

Changing with Climate network

Newsletter | Issue 3 | October 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 lead article considers the role of education in limiting climate change and reflects on what will be discussed at the first annual meeting of the network in Barcelona.

1. Role of education

The month on month news continues to describe extreme weather conditions experienced in many parts of the world, much of which can be linked to a changing climate. These occurrences such as the result of flooding in the Sind province of Pakistan and the hurricanes which traversed the east and southeast coasts of the United States affect the lives and livelihood of millions of people.

To the people in Europe, these events seem a long distance away and have no direct affect; sympathy may be expressed and financial support offered but most people would say that there is little they can do to stop such extreme events reoccurring. However, various models of climate which take into account the ever increasing amount of greenhouse gases in the upper atmosphere, suggest that such weather extremes are likely to become more rather than less frequent. If these models are correct in their predictions, then there is something each of us must do to limit our ever increasing use of fossil fuels which are responsible for the increasing production of greenhouse gases like carbon dioxide.

This cause and effect requires a major change in our thinking as to how we view and use energy in the interdependent world in which we now live. This in turn creates a huge educational challenge for all age groups and our network is focussing its attention on young people of school age.

Ways of viewing energy use

There are several ways of viewing energy use –

- it is a substitute for doing work by individuals such as digging a trench by hand or walking to school – it seems so much easier to use a mechanical digger or going by car without having to consider the environmental impact
- fossil fuels are something which we use to heat our homes, drive our cars or produce electricity without considering their increasing use and decreasing availability
- when one source of energy becomes scarce another source has always been available – so in turn wood, coal, oil and now natural gas have been used and in the future maybe hydrogen fusion, always considering the level of technology required to use these sources with little or no thought to environmental impact

Meeting the educational challenge of energy use

The curricula tend to consider scientific topics in terms of generating knowledge of how electricity can be produced or how combustion of fossil fuels produces useful energy. In other disciplines students might learn about the carbon cycle, the impact of various by-products resulting from the combustion of fossil fuels or how increasing population impacts the available level of resources, created millions of years ago. The educational challenge is how to teach a multi-disciplinary topic in such a way that on the one hand it meets

curricula requirements and on the other hand promotes a discussion within the class of how to use energy in a sustainable way with minimal environmental impact.

The raison d'être of the network is to encourage schools and classes to trial methods of teaching which create understanding and then to share these methods with their partner schools.

Barcelona meeting

The annual meeting of the network in Barcelona provides the opportunity to review with teachers and educationalists what we have trialled during our first year and to discuss and plan what the network will do during our second year.

If you are able to attend our meeting in Barcelona on October 25/26 and share your experiences with us, please contact Nuria Domingo at Ecoserveis. There is no charge for participating in the event, but you will have to meet your own travel and accommodation costs.

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

The Barcelona meeting outline programme

Tuesday, 25th October

- 13.00 Lunch and meeting other participants
- 15.00 Welcome followed by visit to the Science Museum
- 18.00 Opening conference
- 19:00 Dinner

Wednesday, 26th October

- 09.00 Role of environmental education
- 10.00 Short presentations by participants
- 11.30 Discussion groups I - selecting educational resources
- 13.30 Lunch
- 15.00 Discussion groups II - collaborating with schools in other countries
- 16.30 Summarising the outcomes

Close of conference

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

2. Recent climate change news

Melting of arctic sea ice

Arctic sea ice has melted to a level not recorded since satellite observations started in 1972 – and almost certainly not experienced for at least 8,000 years, say polar scientists.

The German researchers said the record melt was undoubtedly because of human-induced global warming. "The sea-ice retreat can no more be explained with the natural variability ... caused by weather," said Georg Heygster, head of the Institute of Environmental Physics at Bremen.

"Climate models show that the reduction is related to the man-made global warming, which, due to the albedo effect, is particularly pronounced in the Arctic," he said. The albedo effect is related to a surface's reflecting power – whiter sea ice reflects more of the sun's heat back into space than darker seawater, which absorbs the sun's heat and gets warmer.

Floating Arctic sea ice naturally melts and re-freezes annually, but the speed of melting has shocked scientists – it is now twice as great as it was in 1972, according to the NSIDC. Arctic temperatures have risen more than twice as fast as the global average over the past half century.

If current trends continue, a largely ice-free Arctic in the summer months is likely within 30 years – that is up to 40 years earlier than was anticipated in the last Intergovernmental Panel on Climate Change (IPCC) assessment report. The last time the Arctic was uncontestedly free of summertime ice was 125,000 years ago, at the height of the last major interglacial period.

The Guardian 12 September 2011

Extinction of marine species

A study of the state of the world's oceans has found that many marine species including species such as whales are in imminent danger of an 'unprecedented' and catastrophic extinction event at the hands of mankind.

Mass extinction of species will be "inevitable" if current trends continue, researchers said.

Overfishing, pollution, run-off of fertilizers from farming and the acidification of the seas caused by increasing carbon dioxide emissions are combining to put marine creatures in extreme danger, according to the report from the International Programme on the State of the Ocean (Ipsos), prepared at the first international workshop to consider all of the cumulative stresses affecting the oceans at Oxford University.

The international panel of marine experts said there was a "high risk of entering a phase of extinction of marine species unprecedented in human history". They said the challenges facing the oceans created "the conditions associated with every previous major extinction of species in Earth's history".

Hypoxia and anoxia, warming and acidification are factors present in every mass extinction event in the oceans over the Earth's history, according to scientific research. About 55m years ago, as much as half of some species of deep-sea creatures were wiped out when atmospheric changes created similar conditions.

The Guardian 20 June 2011

Costs of solar panels

The price of solar panels are falling so fast that by 2013 they cost half of what they did in 2009, according to a report from Ernst & Young that argues solar electricity could play "an important role" in meeting the UK's renewable energy targets. The average one-off installation cost of solar photovoltaic (PV) panels has already dropped from more than \$2 (£1.23) per unit of generating capacity in 2009 to about \$1.50 in 2011. Based on broker reports and industry analysis, E&Y forecasts that those rates of decline will continue, with prices falling close to the \$1 mark in 2013.

At present, solar PV is economically viable in the UK for homeowners, businesses and investors only because of government subsidies given out via feed-in tariffs (Fits). But the new analysis suggests that falling PV panel prices and rising fossil fuel prices could together make large-scale solar installations cost-competitive without government support within a decade – sooner than is usually assumed.

The Guardian 21 June 2011

Economic crisis affects clean coal capture and storage

The world's supply of oil is struggling to meet the demand as resources diminish and oil becomes more difficult and costly to extract. A dash to gas is also not sensible because the world's gas supply will also peak in the next 15 to 20 years. The longer term source of fossil fuel will be coal, but this can only be used if the carbon dioxide generated during its combustion can be captured and sequestered.

The financial crisis and fading government support for climate action have seriously eroded global plans to capture and store carbon, the International Energy Agency (IEA) warned yesterday.

Sequestration – the depositing of greenhouse gases underground – was supposed to account for

a fifth of the world's emissions reductions under the agency's roadmap for keeping global temperature rise within 2C (4F) by the end of the century.

But delegates including the US energy secretary, Steven Chu, heard at a meeting, held in Beijing, that the global temperature is on course to rise by 3.5C, due to poor progress both on carbon capture and storage, and on acceptance of a carbon price and other carbon-cutting efforts.

According to the IEA, global energy demand has more than doubled in the past 40 years and even with the most favourable assumptions will grow another 35% by 2035, which will take carbon dioxide emissions above 35 gigatonnes per year.

The Guardian 24 September 2011

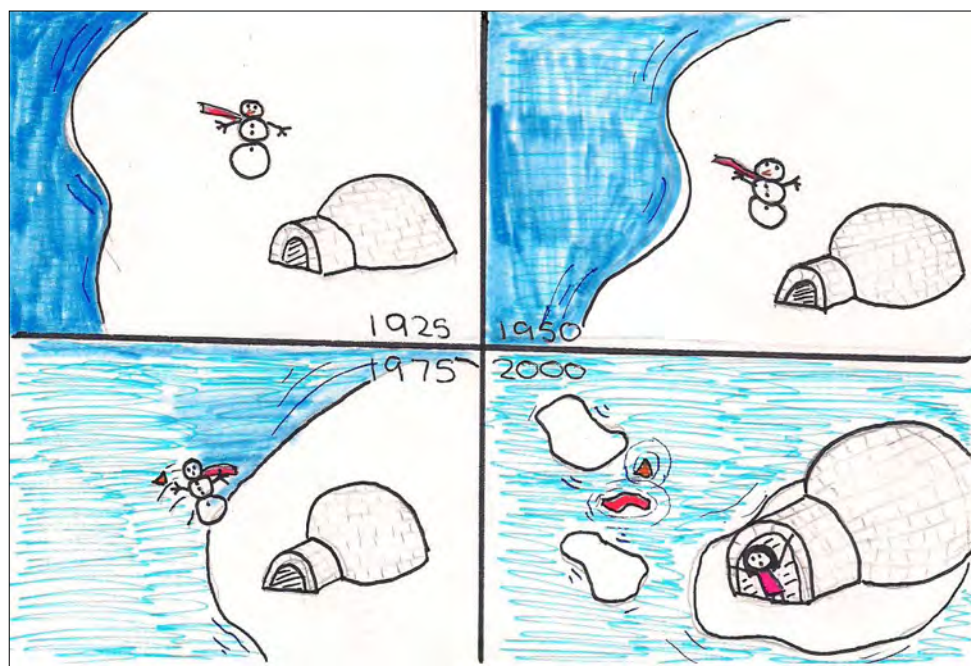
3. News from partners

University of Reading

Following the success of the activity challenge day at the University of Reading in mid-June for students aged 13 – 15 years, a series of further activity days is being organised for different age groups. The challenge day for 16 year old students is being held on 14 October and will be hosted by Leighton Park School. One of the new activities will be to identify the potential output of a 'solar' roof on which solar cell panels can be mounted to generate electricity by the photovoltaic principle. The next challenge day will be held for 17 year old students on 2 December at the Institute of Education Bulmershe College.

A number of schools in the Reading area have agreed to join the network and will be uploading their details to the network site so they can seek partner schools.

John Oversby has put forward the idea of postcards to convey information about limiting climate change. This has been tried initially at Leighton Park School (see illustration below) by Irene Bell, one of the teachers who will come to Barcelona. The range of ideas and suggestions that have resulted are very interesting and give a good idea of what students are thinking about this topic.



Postcard illustrated by Daisy Holliwel, year 8, Leighton Park School, Reading.

Hespul, France

Changing with the climate in France

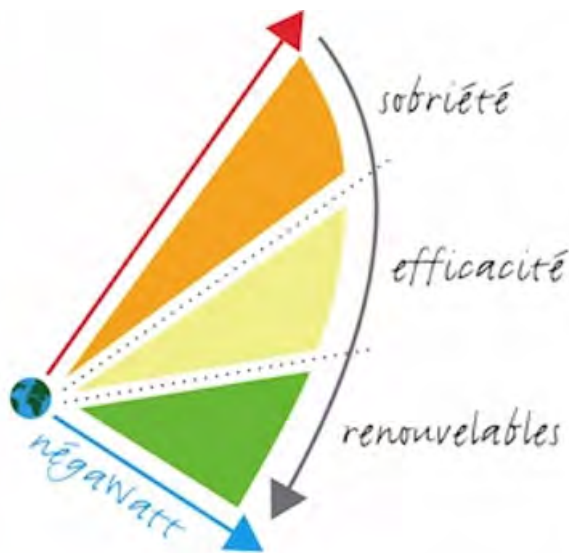
In 2011-2012, secondary classes from the Rhône département will participate in the project. A group of students from Quatre-Vents secondary school in L'Arbresle and a class from secondary school Ronsard in Mornant have already signed up. HESPUL is in contact with other interested teachers, so several other classes will certainly join the network during the school year. In the next newsletter, we'll tell you about their projects!

HESPUL is in charge of the French contents of the website changingwithclimate.info. Our editorial policy is not so much to create content but rather to identify and gather relevant existing contents. These can be websites, articles, videos, documents and others, created by HESPUL or not. You'll find for example links to news about climate and energy and pedagogic resources; both are regularly updated.

France in transition, by Négawatt

2050, in France: no nuclear plant, CO2 emissions divided by 16 compared to 2010, 90% of the energy is produced from renewable resources...

This is not a dream, but the energy scenario for France that was presented last 29th of September by the Négawatt association. The engineers, energeticians, urbanists and sociologists who participated to the scenario propose a three-step strategy. First, sufficiency: each one of us can reduce their energetic consumption. Second, efficiency: avoid energy losses. The analysis, sector by sector, plans a reduction of energy demand by 65% for the whole country! The third step is to supply this demand with renewable energy sources. In order to meet these goals, a very voluntary policy towards energy sufficiency and efficiency is needed. A word to the wise... or to the 2012 presidential candidates!



Read more online: www.negawatt.org/

Changing with the climate en France

Des classes de collège du Rhône participent au projet en 2011-2012. Un groupe du collège Quatre-Vents à L'Arbresle et une classe du collège Ronsard à Mornant sont déjà inscrits. HESPUL est en contact avec d'autres enseignants intéressés, plusieurs autres classes se joindront certainement au réseau pendant l'année scolaire. Dans la prochaine newsletter, nous vous parlerons de leurs projets !

HESPUL s'occupe des contenus en français du site changingwithclimate.info. Notre ligne éditoriale n'est pas tant de créer du contenu mais plutôt de recenser et rassembler des contenus pertinents existants. Il peut s'agir de sites, articles, vidéos, dossiers et autres, créés par HESPUL ou pas. Vous trouverez notamment des liens vers des articles d'actualité sur le climat et l'énergie et des ressources pédagogiques régulièrement mis à jour.

La transition énergétique selon Négawatt

2050, en France : pas de centrales nucléaires, des émissions de CO2 divisées par 16 par rapport à 2010, 90% de l'énergie produite à partir de ressources renouvelables...

Ce n'est pas un rêve, mais le scénario énergétique pour la France présenté ce 29 septembre par l'association Négawatt. Les ingénieurs, énergéticiens, urbanistes et sociologues qui ont participé à la rédaction du scénario proposent une démarche en trois étapes. Premièrement, la sobriété : ce que chacun peut faire pour réduire sa consommation d'énergie. Deuxièmement, l'efficacité : éviter les déperditions d'énergie. L'analyse, secteur par secteur, prévoit ainsi une réduction de la demande en énergie du pays de 65% ! La troisième étape est de pourvoir la demande à partir d'énergies renouvelables.

Pour atteindre ces objectifs, une « politique très volontariste de sobriété et d'efficacité énergétique » est nécessaire. Avis aux candidats à la présidentielle!

+ d'infos en ligne : www.negawatt.org/

CdB, Italy

Comune de Bologna has been busy organising a training course for teachers entitled "1001 ways to talk about climate change" to run each Thursday from 13 October to 3 November 2011. The course aims to provide theoretical and practical tools facilitating the introduction of environmental issues, and specifically the issue of climate change, in teaching. We face a unique opportunity, addressing environmental problems is a great opportunity to review our lifestyles. To do this it is necessary to stimulate the formation of an overall vision capable of linking different areas: the scientific / technological, the institutional and the social area. For this reason the course is split over four Thursdays where the problem is divided into semantic blocks (historical, scientific, technological, industrial, energetic, institutional and social) to provide as broad and multi-disciplinary a vision as possible.





SHOW-ROOM
ENERGIA E AMBIENTE



COMUNE DI BOLOGNA



COMUNE DI BOLOGNA
MUSEO
DEL
PATRIMONIO
INDUSTRIALE

CORSO di FORMAZIONE
per docenti di Scuola secondaria di primo e
secondo grado (biennio).
Inserito all'interno del
progetto europeo Comenius "Changing with the climate"
linea di finanziamento Lifelong Learning Programme
e riconosciuto dall'Ufficio scolastico regionale per l'Emilia-Romagna

TITOLO: 1000 e uno modi per parlare di cambiamento climatico
PROPONENTI: Show-room "energia e ambiente" e Museo del Patrimonio Industriale del Comune di Bologna
PERIODO: 13 ottobre 2011 - 03 novembre 2011 (tutti i giovedì)
N° INCONTRI: 4 pomeriggi da 3 ore l'uno
ORARIO INCONTRI: 15.00 - 18.00 (pausa 17.00 - 17.15)
LUOGO INCONTRI: Museo del Patrimonio Industriale - Via della Beverara 123, 40131 Bologna
PER INFORMAZIONI E PRENOTAZIONI entro il 10 ottobre 2011 (max 50 persone):
Matteo Pompili, showroomaldini@comune.bologna.it (tel.051 4156272)

Ecoserveis, Spain

The four schools involved in CwC project started to work last September. Primary schools, Escola Orlandai (Barcelona), Escola Virolai (Barcelona) and Escola el Turó (Montcada i Reixac), are working with 'Ecoville', one of the resources offered to them. This resource is an interactive game where children have to create a sustainable city. This resource is being used in these schools in different topics related to nature and social knowledge.



Students from Secondary school involved in CwC project, SES Gurb, are working with 'Climate Chance' exhibition. This exhibition is composed of 14 posters. Each poster is related to a topic giving the opportunity to investigate Climate Change from different points of view: Science, Environment, Technology, History and even behaviour. SES Gurb is a new school and all classes are involved in CwC project and carry out different activities.



4. Contacts

If you would like to join the network or would like further information please contact the network partner in your country or visit our website www.changingwithclimate.info.

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Next issue

Partnering schools; all contributions to editor by 1 December, publication date 10 December

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