecoverable damage sustained to the Fukushima nuclear power plant. Fuel rods have melted in three of the reactor cores and in one reactor, the molten core has escaped from its primary safety containment. Radiation levels around the plant and contamination of the soil has forced the evacuation of many people living around the plant. This unfortunate accident makes it the most serious nuclear concern since Chernobyl in Ukraine in 1986.

The consequence is that a number of countries have shut down their reactors pending a safety review. Twenty percent of the world's reactors are situated in areas which are geologically unstable and so are particularly vulnerable in case of earth-

quakes. Some countries like Germany, Switzerland and Italy have decided not to build any further nuclear power plants: Germany has decided to phase out their nuclear plants and to stop building new ones; Italy does not have nuclear plants and has decided not to build any; and Switzerland which has nuclear plants will neither build new ones nor stop the existing ones before they are at the end of their "lifespan" (50 years). To limit any further carbon emissions, such capacity will need to be replaced by renewable energy sources rather than by fossil fuels.

Green power

The most recent report by the Intergovernmental Panel on Climate Change (IPCC) published 10 May summarises the viewpoint of the world's leading climate scientists. They state that if all the available renewable energy technologies were used, these could supply 80% of the world's energy needs within 40 years and so keep greenhouse gas concentrations below the limit which could lead to irrevocable climate change. But the scientists conclude that this transition is only possible if all governments enact policies promoting green power. Of equal interest in this report, are two further observations –

- an investment of only 1% of GDP (gross domestic product) is required to make this transition away from fossil fuels towards renewables
- renewable energy is already growing rapidly – in 2008/2009 some 45% of new electric generating capacity comprised renewable energy sources

Guardian 10 May 2011-06-09

Rise in global fuel prices

Global warming has already harmed the world's food production and has driven up food prices by as much as 20% in recent decades. The drop in productivity of crop productions around the world was not caused so much by changes in rainfall, but higher air temperatures which can cause dehydration, prevent pollination and slow down photosynthesis. The scientists at the Earth Policy Institute in Washington state that their work shows how crucial it is to find ways of adapting farming practices to a warming world to ensure that rises in global population are matched by increasing food production. One study examined how rising temperatures affected the annual crop yields of all the major producer nations.

Guardian 5 May 2011

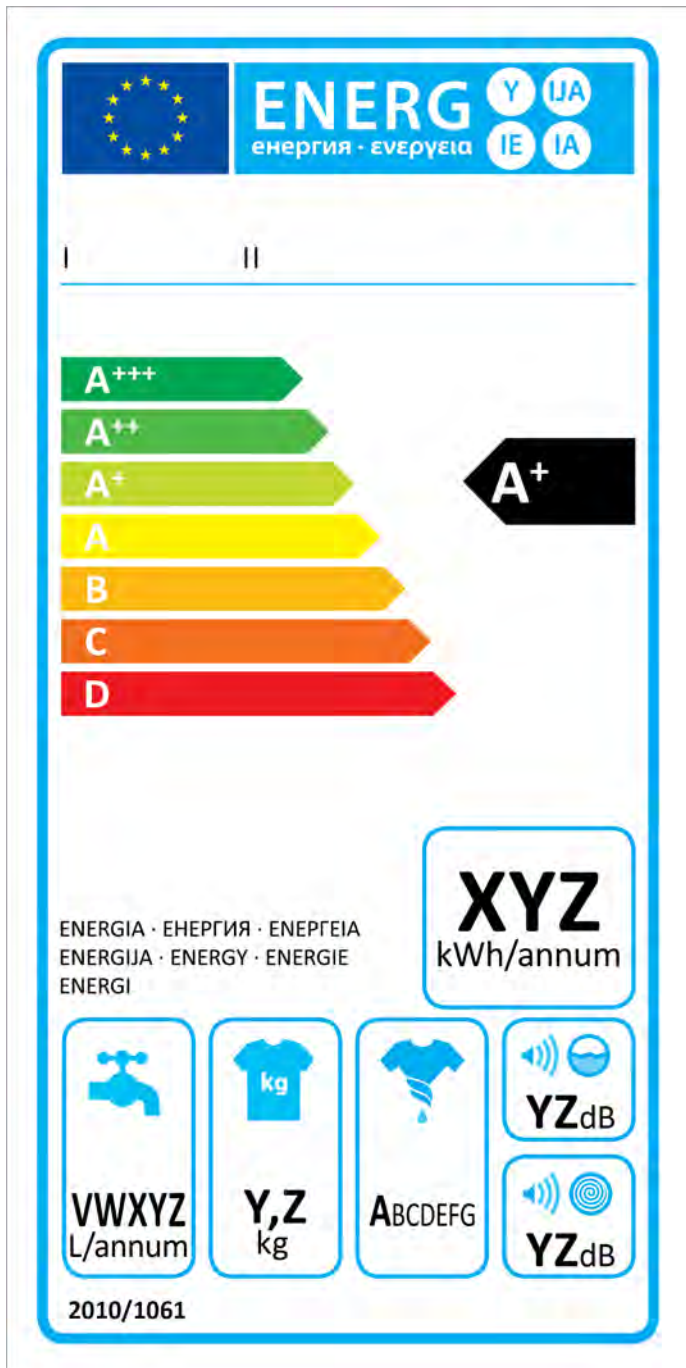
2. New energy labels for appliances

One of the most effective pieces of environmental legislation has been the introduction of energy labelling for household appliances starting in Europe with refrigerators and freezers in 1994. For the first time consumers were able to compare one appliance with another and decide which model gave the best performance and which model used the least electricity. It was also possible to calculate the lifetime cost which comprises the initial cost plus the total cost of electricity (and, for washing appliances, the cost of water). From this information it was then possible to calculate the payback time. For low energy light bulbs (lamps), for example, the time to recover the initial investment compared to a conventional filament lamp is as little as six to nine months whereas the life of the low energy lamp is typically six to ten years.

The EU has recently revised the energy label and the major changes are illustrated in the accompanying picture and include –

- labels throughout the EU will now have the same appearance with symbols replacing text; this follows the existing label for lamps which also has no text; for an explanation of the text of each label, it is necessary to consult the information fiche which accompanies each label
- there will now be 3 new energy efficiency classes A+, A++ and A+++ above class A on the A to G scale of which only 7 classes can be displayed at any one time
- the energy efficiency index from which the energy class can be defined is now based more closely on general appliance use – for example for washing machines the electricity consumption is considered at both 40° C and 60° C and for full as well as half loads
- the average annual electricity (and water) consumption will now be displayed rather than the energy and water per cycle; it is assumed that the average EU household will wash on average between 4 or 5 washes per week; clearly if you use the machine more often then you will consume more and if you use the machine less the converse will apply
- label information will now need to be shown in catalogues and on the internet and the energy efficiency class has to be shown in all forms of advertising

New EU energy label for washing machines



I Supplier II Model

Energy efficiency class of model on scale of which A+++ is the highest and D is the least efficient

Weighted annual electricity consumption per year in kWh (220 cycles/year)

Weighted annual water consumption (same number of cycles)

Capacity of model in kg of clothing

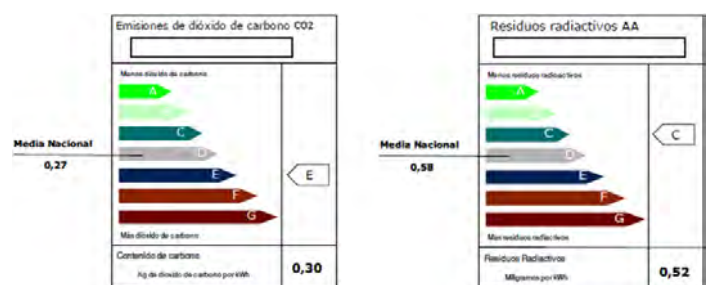
Drying efficiency class on scale of A to G of which A is the most efficient

Noise emitted by machine during washing and spinning phases in dB

Electricity invoice label

Since April 2008 and following the European legislation in Spain all electricity suppliers have to show on their invoice two different labels to identify their CO2 emissions and radioactive waste (residue from nuclear power) per unit of electricity. These labels have as a reference a national average, so consumers can decide whether they prefer to have a low environmental impact or at least lower than the national average. This means that an electricity supplier may be interested in having a high percentage of renewable energy, so that the electricity they supply has low CO2 emissions and low radioactive waste.

The following pictures show the two different labels which have to be included in the electricity energy bill. As with the EU energy label, there are seven classes with A representing the lowest emissions/residue and G the highest.



3. News from partners

UoR

An activity challenge day was organised at the University of Reading on June 17 and 46 students from three schools took part in three activities which involved assessing the evidence for global warming, measuring the heat loss in buildings and evaluating the potential for passive solar techniques to reduce energy costs and improve working conditions in buildings. For the passive solar, the teams compared buildings of some 20 – 30 years of age with the newest building that has just been completed on campus, the Reading Enterprise Centre.



Reading Enterprise Centre with wire mesh solar shading



Agriculture building with conventional passive solar shading



Carbon footprint poster presented during the Activity day

Hespul, France

HESPUL has selected a series of pedagogic tools to be used in the workshops of "Changing with the climate". The series of workshops will be built together with each teacher, following their objectives and needs to see which tool is the most suitable. They are also available to teachers who want to use them in class independently.

- "Ecoville". This online serious game is about the sustainable development of a town. The objective is to increase the population while handling greenhouse gas emissions, energy production and consumption, and waste management. The French version has been upgraded and includes pedagogic documents to organise workshops in class. www.ecovillejeu.com (French for the new version, English and other European languages for the original version)

- *SIEU methodology*. HESPUL has been a partner in the European project "Schools for Intelligent Energy Use" (funded by Intelligent Energy Europe Programme). The coordinator of this project, IVN, has transmitted their methodology to work on sustainability issues in class. The classes work on a real assignment for a real client as if they were professionals; an expert answers their questions and the teacher is a coach rather than a source of knowledge. This methodology can be adjusted for classes in "Changing with the climate" network. www.sieu.info (English and other European languages)
- *Visit to "Parc Ecohabitat"*. This showroom is a demonstration of good practices in the building trade regarding energy performance. For the students, it is the opportunity to see examples of practical ways to tackle climate change by

reducing the energy consumption and therefore emissions. They will also discover the role of building trade in sustainability while they are making decisions for their professional future.

- "*Effet de jeunes contre effet de serre*". This campaign is launched from Belgium. It gives some milestones and actions ideas to take action against climate change as a class (eat a local apple, wear a thick pullover...). Each action is associated to a pedagogic guideline for the teacher to make the most of it in class.
<http://www.effetdejeunes.be/fr> (French and Dutch)
- *HESPUL's workshops*. HESPUL will offer to the participating classes the workshops developed on climate change, GHG emissions and energy. Some examples of workshops:
 - i. The sustainable professions,
 - ii. My city without oil,
 - iii. Setting up the energy label of the school.
- "*Carbon investigation*". HESPUL is developing a pedagogic kit to support teachers in the use of an existing carbon footprint calculator. It will be tested in the 2011-2012 school year and will be available to the network members for 2012-2013. www.leclimatentrenosmains.org (French)

CdB, Italy

Under the project, at the show-room "energy and environment" three important meetings (on February 16, March 23 and May 4) were held with the teachers of Bologna schools. The meetings were attended by over 12 teachers of different subjects (science, physics, technical drawing, literature and foreign languages) on behalf of 8 secondary schools (Marconi, Farini, Besta, Da Vinci, Copernico, Aldini Valeriani e Sirani, Mattei). During the meetings the possible educational trials to bring the issue of global warming to school classes through an interdisciplinary way were discussed; examples of lessons, a discussion on possible actions to be put to the students and how to measure this were proposed. We have spoken of possible activities to facilitate understanding and awareness of Global Warming problem. In particular the "Aldini institutes" have presented a photographic work which provides for the use and interpretation of images linked to environmental issues. We're thinking of proposing this method within the Comenius network: to present to the

students involved photos (and comments) or situations that represent elements of environmental sustainability and environmental non-sustainability. In this regard, we invite you to see a video produced by the students of school "Mattei" on good actions on energy and environmental sustainability. The video can be downloaded here:
www.edlineadv.com/upload/ImmaginiYoutube.zip

Nell'ambito del progetto, presso al Show-room "energia e ambiente" si sono svolti 3 importanti incontri (il 16 febbraio, il 23 marzo e il 4 maggio) con gli insegnanti delle scuole di Bologna. Gli incontri hanno visto la partecipazione di oltre 12 docenti di diversi insegnamenti, scienze, fisica, disegno tecnico, lettere e lingue straniere. In rappresentanza di 3 istituti secondari di I grado (Marconi, Farini, Besta) e 5 istituti secondari di II grado (Da Vinci, Copernico, Aldini, Valeriani e Sirani, Mattei). Durante gli incontri si sono presentati i possibili percorsi didattici per portare il problema del riscaldamento climatico all'interno delle lezioni scolastiche in modo interdisciplinare. Si sono proposti esempi di lezioni, si è discusso sulle possibili azioni da mettere in campo con i ragazzi e sulle modalità di misurazione. Si è parlato di possibili attività per facilitare la comprensione e la presa di coscienza del fenomeno del Riscaldamento Globale. In particolare gli istituti Aldini hanno presentato un lavoro fotografico utilizzato da un'insegnante di italiano che prevede l'utilizzo e l'interpretazione di immagini legate a temi ambientali. Si sta pensando di proporre questo metodo all'interno del network Comenius: fare produrre ai ragazzi delle scuole coinvolte delle foto e relativi commenti che rappresentino situazioni o elementi di sostenibilità e di insostenibilità ambientale. A questo proposito vi invitiamo a vedere un video realizzato dai ragazzi della scuola media "Mattei" sulle buone azioni di sostenibilità energetica-ambientale. Il video è scaricabile qui: www.edlineadv.com/upload/ImmaginiYoutube.zip

ICI, Romania

ICI organized a training course for schools on April 13, 2011 in "Titu Maiorescu School", Bucharest. The five schools that will be involved in the first year were invited and all took part each of them involving 2 teachers. The speaker was Mrs. Adriana Alexandru who was assisted by Mr. Ovidiu Bica and

2 representatives from ENERO and Greeninitiative energy agencies, which are taking part in the network as associated partners.

Considering the recruitment of schools from Romania, 3 schools sent their profile in order to be uploaded to the website: School No. 45 "Titu Maiorescu", 163 Calea Dorobantilor, Sector 1, Bucharest; "Nicolae Iorga" Highschool, Bucharest, 126 Ion Mihalache Bd, Sector 1, Bucharest and European School of Bucharest (SEB), Aleea Băiculești nr.33, Sector 1, Bucharest.

Pe 13 aprilie 2011, ICI a organizat în "Școala Titu Maiorescu" din București un curs de formare pentru școlile ce vor fi implicate în proiect. Au fost invitate 5 școli, care vor fi implicate în primul an. Din fiecare dintre ele au luat parte câte 2 profesori. D-na Adriana Alexandru a făcut o prezentare a proiectului. Ea a fost asistată de către domnul Ovidiu Bica și de 2 reprezentanți de la agențiile energetice ENERO și Greeninitiative, care iau parte în calitate de parteneri asociați în cadrul rețelei.

Având în vedere recrutarea de școli din România, 3 școli și-au înscris deja datele pe site-ul rețelei Comenius: Școala nr 45 "Titu Maiorescu", Calea Dorobantilor 163, Sector 1, București, Liceul "Nicolae Iorga", Bd. Ion Mihalache Nr. 126, Sector 1, București și Școala europeană, Aleea Baiculesti nr.33, Sector 1, Bucuresti.

Ecoserveis, Spain

Ecoserveis has contacted several schools during these last months in collaboration with some regional entities in Barcelona (Escoles Verdes, Diputació de Barcelona, CRBS). To date four schools have already confirmed their participation to start on September next school year 2011-2012. Primary schools involved are: Escola Orlandai (Barcelona), Escola el Turó (Montcada i Reixac) and Secondary schools involved are: SES Gurb and IES Intermunicipal del Penedés. We expect to have 3 more schools this year. Most of the schools are very interested and they will confirm their participation in the coming months.

Ecoserveis is also organising the first annual network event. All details can be found in section 5 'Forthcoming events'.

4. Website and internet resources

Website

The Changing with the Climate website is gradually being populated with information which illustrates the various topics relating to the changing climate. New sections include –

- resources and lessons planning
- centralised versus dispersed energy production
- renewable energy sources suitable for installation in a family home
- greenhouse gases and carbon footprints
- lighting and phasing out of incandescent lamps
- revisions to EU energy labelling

In addition, activities are being selected which are suitable for discussion between partner classes in two or more countries.

Linking partner schools

There is a form on the CWC website which needs to be completed if a school wishes to join the network. This form which describes the profile of your school and class should be downloaded, completed and sent to your national partner or the coordinator if you are living outside one of the 6 partner countries (see section 6).

You will then be sent a name and password which will allow you to access the member's section and identify a school which you should then contact to see if they are willing to become your partner. It is also possible to have partners in more than one country if you so wish.

5. 1st annual meeting

Role of education in limiting climate change

1st annual meeting of Changing with Climate network

Barcelona, Spain, 25th -26th October 2011

Changing with the Climate network was founded on October 1, 2010 following the award of a contract by the Life Long Learning Programme of the Directorate General for Education to a group of 6 European institutions led by the Institute of Education, University of Reading. The aim of this educational network is to raise awareness within primary and secondary schools of the issues surrounding the advent of global warming and what actions are needed to limit the global increase in temperature to 2° C.

This invitation is to join us in our first annual meeting to be hosted by Ecoserveis, our Spanish partner in Barcelona on October 25/26. We will

consider the role of education in limiting climate change and the actions that have been initiated by its members and other individuals and Groups. Participants are requested to bring with them a poster which illustrates their activities and be prepared to join and contribute to the group discussions which will be a feature of this event.

Non members will have to pay the cost of the lunches, dinner and the visit to the Science Museum.

There is a wide variety of accommodation available and participants can find such information at www.booking.com/barcelona. Participants are requested to make their own bookings.

For further information and to register your interest please complete the form below and send to Nuria Domingo at Ecoserveis

TO: Nuria Domingo, Ecoserveis: nuria@ecoserveis.net

We would like to participate in the annual network event to be held in Barcelona on 25/26 October 2011.

Our contact details are

Our educational interests are

Please send us further information as it becomes available

Name

Institution/school

Date

Role of Education in limiting climate change – outline programme

Tuesday, 25th October

- 13.00 Lunch
Setting up and viewing posters
- 15.00 Welcome
tour de table
outline of events
- 15.30 Guided tour to the Science Museum:
COSMOCAIXA
- 17.30 Refreshments and national attendees'
reception
- 18.00 Opening conference
**Global aims of Changing with the Climate
network**, Coordinator
**Role of education in limiting climate
change**, Jordi Pigem
Discussion
- 19:00 Dinner

Wednesday, 26th October

- 09.00 Welcome.
Role of environmental education, Open
University of Catalonia
- 09.30 **Increasing need for action to limit climate
change**, Speaker to be advised
- 10.00 10 minute presentations by teachers from
each partner country
- 11.00 Refreshments and viewing of posters
- 11.30 Discussion groups to reflect on network
themes such as how to select educational
resources to link to curriculum topics;
how the topic of limiting climate change
can be transmitted to society
- 12.30 Report back of rapporteurs from each
group
- 13:00 General discussion and review of action
plan 2011/12

- 13.30 Lunch

- 15.00 Group discussions on educational activities
such as
How to identify partners and collaborate
with partner schools/classes in other
countries
Role of teacher in guiding discussions and
formulating actions
- 16.00 Report back and general discussion
- 16.30 Close of conference

For further information on the network's activities
please go to

www.changingwithclimate.info

6. Contacts

Contacts

If you would like to join the network or would like further information please contact the network partner in your country.

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Next issue

Role of Education in limiting climate change;
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