

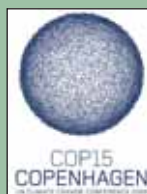
SUSTAINABLE ENERGY NEWS

Newsletter for **INFORSE** International Network for Sustainable Energy

No. 67, December 2009



- **COP 15 - Last Chance**
- **New EU Policies**
- **Sustainable Energy Visions**
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Inside: Newsletter of the
Low Carbon Societies Network

Sustainable Energy News

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Photos on front page:

Windmills in Copenhagen,
cooking with biogas,
INFORSE meeting in Europe



Don't Fear a Sustainable Energy Transition



Based on current climate science and a fair distribution of the global resources, industrialised countries need to achieve more than 40% emission reductions 1990 - 2020, if they are to do their fair share of greenhouse-gas emission reduction.

Any industrialised country that embarks on a transition of its energy system to achieve such a reduction will be rewarded in the form of technological leadership, reduced imports of fossil fuels, and, very likely, a better local environment.

Of course a transition will require investments, but when the direct and indirect benefits, including the gains from technological leadership, are added up, the investments will pay off many times over.

In spite of this, very few countries have dared to commit to a 40% reduction or more. This lack of vision and foresight from the leaders is now putting at risk the international climate negotiations and, soon, the climate itself.

The lack of will to change to sustainable energy also leads to a continued reliance of oil, in years when the production of existing oil wells is declining 4-6% every year, and the discoveries of new oil fields fall far short of offsetting this decline.

Just as the high oil prices in 2008 aggravated the current economic crisis, an increasingly tighter oil market will spill over into new economic crises in the years to come.

Alternatively, a 40% reduction in oil use by industrialised countries by 2020 would ease the pressure on the oil market, allowing more stable energy prices in the future.

INFORSE's Sustainable Energy Visions outline ways in which industrialised countries can achieve a +40% reduction of use of oil and other fossil fuels by 2020. With visions and scenarios for 10 industrialised countries and for the EU, INFORSE and its members have shown that it is possible to combine renewable energy and energy efficiency to supply most countries with energy from national resources alone.

As INFORSE members in the South have shown, energy efficiency and renewable energy are often also the best energy solutions to reduce poverty in particular in rural areas.

Efforts to alleviate poverty through uses of sustainable energy are more sustainable, more affordable, and more resilient than efforts based on imported fossil fuels. Further, sustainable energy is much cheaper and safer than the nuclear power that many still advocate.

In a fair climate agreement, development of developing countries based on sustainable energy must be supported by the industrialised countries to compensate for the latter group's past and present emissions. To be effective and to give long-lasting results, this support must be dedicated to efficient use of renewable energy in sustainable ways.

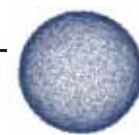
If we want to move beyond the current impasse before we reach dangerous and irreversible climate change, *we must work together* to persuade our leaders that there are sustainable paths to fast reduction of fossil fuel use.

They must not be afraid of grasping the opportunities brought by sustainable energy.

Gunnar Boye Olesen

Editor & INFORSE Regional Coordinator
(Europe)

Climate in Copenhagen



Last Chance

It is important to recall that the Climate "Summit" COP15 in Copenhagen is the last chance to agree a continuation of an international climate regime, following the first commitment period of the Kyoto Protocol, ending 2012.

At COP16 in Mexico in November, 2010, it will be too late to agree before the end of 2012 the fundamentals of a climate agreement that shall be ratified by the majority of countries and that will require specific agreements on a wealth of details. Of course, it is never too late to make an agreement, but Copenhagen is really the last chance for a smooth transition. A new agreement must set targets from 2013 onwards for the countries covered by the Kyoto Protocol, but to be meaningful, it must also regulate the emissions for the largest emitters outside the Kyoto Protocol, including USA and China. The agreement can set targets until 2020 as suggested with the Bali Action Plan, but it can also set targets for just 5 years, 2013-2017, following the 2008-2013 commitment period of the Kyoto Protocol. In any case, an agreement must include reductions that will limit global warming to 1.5 - 2°C. This will require more than 40% reductions by industrialised countries by 2020 from 1990 levels, or, if 2015 is taken as the new target year, 20 - 25% reductions 1990 - 2015. The targets must lead to real reductions, and avoid the "hot air" from Eastern European countries with historic reductions and low reduction targets. These countries must take reduction targets similar to the EU countries and other industrialised countries.

New agreements must also include stabilisation of emissions in the developing countries, for emerging economies before 2020; as well as reasonable support for the mitigation actions in developing countries and for adaptation to climate change. If such agreements are made, COP15 will be a success.

Slow Negotiations to COP15

In spite of an unprecedented number of preparatory negotiations during 2009, little progress has been made, and all issues remain open. Ongoing negotiations address the continuation of the Kyoto Protocol and the "Long-Term Cooperative Action" (LCA), which covers proposals for all countries. Several industrialised countries have discussed the idea of just one agreement for all, but so far the two

tracks of the Kyoto Protocol and the LCA continue. This could, however, change during COP15.

In the negotiations on the continuation of the Kyoto Protocol, the aggregate of industrialised countries' reduction commitments for 2020 is still in the range of 10-15%, well below the 25% that was set as the lower level at COP13 in Bali. And the reduction targets include purchases of emission rights from developing countries, so the domestic reductions will be lower. The recent commitment of the USA (that is outside the Kyoto Protocol) of 17% reduction from 2005 is effectively just a 4% reduction from 1990 because of the emission increases in the USA.

In the LCA, the developed countries have been reluctant to commit to support while the developing countries have been reluctant to commit to reductions by 2020.

The good news is that the recent offer from China of 40-45% reductions in CO₂ emissions per GDP by 2020 (from 2005) seems reasonable within the 15-30% deviation from baseline for developing countries that was proposed in Bali. It will, however, lead to 25-50% increases in emissions in China.

In addition to reductions by 2020, major elements of the negotiations are:

- Global temperature target, where the countries could agree to 2°C or 1.5°C (proposed by small island states) or nothing.
- Greenhouse-gas reductions by 2050, where industrialised countries could reduce for instance by 80% (proposed by G8), or 85% (proposed by EU), and global reductions of for instance 50% (but more reductions are needed to keep global warming below 2°C).
- Support for mitigation in developing countries, including reductions in deforestation and degradation (REDD).
- Support for adaptation in vulnerable developing countries, where the EU is considering a fast-track support of 5 billion \$/year, while the proposals of industrialised countries in general are far below expectations from developing countries.
- Technology transfer, including patent rights on climate-related technologies.
- Capacity-building in developing countries.
- Limits on and charges for emissions in shipping and aviation.



INFORSE delegates at the exhibition stall at COP14, Poznan, Poland. From left to right: Ursel Beckmann (WB, Germany), Emil Bedi (FAE, Slovakia); Judit Szoleczky (SEN, Denmark); Mamour Ba (ENDA, Senegal); Farida Hussain (AIWC, India); Lumin Kumar Shrestha (CRT, Nepal); Raymond Myles (INSEDA, India); Gunnar Boye Olesen, (OVE, Denmark).

Nuclear Energy Can Ruin Climate Mitigation

A number of countries are proposing that support for mitigation in developing countries shall include nuclear power. This is not the case for the current CDM mechanism that excludes nuclear energy. Any chance given to nuclear energy in a Copenhagen treaty would lead to increased spread of nuclear materials, and maybe new developing countries becoming nuclear. It will also lead to much lower CO₂ reductions than support for non-nuclear mitigation. With current prices for new nuclear power plants, electricity prices will be 15-25 US cents/kWh and the CO₂ abatement cost, if nuclear power were to replace new coal power, about 200 - 300 US\$/ton. This is several times the cost of replacing new coal power with a cost-optimal combination of renewable energy and energy efficiency.

A nuclear mitigation strategy will then drastically reduce the mitigation possible with the funding that will be available, in practice making it impossible to reach climate targets. As some countries want to promote the construction of nuclear power instead of renewable energy and energy efficiency, the only way to stop this waste of funds is to exclude nuclear power from climate funding in a Copenhagen agreement.



EU Policy Update

Edited by Gunnar Boye Olesen,
INFORSE-Europe Coordinator



Compromise on “Building” Directive

In mid-November, the EU countries, Parliament and Commission agreed a compromise on the recast of the Energy Performance of Buildings Directive. The main new elements are:

- Energy requirements for renovations, including those of smaller buildings
- National requirements for “technical building systems” such as heating & ventilation systems as well as for components of the building envelope such as windows.
- New buildings shall be “near zero energy buildings” after 2020, with energy coming mainly from renewables. Until then the countries shall make national plans for construction of new zero-energy buildings. Starting in 2019, new public buildings shall be “near zero energy”.
- Harmonised methodology with a common framework for calculation of energy demands, with a view to reach cost-optimal levels. By June, 2011, the EU Commission shall establish a framework for calculating cost-optimal levels of energy requirements.
- After 2012 the countries shall strengthen energy requirements if they are significantly below cost-optimal levels.
- For new buildings, the feasibility of renewable energy, cogeneration, district heating and heat pumps shall be taken into account. This is also the case for buildings undergoing major renovations. In practice, a builder who does not want to choose any of these options must justify his/her choices.
- The countries shall encourage the use of intelligent metering systems.

The rules shall apply 2 1/2 years after the directive is finally approved. The final approval is expected in the first half of 2010, in which case the new rules shall apply in all EU countries in the second half of 2012.

The compromise retains some improvements over the existing directive, but it also misses some crucial opportunities. The strong requirements of “near zero energy buildings” are postponed to 2020, industrial sites and workshops are exempted, and the support schemes for energy efficiency that were proposed by the EU Parliament are only included as a recommendation.

A + + +

A compromise has now been reached for future EU labelling for energy efficiency, after a year of negotiations and a veto against a label scheme by the EU Parliament. The compromise is that the A-G scale will be retained; but when a majority of products are in the upper class(es), there will not be rescaling as promoted by NGOs and the EU Parliament. Instead, the new classes of A+, A++ and even A+++ will be added. The system will be evaluated in 2014. The class of a product shall be included in advertisements for the product. Many NGOs, including INFORSE-Europe, find that the many +’s will undermine the value of the label to guide consumers to the most efficient products. Unfortunately, the strong lobby of the white-goods industry has successfully resisted the logical rescaling of the label.

More information on Ecodesign issues:
www.inforse.org/europe/eu_ecodesign.htm
www.ecostandard.org



Logos of the NGOs playing a significant role as progressive, independent experts challenging the industry’s attempts to weaken the proposals on labelling and ecodesign of products.

Research and Development Support, also for NGOs

The EU’s 7th Research and Development programme, FP7, is a complicated way to get funding, often involving lengthy procedures, but NGOs that have the time to wait can be funded for innovative projects contributing to wider dissemination of research. While INFORSE-Europe and other NGOs such as Energia Klub in Hungary are benefiting from this, the currently open call (126 mill. €, deadline March 4, 2009) affords fewer opportunities for NGO-driven projects, reducing NGO participation possibilities to those of minor partners in larger projects.

Read INFORSE-Europe’s evaluation of the FP7 program as possible funding for NGOs at <http://www.inforse.org/europe/evaluation.htm>.

EU Structural Funds - Too Little for Sustainable Energy

While the magnitude of EU structural and cohesion funds is large enough to fund a transition of Central Europe to sustainable energy, the Central European countries have decided to allocate minimal resources to energy efficiency and renewable energy, only 2.6% of the budget available from EU for structural funds.

Currently, of this modest allocation, only a smaller part is actually used, but more projects can still be granted in the remaining budget period until 2013.

In spite of the modest funds, there are a few good projects for renewable energy. One of them is in central Slovakia, where 7 villages are changing fuel for municipal heating from imported coal to wood from local forests, saving 2600 tons of CO₂ annually.

INFORSE-Europe proposes that a large part of the structural funds be used for renewable energy and energy efficiency, to support the transition to sustainable energy that Central Europe needs, for climate reasons as well as to improve security of supply.



*Illustration from the Slovak Structural Fund Project for 7 villages mentioned above.
Source: Priatel'ia Zeme /CEPA, Slovakia*

Read more about structural funds and INFORSE-Europe opinions at www.inforse.org/europe/Structuralfunds/index.htm.

INFORSE-EUROPE
International Network for Sustainable Energy

Biofuels must be sustainable

The EU is promoting increased use of liquid biofuels for transportation. Like many other NGO's, INFORSE is concerned that this could lead to unsustainable production of biofuels in particular in tropical countries. Further, the energy yield of liquid biofuel production is much lower than using solid biomass in efficient combined heat and power production (CHP) and then using that electricity for electric transportation. This is true of first-generation liquid biofuel technologies as well as of most second-generation technologies. Often the difference is a factor ranging from 2 to 5. Of course, there are sustainable sources of liquid biofuels, as well as transportation demands that electricity or hydrogen will have a hard time to satisfy. Thus, only sustainable biofuel should be used, and the uses should be limited to applications for which more efficient and more environmentally benign solutions are not applicable.

In the coming months all EU countries will have to draw up action plans for the new EU renewable-energy directive. As part of that, they shall specify how they will ensure that biofuel use is sustainable and how they will reach the target of 10% renewables in transport by 2020. INFORSE-Europe urges the countries in this process to:

- maximise use of electricity in transport. With electrification of trains and city buses, priority of public transport, and support for electric cars, it will be possible to electrify at least 10% of the transport by 2020. In the sustainable energy vision for Denmark, we propose 30% electrification of transport by 2020.
- use waste materials for biofuels as first priority. This includes promotion of waste-based biofuel production using existing organic waste.
- use national production of biofuels rather than imports.
- set clear criteria for biofuel production. The criteria for biofuel production should follow the EU minimum as described in the new renewable-energy directive, and should consider social and other consequences of biofuel production that are not so well covered by the directive. The criteria must include that:
 - harvesting for biofuel production must not lead to degradation of biodiversity or carbon content of wetlands, peatlands, and forested areas.
 - biofuel production must not lead to

increased pollution from agriculture, compared with the agriculture that it replaces.

- biofuel production must be sustainable, i.e., that agricultural practices must not deplete the soil and its fertility.
- use of agricultural land for biofuels must not lead to reductions in the availability of foodstuffs or of affordable prices of food.
- labour rights must be respected, as established in international conventions.
- sustainability criteria must be respected by ensuring successful relocation of agricultural and forest production from areas that are used for production of biofuels.
- imports be allowed only from countries that fulfill above criteria with certainty. Imports from countries that do not have a secure and uncompromised system to guarantee sustainability must be banned.

See more at:

www.inforse.org/europe/eupolicy.htm.

Energy Service Directive

Back in 2006, the EU countries agreed to take action for energy efficiency to decrease energy consumption 1% per year, 9% in total 2007 - 2016. Now, 5 years later, a lot has happened: action plans have been adopted and carried out, targets have been set for energy suppliers in many countries, and new measures, such as tradeable "White Certificates", have been introduced in some countries. Still, it is uncertain whether the measures will add up to the expected savings.

A number of declared measures are just continuation of existing practices and therefore should not be counted as actions. There is no common template to calculate effects of actions, so the actions of the countries are not comparable; and even where there are guidelines, such as the ending year of 2016, several countries have only made plans until 2013.

Additionally, the targets are not binding for the countries. Thus, there is a need to improve the directive so that it will promote sufficient actions in all countries and make the actions comparable among countries. Further, the targets should be binding.



INFORSE-Europe members representing 29 organizations from 19 European countries in front of the Seminar Building at Artefact, Germany in November, 2009. After the Seminar, INFORSE-Europe had a General Meeting, where the Coordinators, and the Board was elected. The Seminar Proceedings is available at: www.inforse.org/europe/seminar09_Artefact.htm.

Energy Poverty

Many people in Europe suffer from "energy poverty", being unable to pay for basic energy services, such as heating their homes in cold weather. While poverty and poor housing are the basis of the problem, increases in energy prices add to the misery. These increases may stem from rising fossil-fuel prices, from privatisation of energy suppliers, or from higher environmental payments such as CO₂ taxes.

According to the new EU directives of electricity and gas (approved 2009), "Member States shall define a concept of vulnerable customers which may refer to energy poverty and, inter alia, to the prohibition of disconnection of such customers in critical times". While the avoidance of disconnection is one way of addressing the problem, it is a very short-term solution. It must be combined with programs to increase energy efficiency, to provide social support, and maybe to apply "lifeline-tariffs" by which a basic level of consumption is charged a lower price.

CLER (Comité Liaison Energies Renouvelables, INFORSE member) and other partners have compared energy-poverty problems and solutions in a number of countries and have reached important conclusions.

See: www.fuel-poverty.org.

See also *INFORSE-Europe recommendations at: www.inforse.org/europe/EU_energy-poverty.htm.*

A Vision for a Vibrant & Resilient 21st Century



By Paul Allen, CAT,
UK, INFORSE-Europe
Board member



New Edition in 2010

In the spring of 2010, CAT will launch the second edition of ZCB. It has been updated in the light of the recent economic crisis. The new report answers questions that arose from the first report through synthesising cutting-edge findings from leading researchers from a variety of organisations. ZCB highlights that a great many solutions to climate security are the same as solutions to energy and economic security. By learning the hard economic lessons of the past, the report shows we can re-focus our ingenuity and create a new kind of economy, locally resilient and active in a global context, rich in quality jobs and reliant on our own indigenous, inexhaustible energy supplies.

Read more at:
www.zerocarbonbritain.com

INFORSE' Vision and ZeroCarbon Britain will be presented on side events at COP15, Copenhagen. See the Events list.

Break the Pattern

Fuelled by cheap, abundant oil and gas, and the easy credit of a de-regulated finance sector, those living in the developed world live not only far beyond their personal means, but also far beyond their global fair share, and way beyond the ability of the earth to support them on anything but the very shortest of timescales.

The Centre for Alternative Technology (CAT) in Wales has been working for the last 35 years to inform, inspire and enable people to break that pattern and live more sustainable lifestyles, leading through practical example.



Launch of Zero Carbon Britain

In 2007, CAT launched its groundbreaking report, "Zero Carbon Britain" (ZCB). ZCB is a positive, realistic framework that provides positive, political and economic solutions to the challenges raised by climate science and towards rapid decarbonisation. It demonstrates how the UK can maintain high standards of well-being whilst remaining within a strict carbon budget by exploring all the different sectors of society that affect our emissions. The methodology used in the report is applicable at European and international levels.

Sustainable Energy Vision for the EU

By Gunnar Boye Olesen, INFORSE-Europe, OVE, Denmark

Combining renewable energy and energy efficiency can supply the 27 countries of the EU with all the energy that they need. That is the conclusion of INFORSE-Europe's work with sustainable energy visions for a number of EU countries and for the entire EU.

The transition away from fossil and nuclear energies will require increased focus on energy efficiency; use of sustainable, renewable energy sources; an intelligent energy system; and the curbing of the wildly growing road transport. In the current version of the vision, the phase-out is until 2050, with 40% CO₂ emission reductions by 2020 and 70% by 2030. In the coming year, INFORSE-Europe will start a discussion on the possible speed of transition of energy systems, and will analyse how the transition can be made faster.

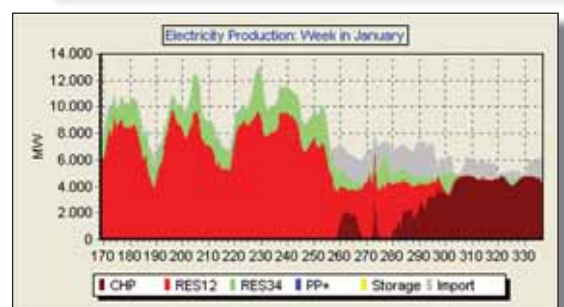
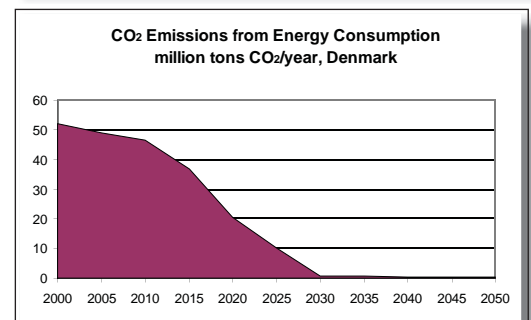
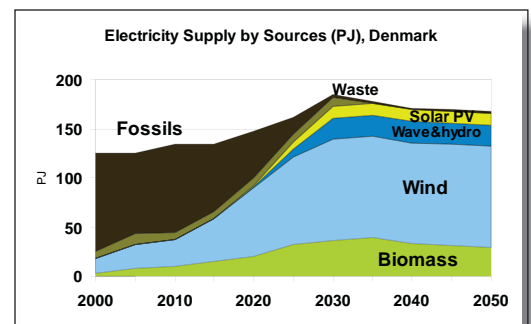
See the vision and its documentation on www.inforse.org/europe/vision2050.htm.

Sustainable Energy Visions for Denmark

INFORSE-Europe and the Danish Organisation for Sustainable Energy (OVE) have developed a vision with a scenario showing how Denmark can be fossil-fuel-free in 2030, just 20 years from now. It shows how to cut emissions by combining renewable energy, energy efficiency in each sector, a much more efficient energy supply system and a flexible energy supply with storage of heat and of hydrogen. It is based on detailed analyses of the available biomass resources, of the hour-by-hour balance of the energy system in 2030, of transport, and others.

The Danish vision is described on www.inforse.org/europe/vision2050.htm, including links to detailed descriptions (in Danish).

Danish possible variation in electricity supply during a week in January in 2030, according to the INFORSE Vision. Red is wind power, green is wave power.



Reaching Out to Over 10,000 Schools in Ukraine



The international SPARE sustainable-energy education program has an aim to reach out with education on energy and climate to all pupils at least once during their schooling years. This ambitious aim in Ukraine targets more than 14,000 secondary schools.

The SPARE Ukrainian National Coordinator, the Eremurus eco-club, is gradually reaching out to the majority of these many schools.

This is how they are doing it:

SPARE-Ukraine collaborates closely with the Ukrainian Ministry of Education and Sciences. The Ministry supports SPARE training sessions for teachers as well as the national round of the international SPARE competition for youth, "Energy and environment". Once the SPARE textbook had been translated and adapted to Ukraine, it began to be used in many schools.

Since 2004, the SPARE book and program materials for teachers have been approved by the Ministry for use in schools as optional texts. During this time Eremurus disseminated more than 18,000 SPARE books with the support of Friends of the Earth Norway, Norwegian Embassy in Ukraine, and UNDP.

Based on teachers' experiences with the first two editions, a third, improved edition is now ready for publication. In addition, the SPARE programme has produced materials for teachers. Thus, the necessary high-quality educational materials are now available in Ukrainian. The third edition of the textbook has already been approved. Approval of the entire line of SPARE teaching materials is expected by the end of 2009. Then the materials can be used in schools.

To reach out beyond the especially interested teachers, there must be training of all teachers. Eremurus has entered into collaboration with the national institute of teacher training and together they are organising seminars for trainers from the 27 regional teacher training institutes, one for each region in Ukraine.

These trainers will then train other trainers in the educational departments in districts and municipalities; they, in turn, will train the teachers.

Targeting 100,000 pupils

For the programme to succeed, the pupils, too, must have the new textbook. Eremurus continuously upgrades the textbook including recommendations from teachers who tested them. The third version will be released in the end of 2009.

With over 100,000 pupils in the target group, just the printing and distribution of the textbooks is beyond what is possible with grant money to NGOs.

In cooperation with a publisher, Eremurus will have the textbooks printed for less than 2 € per book, a low price, which beats the best price possible in Ukraine for large-volume printing, even for these colourful publications. This arrangement allows the publisher to sell the books to the schools at a moderate price that the schools can afford. The price is actually less than half the price of similar materials sold via normal commercial channels.

Thus, the books will reach the pupils.

The teacher-training materials, on the other hand, are being distributed on CD ROMs.

The price is low enough to allow these large compilations of information to reach the thousands of teachers.

In addition, the materials will be available on the project web-site.

While about 2000 schools already have used the SPARE materials in some way or another, usage should spread within the next few years to the majority of the secondary schools in Ukraine, reaching out to as many as 10,000 schools.

After-school Education:

After-school education or "out of school education" is an established option for supplementary education. Eremurus has been working through the 100 regional centres of a national ecological-naturalistic arm of the Ukrainian Ministry of Science and Education that is the largest centre for ecological "out of school" education, and has introduced SPARE into this additional educational system. As a result of this, in 16 regions, an estimated 2000 schools offer after-school SPARE courses. Typically they take place after the normal classes in the afternoon.

National Competition

The SPARE competition started in Ukraine in 2003. Every year there are prizes for energy efficiency at school as well as for use of renewable energy at school and in the local area, both as plans and as realised, best teaching proposals. In 2009, 600 proposals were made. Some cities hold a competition locally and only send the winners on to the national competition. Eremurus asks to see all proposals that are submitted to the local competitions.

Radio Program: 10-15 Millions Listening



In "Shcholyada", a morning radio programme for school pupils, Eremurus has 10 minutes every second week in which they talk

about energy and the environment based on the SPARE programme. An estimated 10-15 million people listen to the programme.

It is conducting a national radio competition, "We can stop climate change". The radio competition airs in prime time on National radio channel UR-1 in the educational program "Schooljada". The main goal of this radio competition is to improve the awareness of school children and of their parents in questions of climate change, energy-saving, and energy efficiency.

SPARE: www.spareworld.org
Eremurus: <http://eremurus.org>

The Climate Caravan in Denmark – When Climate Education Works

“Couldn’t we just have a green dictator for some years to solve this problem?”

“Listen – if what you told us today really was true (about climate changes) somebody would have done something about it.”

This was said by 14-16 year old pupils after participating in a “Climate Caravan Day“. This is when climate education works!

The purpose of educating is to engage students in developing conscious consumer behavior to ensure that they are able to make choices based on knowledge.

Of course a lot of students react by saying: “this is not our problem - we didn’t decide these things” - **but** in the age group of 14-16 they *do* make choices that affect energy consumption and thereby the climate.

The Climate Caravan mixes science with social studies to spark debate, inspiring students to action based on knowledge. Typically, discussion includes the question of whether our democracy has the potential to create the necessary changes or, if not, whether there is a need for a revolt. Young people in our society are aware of the climate issue and, to a certain degree, have developed their own notions about the issue, in keeping with the fundamental human need to explain facts within emergent context. Do our young people actually understand the extremely complicated balance between societal and civic responsibilities as well as the gap between technological and practical problems that delay the solutions to the problem?

A more important point, though, is that they see themselves as part of the solution, not just as innocent bystanders.

It is critical to impress upon them the value of “Don’t” as an action-concept - the conscious choice NOT to do something, made in support of a value system.

This is the underlying context, that the act of choosing addresses an ethical and moral question rather than simply a scientific, practical one; and that is a new development in the science departments around Denmark.

The teachers have reacted surprisingly positively to the notion that their subjects can be viewed from these angles. Subjects that focus more on their own ideas and value systems are extremely popular compared to “old-school” science education.



Climate Caravan Hit the Nail on the Head

The whole project has helped to broaden the view of science to include societal implications rather than treating it as a technical and purely positivistic subject. Climate Caravan is now the chosen tool for placing potential scientific discoveries into the context of solving present and future problems.

Perhaps not since the 1960s have such evident opportunities existed for advances in science that could present as powerful as the moon landing.



Change the Way

The idea behind the project is to change the way the subject of climate change is taught in Danish schools! - Climate was seen earlier solely as a science subject. The new idea was to give the teachers a new entry to the topic, a debate and a political angle, and to let the science be the background and part of the solution.

We believe that **we have actually succeeded** and if we keep the “steam up” for another 5-10 years, climate will be a permanent integrated subject in the educational system of Denmark - but not with public money. The funding comes from a electricity tax administrated by the association of Danish power companies (Dansk Energi).



The Climate Caravan’s 13 activities:

- Energy & CO₂ Consumption in your Room
- Energy & CO₂ in your Household
- Climate Actions in your School
- Letter to the Local Community
- Climate Summit - Role Play Game
- Climate Journalists
- Energy in your Kitchen
- Debate Meeting Preparations
- CO₂ and the Carbon Cycle
- Technical Solutions
- Renewable Energy in an Integrated System
- Transportation in the Future
- How to Supply yourself with Energy without Fossil Fuels

By Janus Hendrichsen,
Organisation for
Renewable Energy
(OVE), Denmark



The Climate Caravan Facts

- 150 Schools Visited:

The Climate Caravan has brought the message out to every region of Denmark, visiting 150 schools and creating local debate. Three guides help the 13 teachers to carry out each day’s Climate Caravan activities.

- Website (www.klimakaravanen.dk):

It offers all activities on-line, including a lot of video materials enabling schools that do not receive the visit to carry out their own Climate Caravan Day or to deliver the same benefits in other contexts.

- High Quality Material:

The Climate Caravan has become very well known because the members of the core partner team are already known as producers of high-quality materials. Therefore, the teachers already know that irrelevant or poor-quality materials will be filtered out, leaving only accurate, relevant materials in the final programme.

The core team behind the development and project management are the Danish associations: Society for Nature Conservation, the Outdoor Council, Schools’ Energy Forum (SEF), Organisation for Renewable Energy (INFORSE member), and Teachers’ Resource Center.

Find more at the INFORSE School Resource Database in English:

www.inforse.org/europe/schools.htm

Sources in Danish: www.skoleenergi.dk

www.klimakaravanen.dk

OVE is member of INFORSE.

The Target Group:

Students from 14 to 16 years old and their teachers. The very narrow group has been chosen because the message is specifically designed for this group. It is put at a very sharp angle based on the IPCC forecasts further visualised by Marc Lynas in the book “Six degrees more - our future on a hotter planet”. The choice was very conscious to create real anger and aggravation – thereby sparking the need for taking part in the discussions about who has the responsibility and what can be done at every level: local, regional, national and global.

Adapting Energy Systems to Climate Change



Laura E. Williamson,
Helio International

Energy Adaptation Needed

Adaptation of energy systems to climate change is urgently needed - not only in vulnerable developing countries such as Bangladesh or Central Africa - but everywhere, as climate change is global.

Compared to mitigation - where a common measure is "ton of CO₂ equivalent reduced" - identification of adaptation measures is still in its infancy. There are no commonly accepted parameters and indicators to compare adaptation needs and the effectiveness of adaptation measures. Given energy's importance in the economy, it is vital that vulnerabilities within the energy sector be substantially reduced. To ensure this, parameters and indicators for energy systems need to be developed and tested.

Methodology and Recommendations

In order to better understand how to trigger and sustain positive synergies, HELIO has developed a straightforward methodology and a set of indicators to assess the vulnerability and the adaptive capacity of national-level energy systems to climate change. These indicators were recently tested in 10, Sub-Saharan African countries. The following recommendations were derived from the analysis:

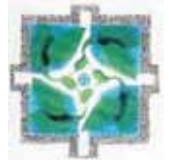
1. Systematically assess and monitor energy systems to ensure that they are robust enough to adapt to expected climate-related impacts,
2. Expand the current assessment process for new energy systems,
3. Develop a medium- to long-term strategy to move towards a safer, decentralised, low-carbon energy supply system,
4. Implement energy demand management as an adaptation measure
5. Cultivate in-country capacity to evaluate and respond to energy needs from a climate perspective,

6. Invest in ecosystem services that support existing and planned energy production
7. Establish transparent technology transfer and financing procedures,
8. Develop participatory energy governance to have first-hand knowledge of actual energy needs and to mobilise needed support from beneficiaries.

For more information, see:
www.helio-international.org.

The 10 country study is in the HELIO report *Climate-proofing Energy Systems*. Helio is member of INFORSE.

Ten Sub-Saharan African countries participated in the testing of the VAR indicators: Benin, Mali, Burkina Faso, Nigeria, Cameroon, Senegal, D.R. Congo, Tanzania, Kenya, and Uganda



Efficient Cookstoves: Successes with Carbon Credits, Nepal

By Ganesh Ram Shrestha, Centre for Rural Technology (CRT), Nepal

Cookstove Carbon Offset Project

The Centre for Rural Technology/Nepal (CRT/N) has implemented a Carbon Offset Project promoting 1701 efficient cooking stoves in rural villages next to the Chitawan National Park, 2007 - 2009. This project is fully carbon-funded and is first of its kind in Nepal.

The investment costs, including the promotional expenses per stove, are around US \$ 10.80, of which the installation cost per stove is about USD 4.75. Out of this, USD 1.50 has been contributed by the project and the rest is borne by the stove users.

Compared to this investment, benefit of the stoves in terms of carbon-emission reduction is very high. As estimated by Winrock International Nepal, project verifier, one stove reduces CO₂ emissions by about 1.73 tonnes per year by saving about 1.47 tonnes (40%) of fuelwood. During a lifetime of 3 years, a stove can thus save 5.19 tCO₂.

CO₂ emission reductions from the stoves were sold in the voluntary market without going through the formal CDM procedures. The project was pre-financed by The Offset Carbon Company (TOCC), which is based in the UK. Making rural people aware of the benefits of efficient stoves was not an easy task; however, with the initial demonstration of the benefits, the implementation of the project went smoothly. Thus, CRT/N has demonstrated that small renewable-energy technology-based Carbon Projects can be implemented solely with a carbon-financing mechanism.

Future Developments

CRT/N and Egluro (a sister concern of TOCC) are now developing another CDM Carbon Project for promotion and dissemination of about 35,000 efficient stoves in 6 Tarai districts of Nepal.

The Gold Standard procedures have been followed in this project to ensure quality of CER (Certified Emission Reduction). The PIN has already been approved by the DNA in the Ministry of Environment of Nepal.



CRT/N is also a founding member of the Nexus Carbon for Development Ltd., which has recently been registered in Singapore. Nexus is an alliance of Asian project developers committed to using carbon finance to alleviate poverty and to foster sustainable development (see www.nexus-c4d.org).



CRT is Member and National Focal Point of INFORSE;
See more:
www.crtnepal.org .
www.inforse.org/asia

Small-Scale Biogas Project of INSEDA Members and Partners for Carbon Credit - India



By Raymond Myles,
INSEDA,
INFORSE South Asia
Coordinator

The Integrated Sustainable Energy and Ecological Development Association (INSEDA) is the national organization formed in 1995 by the Indian grass-roots NGOs involved in the promotion of renewable energy, including implementation of biogas plants in rural India. For the past two years, INSEDA, with the assistance of Carbon Procurement Unit (CPU) of GTZ International (India), has been involved in the development of a small-scale biogas project to gain carbon credits. The project involves INSEDA and its member and partner NGOs from the two Indian states, namely, Kerala and Madhya Pradesh (MP).

This project has been developed under the Gold Standard VER. Like a Certified Emission Reduction (CER), a VER or a Voluntary Emission Reduction is also a tradable commodity and refers to reduction of one ton of greenhouse gas (GHG). The difference between a CER and a VER is that while CERs are generated accord-



ing to standards and requirements of the Kyoto Protocol and UNFCCC, VERs are independently verified by a third party according to criteria that confirm that the emission reductions are real, measurable and credible.

A Gold Standard (GS) project ensures that the project is sustainable, flexible and transparent through a participatory approach with initial and main local stakeholder meetings.

Benefits of Household Biogas

Household biogas plants help rural people to switch their cooking fuel from non-renewable biomass, like firewood from deforestation, to renewable biogas generated from animal manure and other organic wastes. In the process, the biogas plants improve the hygienic conditions in

the rural areas, and reduce greenhouse-gas emissions as they replace fire wood and thereby reduce deforestation. Biogas plants also remove the drudgery of rural women in the collection of fire wood and cooking, and reduces indoor pollution, thereby supporting the empowerment of women and adolescent girls in rural India. The residues discharged from the biogas plants are used as enriched organic fertilizer.

Solar Dryers for Poverty Alleviation



By Lalita Balakrishnan,
AIWC, India
INFORSE Focal Point

During the last 3 decades, the All India Women's Conference (AIWC), which is the National Focal Point for Gender for INFORSE-South-Asia has been continuously implementing pro-poor projects with the use of various renewable-energy technologies for helping the needy women and men from rural and urban areas.

A good example is the project "Capacity-Building of Rural Women on Solar Dryers", which proved that export-quality value-added products could be produced using a new type of solar drier, which helps the needy to come out of abject poverty. All the project areas in India and Nepal are continuing to use the dryer. And with our continued efforts, the Government of India, Ministry of Natural Resources, En-



vironment (MNRE) has sanctioned a grant of 50% of the total cost of these dryers that NGOs all over India are accessing under the South Asia NGO Capacity-Building. At the moment, AIWC continues with the project "Income Generation for Women Self-Help Groups through Solar Initiatives" in 2 low-income areas near Delhi.



See www.inforse.org/asia or contact Lalita Balakrishnan, AIWC
E: lalitalalakrishnan@gmail.com.

The Project in 3814 Houses

The project involves 3,814 households in various districts of Kerala and Madhya Pradesh. In each household, a biogas plant unit is installed, the capacity of which varies according to the number of people in the household.

The goal of the project is to disseminate biogas technology to improve socio-economic conditions of the rural people and reduce GHG emissions. Aspects of such improvement include:

- Providing employment opportunities for the local people during construction and maintenance of the plants.
- Reducing cooking time, thus providing women with time in which to take up other activities.
- Reducing smoke in the kitchen, thus eliminating health hazards from indoor air pollution.

INSEDA
INFORSE-South Asia
www.inforse.org/asia/
www.inseda.org



INFORSE's Participation at the Side Events in Copenhagen during the UNFCCC, COP15, December 7-18, 2009:

Updates, details and more events at www.inforse.org/europe/conf09_COP15.htm



UNFCCC COP15 Official Conference Only for Delegates and Observers

Place: Bella-Center, Copenhagen
Organiser: UNFCCC Secretariat and the Danish Ministry of Climate and Energy;
More: www.en.cop15.dk,
www.unfccc.int

INFORSE EXHIBITION /Information Stall Date: all days, December 7-18, 2009

SIDE EVENT:

December 14, 16.30 - 18.00 INFORSE-WECF Side Event: "200 NGOs in Action in Asia & Africa, and EECCA Region for Sustainable Energy, Proposing Simplified CDM"

- Development Successes with Sustainable Energy by NGOs from Nepal, India, Senegal, Uganda, South Africa and from Eastern Europe, Caucasus and Central Asia Region.
- Proposal for a simplified CDM for smaller scale projects that can help NGOs to achieve more.

Venue: Room Niels Bohr

December 18, 13.00 - 15.00: EU-Side Event:

"Joining Forces - Civil Society - Research Partnerships to Combat Climate Change and Promote Sustainable Development"

Presentations of the Low Carbon Societies Network by Gunnar Boye Olesen, INFORSE-Europe, and Jan Burck, Germanwatch, and many others.

Venue: EU Pavilion, Room Schumann.

Klimaforum09 - People's Climate Summit '09 Parallel Events for Everybody

Place: DGI-byen Conference Center.
Organisers: Broad coalition of environmental movement organizations including INFORSE.
More: www.klimaforum09.org

INFORSE - SPARE - OVE EXHIBITION /Information Stall Date: all days, December 7-18, 2009

WORKSHOPS

December 9, 13.00 - 14.30 INFORSE Workshop: "Sustainable Energy for Development NGO Success Examples from Africa and Asia"

Discussion of barriers and recommendations

December 9, 14.30 - 16.30 INFORSE-SPARE Workshop: "Sustainable Energy Education"

- SPARE: 4500 School in previous Soviet Union Countries
- DIERET, Distant Internet Education on Renewable Energy Technologies

December 10, 10.00 - 12.00 "Scenarios for Fast Transition to Sustainable Energy"

Sustainable Energy Scenarios in France, Germany, Denmark, EU and UK.
Speakers from: Germanwatch, Climate Action Network - France, INFORSE-Europe, and Centre for Alternative Technology in Wales/ ZeroCarbon Britain.



CLIMATE MARCH: "Planet First - People First" Peaceful, Family Friendly Demonstration

December 12, Starts at 13.00

Place: From the Christiansborg Slotsplads (Parliament Square) to the Summit's venue at the Bella Center.

Coordination Group: The Climate Movement of Denmark, MS Action-aid Denmark, DanChurch Aid, WWF, Danish Red-Green Alliance Party, youth groups of the Danish Social Democrat Party and the Social People Party (SF), and others.

More:

<http://12dec09.dk/content/english>,
www.klimabevaegelsen.dk



Make Your own Calendar of NGO Parallel Events, Conferences, Art, Exhibitions: www.peoplesclimateaction.dk

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1,000 Contacts - Online Database



INFORSE maintains a database of more than 1,000 NGOs and public officials, including research and educational institutions that are actively working in renewable energy. These contacts include all INFORSE members and span 159 countries. The online database can be searched by membership/contacts, country and name.

Check your organisation ! Corrections are Welcome

Global database: www.inforse.org/regions

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http://www.inforse.org/order_form.php3

INFORSE South-Asia CD

Manual on Solutions Using Sustainable Energy to Reduce Poverty

(in English, Hindi, Nepalese, Bangladeshi, and Sinhalese) and Financial Manual (in English).

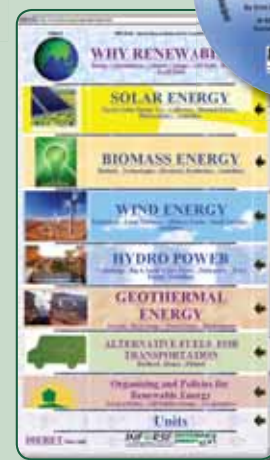
These manuals were produced through an INFORSE South Asia project using input from INSEDA, AIWC, WAFD and SDA from India, Grameen Shakti from Bangladesh, CRT from Nepal and IDEA from Sri Lanka as well as OVE and DIB from Denmark.

Published: January 2008;

Price: 15 € /CD,

1 year SEN + CD costs 35 €.

DIERET - CD Distant Internet Education on Renewable Energy Technologies



Price: 15 €

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