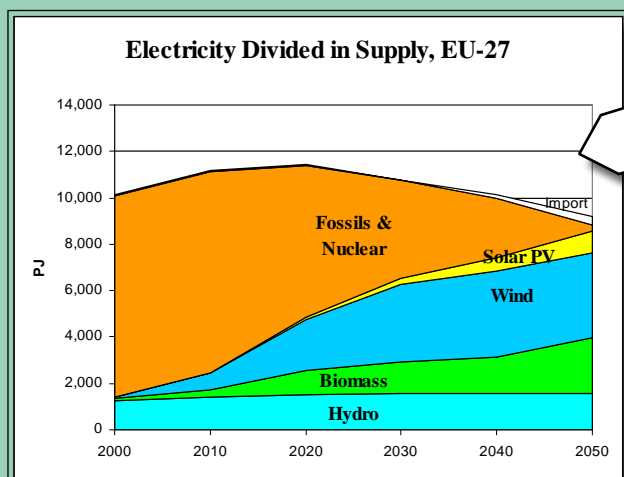


SUSTAINABLE ENERGY NEWS

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

No. 62, October 2008

Theme: Sustainable Energy Visions 100% Renewables by 2050 p. 8-10



“It is in fact possible”

NGO Views:

- Climate Negotiations
- EU Climate Package & Ecodesign
- EU-Ukraine Cooperation
- IRENA
- CUBES
- 1,000,000 m²

Solar in Bulgaria



Sustainable Energy News

ISSN 0908 - 4134

Published by:
INFORSE-Europe



International Network for Sustainable Energy (INFORSE)

is a worldwide NGO network formed at the Global Forum in Rio de Janeiro, Brazil, 1992.

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Deadline for the next issue:

20 November 2008

Next issue: December 2008

The newsletter is published quarterly.

Feel free to use the information, but please state the source.

Annual subscription rate:

EUR 25/year.

The newsletter is free of charge for INFORSE members as long as possible.



Printer:

Fjerritslev Tryk,
Denmark
2,500 copies

Sustainable Energy News has been supported by the European Commission DG Environment - Civil Society Support to INFORSE-Europe in 2004-08.

The articles reflect the views of the authors, and of INFORSE, not of the financial supporters.

Photo on the front page:

Pictures from the articles of this issue, and logo from the UNFCCC COP, Poznan, 2008.

Sustainable Energy in the 21st Century



Wind tunnel at Centre for Alternative Technology (CAT), Wales, UK, where Paul Allen is working and a new conference centre opens in 2009. Read theme articles on pages 8-10.

As energy demand explodes globally, the impending peaks in oil and gas supply can only serve to push us all down the road to dangerous conflicts over remaining dirtier fuels such as coal, shale and tar sands.

Business as usual simply does not work from the climate's point of view; it doesn't offer energy security, and it is certainly not delivering global economic security.

Fuelled by cheap, abundant energy, the easy credit of under-regulated finance has encouraged consumers to live far beyond their own and the earth's means.

We have been partying on our natural and social capital for decades, rather than building and planning for our long-term challenges.

We now face a complex mix of climate, energy and economic challenges.

Left unchecked, their consequences will synergise, resulting in collapse and dislocation unseen in modern times.

Already hundreds of thousands of individuals and families face the hard rain of economic recession, unemployment, negative equity and escalating interest rates.

But crisis also contains opportunity - rather than residing at the end of a peaking fossil fuel import pipeline, communities around the world can begin to fill an indigenous renewable energy supply chain.

Re-thinking and revaluing our human and natural assets can deliver real long-term security through the creation of a new kind of economy; locally resilient, but still active in a global context, rich in quality jobs and reliant on indigenous, in-exhaustible energy. By their very nature our renewable reserves will not peak and decline, in fact as the technologies mature, our accessible reserves actually increase.

Fields, forests, islands, rivers, coastlines, barns and buildings hold the potential to be power stations, with different technologies appropriate to every scale or region.

These "power stations" can be combined with energy efficiency far exceeding that of current wasteful practices that were developed during times of cheap fossil fuels.

This approach not only tackles climate and energy security, but also gets us back to work, forestalling recession, whilst making our economy resilient against energy price hikes and preventing future financial turmoil caused by increasing costs of energy imports.

Such a rapid de-carbonisation is currently at the very boundaries of what is 'politically thinkable'; it is every bit as much a challenge for our society and our democracy as it is for our technology.

To succeed we must integrate our science and politics and develop rapid energy-transition programmes with massive investments in the sustainable solutions.

Through learning the hard economic lessons of the past few months, we can re-focus the ingenuity of the finance sector on the actual challenges at hand.

It is not beyond our collective economic means, and the returns will be both quantifiable and tangible.



Paul Allen
INFORSE-Europe Board member

Strong Evidence vs Slow Progress

In spite of the increasing evidence of harmful climate change, negotiations are progressing only slowly toward an international agreement on post-2012 climate policies.

If a meaningful international climate agreement is to be in place by 2012, it is crucial that progress be made at the COP/MOP* in Poznan, Poland, December 1-12, 2008. The agreement at the 2007 COP/MOP in Bali of a 25-40% reduction of CO₂ emissions from 1990 levels by 2020 in industrialised countries is only adequate to prevent harmful climate change if the target is a firm 40%; anything less will keep emissions too high.

Negotiators Tasks to Do

The task facing negotiators in Poznan must be to translate the conclusions from Bali into agreements among all countries willing to take climate change seriously.

The agreements must lead to real, substantial reductions in emissions, not just more trading of hot air.

Further, they must be based on reductions of emissions of energy use and industries, not mixing them with land-use change or (other) sinks.

The strong greenhouse gases must have their own reduction agreement, not allowing reduction projects of these gases to get windfall profits from participating in the same mechanisms as other projects.

Agreements to reduce emissions from energy and industry must be followed by an agreement addressing land-use change and deforestation. The net emis-

sions from deforestations etc. not only have to be stopped, they also have to be reversed, such that land-use globally very quickly becomes a sink and not a source of greenhouse-gas emissions.

Positive Proposals

There are several positive proposals in the recent official negotiations in Bonn and Accra, such as South Africa's proposed vision for the reduction and subsequent reversal of global emissions within a decade and, later, reductions in South Africa. Also positive is Norway's proposal to address global shipping by allocating emissions to the owners of the ships. The EU countries have shown significant initiative in their stated willingness to reduce emissions by 30% by 2020 as part of an international agreement. These are some of the proposals that could build up success at the negotiations in Poznan and in 2009 in Copenhagen.

Watering Down Attempts

Unfortunately, there are many attempts to water down the potential outcome of the negotiations in Poland from all parts of the world, including Poland itself. There are proposals to introduce hot air of various kinds, to let uncertain sinks replace emissions, directly or via various trading systems, to let nuclear power replace more sustainable projects in CDM, and many others. In the middle of December we will know whether Poznan was a positive step towards the negotiations in Copenhagen or simply two weeks wasted on toothless international negotiations.

INFORSE in Poznan

INFORSE will participate in Poznan with the largest delegation so far. We will present our visions for transitions to sustainable energy, the results of a CEE NGO climate study as well as our sustainable energy solutions for development and poverty reduction; we will do this at an exhibition and, we hope, also at a side-event.

INFORSE delegates travel is supported by the Norwegian Forum for Development and Environment, EU DG Environment operational grant for INFORSE-Europe, Swedish Acid Rain Secretariat and Heinrich Böll foundation.

Beside the INFORSE's accredited delegation, members are also planning to participate with their own side events, e.g., Helio International (France), Life e.V. (Germany), ISEP (Japan).

INFORSE's delegation will include:

- *European Coordinators and Board:*
Gunnar Boye Olesen, (OVE/Denmark), Emil Bedi (FAE, Slovakia), Paul Allen (CAT, UK), Ursel Beckmann (WB, Germany), Andrej Konechenkov (REA, Ukraine).
- *Asia & Africa Coordinators and Focal Points:*
Raymond Myles (INSEDA, India), Farida Hussain (AIWC, India), Timothy Byakola (CDI, Uganda), Roque Pedace (Rejima, Argentina), Lumin Kumar Shrestha (CRT, Nepal).
- *Sustainable Energy News:* Judit Szoleczky, editor.

Read more on

- *the CEE Climate NGO report and a Polish study prepared for the event on page # 4.*
- *INFORSE's participation:*
www.inforse.org/europe/conf08_Poznan.htm,
- *Side-events on gender:* www.gendercc.net/policy/conferences/poznan-2008.html
- *UNFCCC:* <http://unfccc.int>

** Conference of Parties (COP) of the UN Climate Convention (UNFCCC) and meeting of parties (MOP) to the Kyoto Protocol.*

IRENA is Becoming a Reality



NGOs' (including INFORSE's) decade and more of calls for an international sustainable energy organisation or agency finally seem to have succeeded.

The final Preparatory Conference on the Foundation of the International Renewable Energy Agency was held in October in Madrid. Fifty-one countries met there and reached a broad agreement on the statute of this new international governmental agency for renewable energy. Now the way is clear for a Founding Conference of IRENA, to be held on January 26, 2009 in Bonn. IRENA can then become operational in mid-2009.

The German federal government will forward the agreed-upon documents to all states that are members of the United Nations, and will invite all interested countries to sign the statute of the agency at the Founding Conference in January.

The agency will provide concrete advice and support both for industrialised and for developing countries, helping them to improve their regulatory frameworks and to build capacity.

The German Parliamentarian Hermann Scheer and a team of German diplomats have worked hard to make this happen. Commenting on the success, Scheer ex-

plains "Consultations with governments worldwide and three international conferences this year have clearly demonstrated the need for IRENA." He continues, "Mandated by governments all over the world, IRENA aims to become the main driving force in promoting a swift transition towards the extensive and sustainable use of renewable energy worldwide."

IRENA is planning a side-event at COP in Poznan in December 2008.

See: World Council for Renewable Energy (WCRE), www.wcre.org.

INFORSE-Europe activities:

In the last half year of 2008 INFORSE-Europe has been booming of activities supported by the EU DG Environment operational grant as well as members and other foundations. See a short overview here:

Poland Can Benefit from Climate Solutions

The Polish government has been one of the most critical towards EU's climate and energy package. Now INFORSE-Europe is developing an analysis and a plan together with the Polish Ecological Club (PKE Upper Silesia) and the Polish Foundation for Energy Efficiency (FEWE), showing how Poland could benefit from implementing the proposals including 20% increase in energy efficiency and an increase from 7.2% renewable energy in 2005 to 15% in 2020.

While Poland is a large user of fossil fuels, it is also an energy importer, and if it reduces energy imports through investments in energy efficiency and renewable energy, it will free more funds for other purposes while increasing employment. That is precisely what the Polish economy needs to continue a stable development.

The organisations will propose measures for renewable energy and energy efficiency that together can fulfill the proposed EU targets. They will also evaluate potential effects of the proposals on the Polish economy, employment, etc.

The results of the plan will be presented on posters and in a publication in Polish with an English summary for the COP14 in Poznan as well as in other Polish cities. The summary will also be available on the INFORSE-Europe website.

This activity is supported by the European Climate Foundation.

CEE NGO 9 Climate Country Study for COP in Poznan

INFORSE-Europe is making a comprehensive study on NGO views on climate policy in the new EU countries in Central and Eastern Europe.

The country reports are based on a questionnaire answered by NGOs in 9 countries. The countries are Romania (Terra III), Hungary (Energy Club), Czech Republic (CTE), Lithuania (Atgaja), Latvia (LGM), Slovakia (FAE), Poland, (PKE), Bulgaria (Za Zemiata), Slovenia (Focus).

The report is prepared to the COP in Poznan, and will be available at www.inforse.org/europe.

Energy21 Network Revitalized - 2009 Plans



The UK network for local sustainable energy solutions, Energy21, had its first seminar in three years at the Centre for Alternative Technology (CAT) in Wales, UK.

The seminar brought together more than 30 people involved in local sustainable energy projects. They learned about new activities for local sustainable energy in UK, including the growing number of Transition Towns, and the roles of EU policies in sustainable energy developments. They were also introduced to INFORSE's sustainable energy visions and the Zero-Carbon Britain plan to phase out fossil fuels by 2030.

CAT will act as a secretariat for the Energy21 network and will re-establish



membership of the network. For 2009, the plan is to organise a seminar as well as a summer camp, re-establishing the Energy21 tradition of an energy summer camp for active people, young and old together.

Read presentations from the seminar and more about the development of Energy21 at www.inforse.org/europe/seminar08_Energy21.htm and www.energy21.org.uk

More than 30 people met at the Energy21 seminar. From INFORSE-Europe among others: Gunnar Boye Olesen (OVE, Denmark), Marc Jedliczka (Hespu/CLER, France), Paul Allen, Peter Harper (CAT, UK), Andy Bull, Pete West (SWEA, UK)

Sustainable Energy Vision and Actions for Bulgaria

ZaZemiata and INFORSE-Europe are working on a sustainable energy vision for Bulgaria, specifying a transition to renewable energy with strong emphasis on energy efficiency. The main renewable energy sources will be biomass, wind and solar energy, in particular solar heating.

As one of the sunniest countries in the EU, Bulgaria could benefit greatly from solar heating; in spite of this, the technology is not much used in the country. Therefore ZaZemiata and INFORSE-Europe are proposing to install 1,000,000 m² of solar heating by 2020 in Bulgaria. That will be an important contribution not only toward a sustainable energy vision but also toward improved employment prospects and energy-supply security in Bulgaria.

The vision for Bulgaria will be presented in Sofia on the 19th of November, 2008. There will also be a poster exhibition for sustainable energy and a seminar on how EU policies for sustainable energy can be used better in Bulgaria.



1,000,000 m² of solar heat is proposed in Bulgaria by 2020.

Visions: Latvia, Lithuania, & Belarus - Updated

The sustainable energy visions for these three countries are being updated with new data for biomass potentials, trends in use of energy, and a general overhaul of the visions that were developed in 2004 for Belarus, 2006 for Lithuania, and 2007 for Latvia.

Rising energy prices will be included in the new visions as well; for instance, the relative economic weights of coal and of biomass have changed as a result of a steep increase in coal prices since early 2007.

The new visions will also be presented in November in the three countries together with a joint vision for the three countries.



European Sustainable Energy Seminar - October

On October 13-15, 2008, INFORSE-Europe and the French CLER (Comité Liaison de Energies Renouvelables) organised a European Sustainable-Energy Seminar in Montreuil near Paris.

32 participants from 18 countries spent three days discussing sustainable energy visions, EU climate and energy policies, environmental education and our plans for coming activities.

CLER organised the practical parts of the seminar, including contacts with the municipality of Montreuil, which provided space for the seminar in a historic school building and in the town hall.

At the end of the first day, a session with the mayor of Montreuil, Mm. Dominique Voynet (former French minister of environment), resulted in a good dialogue with insights into the problems that this Parisian suburb faces with many immigrants and an ageing building stock.

CLER's main office in Montreuil was used during the seminar as well.



Read the presentations:
www.inforse.org/europe/seminar08_France.htm
www.cler.org



Pictures from the top:
 - Seminar meeting in the town hall,
 - INFORSE-Europe Coordinators and board on the roof of CLER's office building, where there is a large PV installation,
 - Solar building workshop in the courtyard, and one of the results titled "Keep moving".

Straw-Bale Eco-house and Energy Training in Belarus

By Evgeny Shirokov, Head of MCD IAE, Belarus

From August to October 2008, Minsk City Division of International Association of Ecologists (MCD-IAE) organised trainings in eco-construction in cooperation with INFORSE-Europe in Belaruchi, near Minsk in Belarus. Three seminars took place:

- Solar energy/climate and construction/installation of solar heating devices;
- Straw-bale technology and alternative energy systems for individual zero-energy eco-houses;
- Energy efficiency and energy renovation of the housing sector in Belarus.

More than 150 participants and visitors took part in the seminars. They received theoretical and practical knowledge about straw-bale construction, energy efficiency and solar heating. Representatives of the local administration and authorities also participated in the seminars.

The results of the training course will now be used to exhibit low-energy construction, use of solar energy, etc. Windpower will also be displayed with a small windmill (400 Watts). These activities are supported by the Nordic Council of Ministers.

More: www.inforse.org/europe/baltic_08.htm



Proposal for EU-Ukraine Cooperation

INFORSE-Europe has proposed a number of issues that should be addressed in the EU-Ukraine cooperation on energy with Bankwatch Network, WWF, and Ukraine Wind Energy Association.

So far the EU-Ukraine energy cooperation has focussed on nuclear energy and fossil fuels. If the cooperation is going to contribute to improving the environmental situation in Ukraine as well as its energy independence and employment, the focus must change such that energy efficiency and renewable energy receive top priority.

The EU-Ukraine energy cooperation has an unusually large budget in the EU neighbourhood program; for 2007 it was 87 mill. Eur, so it is important to focus on deriving the greatest possible benefit of it.

The major parts of our proposal are:

- that Ukraine adhere to the Ecodesign and Energy Performance of Buildings Directives.
- that Ukraine back building regulations with funding (loans and grants) for renovation of buildings and with initiatives for public buildings.
- that Ukraine increase energy efficiency in heat supplies and in industries.
- that Ukraine reform energy prices to avoid subsidies and promote energy conservation.
- that Ukraine implement its newly adopted green tariff for renewable energy in a way that truly enables the development of renewable energy.
- that the Ukrainian public be given unbiased and effective information on energy efficiency and renewable energy.

Read the full proposal and progress at the INFORSE-Europe website:
www.inforse.org/europe



The proposals were presented in draft at the 4th International Conference on Biomass for Energy, 22-24 September 2008, Kyiv, Ukraine with over 200 participants.

EU Policy Update

*Edited by Gunnar Boye Olesen,
INFORSE-Europe Coordinator*



EU Climate and Energy Package Update

While crucial elements of the EU climate and energy package are debated openly among EU leaders, other elements are gradually being resolved. The EU emissions trading scheme (EU-ETS) is still among the most debated parts of the package, and possibly the one with the worst outcome. In spite of these problems, the EU countries are still planning to finish the package before the end of the year, even though they might not be able to do it until the Climate COP14 in Poznan, to begin on December 1, 2008.

Progress

The discussions on the renewable-energy directive are progressing, and one of the major disagreements is over the statistical method to be used for exchanges of renewable energy between countries that want to cooperate on how to achieve their renewable energy targets (instead of trading on renewable-energy certificates). The rules for sustainability of biofuels are agreed in general, with the requirements for greenhouse-gas reductions to be increased from 35% to 50% in 2017. Lack of labour rights and unfavorable impacts on food prices are included as criteria for possible exclusion of biofuels from fulfilling the EU target. The proposal of including renewable electricity with 2.5 – 3 times the energy value of biofuels is likely to pass because electricity for transportation is a much more efficient form than fuel for transportation. Not all electricity is renewable, and to simplify the evaluation of the renewable share of electricity in electric vehicles, it is proposed to take the EU average. This is close to 20% today but it is expected to increase to over 30% before 2020.

Problems

For the EU Emission Trading System (EU-ETS), Poland and some other countries want to give free allowances to their power sector, a move that would compromise the entire system and lead to windfall profits in the power sector, as we see with the current system.

Unfortunately, the EU environment ministers opened the door to this option at their meeting in October. Another outstanding issue is that the countries do not want to earmark a certain share of the income from the auctioning of allowances for climate mitigation as proposed by the EU Commission and Parliament.

On the positive side, the countries have agreed to include aviation in the EU-ETS from 2012 onward.

EU Parliament Intervened

In parallel to the negotiations among the EU countries, the EU Parliament has been very busy this fall with the climate and energy package. More than 2,000 very different proposals have been discussed in the Parliament, but the final decisions were substantially more progressive than the proposals of the EU countries:

- For the EU Emission Trading Scheme (EU-ETS), the Parliament strongly backed the EU Commission's proposal for full auctioning in the power sector and for increasing auctioning for industries. The Parliament went further than the Commission's proposal of 20% earmarking of the some of the income from auctioning, and proposed 100% earmarking !
- For the renewable directive, the Parliament supported the statistical exchange between cooperating countries, asked for stronger sustainability criteria for biofuels, and demanded that the 10% biofuels target should include a 2% target for renewable electricity and a 2% target for second-generation biofuels (from waste, etc.), leaving up to 6% of transport fuel to be made up of first-generation biofuels.
- For the 20% energy-efficiency target, the Parliament requested that it should be mandatory for the countries.

Now the EU Parliament and the countries will be busy to reach a compromise before the end of the year.

Agreement on Electricity and Gas Market Regulation

The EU energy ministers have reached an agreement on the electricity and gas market regulations (the third energy market liberalisation package).

With this agreement there must be unbundling of transmission and distribution from production of energy.

It can be done in three ways: separation of ownership, appointment by the state of an Independent Transmission Operator, and a third solution whereby independent transmission network operators would use the network belonging to a power-producing company.

The energy market directives can be agreed with the EU Parliament in the first half of 2009.

EU on Track to Reach Kyoto Target

The Kyoto-Protocol target for the 15 "old" EU countries is to reduce greenhouse-gas emissions by 8% of 1990 levels between 2008 and 2012.

The latest update from the EU Commission shows that while emissions had been reduced by 2.7% by 2006, the reductions with existing measures will grow to 3.6% in 2008-2012, and additional measures will yield 3.3% reductions. Add to that expected use of flexible mechanisms of 3% and land-use changes (carbon sinks, 1.3%), the entire calculated reduction is expected to add up to 11.3%, of which 8.3% occurs domestically.

The "new" EU countries have already reduced emissions by more than 8% and, for the entire EU-27, reductions are expected to reach 14.1% domestically with use of flexible mechanisms adding another 2.2%.

Ecodesign

The EU Ecodesign directive for energy-using products is leading to an increasing number of regulations to make products more energy-efficient. The EU is behind many other countries in requirements for energy-using products, but this is now changing, and if the speed of new regulations continues, the EU could be leading globally in energy efficiency before the end of 2011 (unless other countries also adopt higher requirements).

If the proposals now in progress are adopted and new products are covered as they are developed, these regulations could save 25% of the energy consumption in the products covered by 2020.

If many consumers decide to go for the best solutions with the use of the labelling schemes that are included for many of the products, the savings could be a lot higher, and as remaining old, inefficient products are replaced after 2020, the savings could exceed 50%.

That will *not* lead to 50% savings of energy as increasing numbers and sizes of energy-using products can drive up the consumption, resulting in fewer actual reductions in energy use. This is, for instance, the case for TV's that are sold in increasing sizes.

Decisions for Four Product Groups

After the first regulation (of standby) was decided in July, the EU countries have now also decided:

- to regulate the consumption of TV-decoders (simple set-top boxes) so they must only use 5 W, or 7 W for boxes for high-definition TV and more if they have a second tuner or/and hard disk. Many products use 2-5 times as much.
- to regulate the efficiency of external power supplies so that by 2010 they must have 85% efficiency for larger ones above 50 Watts but with gradually less stringent requirements down to 50% efficiency for 1-Watt power supplies. One year later, requirements will become a bit stronger.
- to regulate lamps for street and office use, including fluorescent light tubes and lamp ballasts (starters), but not smaller (incandescent, compact fluorescent etc.) lamps. Unfortunately, the requirements are not much stronger than the existing ones for many of the lamp types included.

The new regulations will come into force in 2010.

More Products Will Be Covered

In the coming months, it is expected that the EU countries will decide upon requirements for smaller lamps as well as for water heaters, including the phase-out of incandescent lamps. These are two of the most discussed product groups, because they are so common and there are so many conflicting interests. The decisions on these two product groups are crucial for the overall success of the Ecodesign Directive.

To highlight the issue, INFORSE-Europe and other NGOs, together with MEP Peter Liese, are organising a meeting on Ecodesign and, in particular, on water heaters, to be held on November 5, 2008, in the European Parliament.

Proposals for stronger requirements on white goods will be discussed among stakeholders in November, 2008.

In 2009, solid-fuel combustion and boilers will be covered.

Efficiency Package and Building Directive

The EU Commission is preparing an energy-efficiency package including a "recast" of the Energy Performance of Buildings Directive (EPBD) from 2002, and it organised a public consultation about the recast in June, 2008.

The package is expected in mid-November (maybe 12/11, 2008), but uncertainty exists as to whether it can be agreed before the election of the European Parliament, June 2009.

Updates of Labelling and Ecodesign Directives

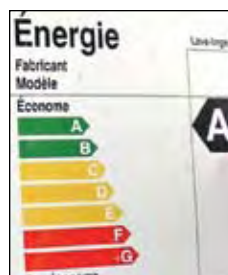
Besides the regulation of these products, there is an ongoing update of the labelling (SAVE) directive and of the Ecodesign Directive.

The existing A-G labelling has been a success. The appliance industry wants to replace it with an open scale, however, in which "1" is the least efficient; "7" is the most efficient level of products currently on the market. With an open scheme, new classes with higher efficiency can be added ("8", "9", "10", etc.).

INFORSE-Europe and other NGOs are strongly advocating to keep the A-G label, just with regular update. The EU Commission has proposed an alternative with both A-G and 1-7 on the label, but unfortunately this double scale is more confusing than the simpler A-G scale.

With the update of the Ecodesign Directive, more products would be covered, such as windows, insulation materials, and tyres, all products that contribute to energy consumption.

INFORSE-Europe follows the Ecodesign process closely and is a member of the Consultation Forum that discusses proposals for all products before regulations are made. We invite cooperation with all interested stakeholders.



Read more on Ecodesign:

INFORSE-Europe

http://www.inforse.org/europe/eu_ecodesign.htm

European Commission:

http://ec.europa.eu/energy/demand/legislation/eco_design_en.htm

ECOS:

<http://www.ecostandard.org/>



Logos of the NGOs playing a large role as progressive, independent experts challenging the industry's attempts to weaken the proposals.

Read more about EU policies and the proposals above at www.inforse.org/europe/eupolicy.htm

INFORSE Sustainable Energy Visions

By Gunnar Boye Olesen, INFORSE-Europe

It is becoming increasingly evident that there is a need for rapid transitions to energy systems with efficient use of renewable energy.

The present technical solutions were primarily made for cheap oil, gas, and coal, without caring about external factors such as climate change. Neither our economies nor our environment can afford our continuing use of fossil fuels much longer.

Nuclear power has its own set of problems of radioactive waste, safety and, recently, long-term prospects of fuel shortages. Therefore, the nuclear option is not viable in a future fuelled by sustainable energy.

We are left to consider whether and how to change to efficient use of renewable energy. To find the answers, INFORSE is promoting a series of sustainable energy visions that show how the world, the 27 EU countries, and individual countries can change from the present unsustainable energy sources to sustainable energy systems based 100% on renewable energy. The visions show decade by decade how such a transition can be made in 25-50 years. They include increases in energy efficiency, renewable energy, and sectors such as housing and service, as well as stability in sectors such as industry and agriculture, and, in the transport sector, conversion to more sustainable transport solutions. The global vision also includes local energy solutions for eradication of poverty.

For many people in the traditional energy sectors, it is a mantra that renewable energy cannot supply the power and energy that we need. INFORSE's visions show that it is indeed possible. It is in fact possible with the welfare that we have today, and with costs that are absolutely manageable. It is purely a political decision whether a country will change to sustainable energy or continue its unsustainable path; and the sooner the transition is started, the cheaper it will be.

Energy Efficiency is the Key to Success

Energy is used very inefficiently and for a large number of end-uses the same service of the energy (such as light, heated or cooled rooms, industrial production etc.) can be made with 1/4 of the energy that is used today. In the visions we assume that this can be realised until 2050 for use of electricity, industrial production, and

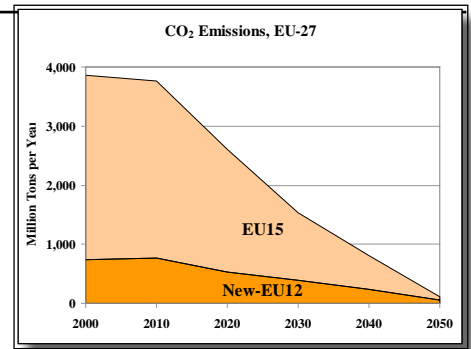
transportation. For use of electricity use there are many examples: a new compact fluorescent lamp or a LED lamp uses only 1/4 of the energy of an incandescent lamp, a laptop computer uses only about 1/4 of the energy of an old PC, and the best new fridges and freezers use only 1/4 of the average stock in the households. For industrial production, a new generation of equipment is typically 20-30% more efficient than the one it replaces, and with a new generation every 5-10 years, the increase in efficiency until 2050 will equal about a factor 4.

For space heating, houses can be built as super low-energy houses with almost no net heat consumption. Since we cannot and will not replace all houses until 2050, the efficiency increase has to be more modest, and we have estimated that a factor-2.5 increase of energy efficiency is feasible from the average housing stock in 2000 to the average in 2050. Such an increase in energy efficiency by 2050 is equal to an efficiency increase of 2%/year, a rate that is certainly possible with a combination of energy renovation and high standards for new houses.

For transport, the main efficiency gain is the conversion from fossil fuel, which is used in cars with an efficiency of 15-20%, to electric vehicles, in which energy efficiency is 60-80%, along with more efficient trains with recovery of energy from braking. With old, wasteful power supplies, the high efficiency of cars is lost in the power production; but with an increasing part of the power production from renewable energy sources and with highly efficient co-generation of heat and power (CHP), this is no longer the case. Battery-driven cars can also act as flexible loads when charged, matching variations in renewable energy production. They can even serve as small electricity storages at need.

Efficient Supply

The traditional fossil- or nuclear power plants, which waste 2/3 of their respective energy potentials, are not part of a sustainable energy supply. They should be replaced with ever-more-efficient CHP plants, fuelled with solid biomass and biogas. The INFORSE visions assume that power plants are replaced with best available technology (BAT) in CHP plants and that this BAT is gradually improved.



Moderate Growth

The growth that drives energy consumption is the physical growth of housing, transport etc. rather than the economic growth, at least in industrialised countries. Therefore, the visions use forecasts of physical growth, based on trends, plans, and the visions of the participating NGOs. This combination presents scenarios of growth in housing and service sectors, starting with current trends and gradually ramping down, in a decade or two for the richest countries and within four to five decades in countries with less housing area per capita. It also predicts stable industrial production in most countries, because increased value in industrial production derives from increased quality, not from increased quantity. Finally, it points to convergence of transport to a level about 20% below the current Western European level, as the current transport patterns are clearly unsustainable with far too much commuting and underpriced transport of goods without inclusion of environmental costs. Measures to reduce commuting and to include the real cost of transport will not only save energy, but in many other ways as well, will lead to more sustainable transport systems.

Renewable Energy Development

While renewable energy is more expensive than energy efficiency, it is available in all countries for which we have developed visions, in sufficient amounts to supply the country with the energy needed for the visions. Typically all forms of renewable energies are included, within environmental and practical limits: solar heating, solar electricity (mainly PV), windpower, hydro power, wood, straw and other agricultural residues for combustion, energy forest/plantations mainly on abandoned land, biogas, and geothermal energy. In a few cases we have also included smaller amounts of wave power even though the technology is not commercial yet. For each country we publish a publicly available paper stating the assumptions used.

Sustainable Energy Vision for the EU

For the EU-27, we have developed a vision using the above-mentioned estimates of energy efficiency, development of energy-using sectors, and renewable energy potentials from Windforce10/12 (for windpower), German Advisory Council on Global Change 2003 (for biomass) and other sources. We have combined this in one scenario with phase-out of fossil fuels by 2050 and of nuclear power by 2025, leading to 33% reductions of greenhouse gases by 2020 and 100% by 2050. The current large imports of fossil and nuclear fuels are replaced by a small import of electricity. With this development most energy installations will be phased out as they come to the end of their lifetimes, to be replaced by more efficient ones. Thus, the costs are small. Faster reductions are both possible and indeed desirable from a climate perspective; but will require a larger number of early retirements of installations and will therefore be more expensive.

National Sustainable Energy Visions

Sustainable energy visions are made for a number of countries: Lithuania, Latvia, Slovakia, Romania, Belarus, and Denmark. New vision are under development for Bulgaria and Russia. The ZeroCarbon-Britain plan, that covers the UK, is in many ways similar to the visions. Most of the visions follow the EU-27 vision of phase out of fossil fuels until 2050, but the Danish vision and ZeroCarbonBritain includes a fossil fuel phase out until 2030.

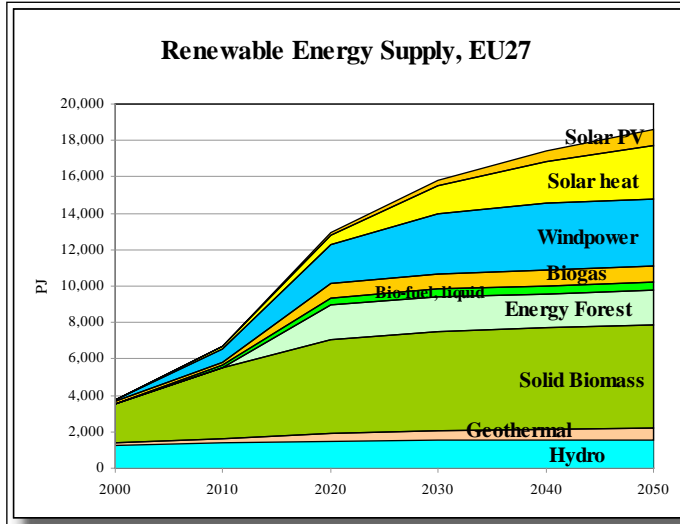
Sustainability of Biomass

A crucial issue for a transition to sustainable energy is that fossil fuel must be replaced with real sustainable solutions. The biomass included in the visions is therefore from within the EU to avoid unsustainable imports, and the potentials for biomass conform to estimates from the German Advisory Council on Global Change 2003 for the 15 "old" EU countries. In addition, the vision includes the use of 7% of agricultural land to produce solid biomass and 7% for liquid biomass. The total biomass energy, 6600 PJ, is 30% lower than the sustainable level of biomass indicated by the European Environmental Agency in its estimation of sustainable biomass potentials in 2006. If the use of agricultural land becomes problematic, e.g. because of increased need for food production, the production

of liquid biofuel can be stopped, as it can be replaced with other options without extra costs. Currently there is still abandoned agricultural land that can be used for energy plants/forests in many EU countries.

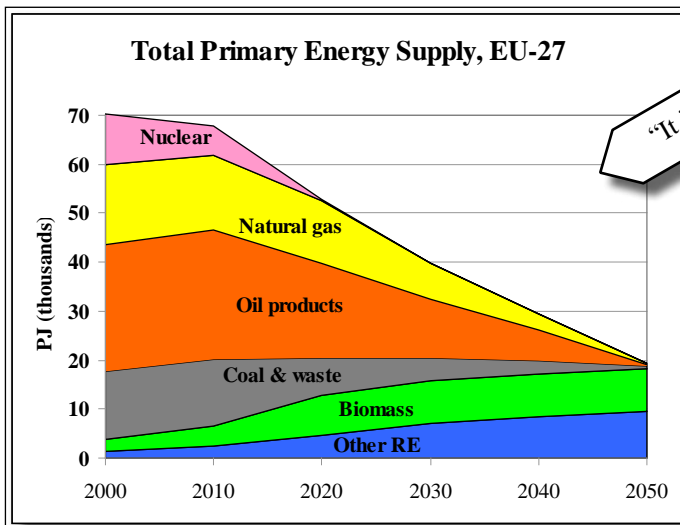
"It is purely a political decision"

Read more about the visions at www.inforse.org/europe/Vision2050.htm



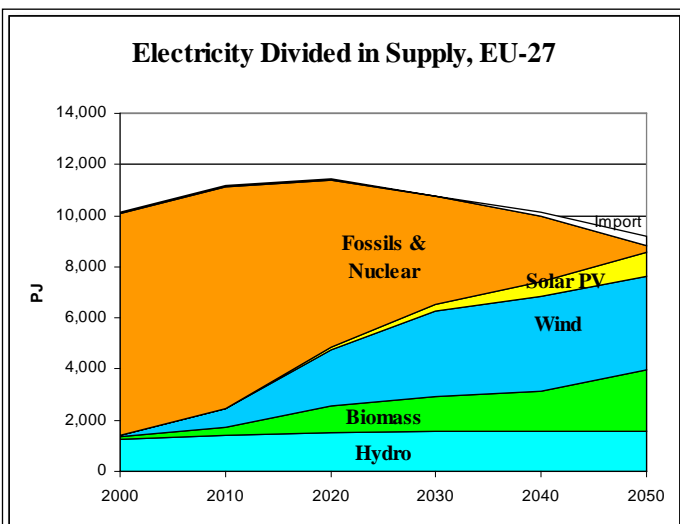
Graph: CO₂ Emissions in EU-27 by 2050 is close to zero according to the vision of INFORSE

Graph: All forms of renewable energy increase in the vision, with biomass, windpower and solar heating predominating.



"It is in fact possible"

Graph: With the large increase in energy efficiency, primary energy demand is reduced to less than 1/3 of its current level, even as the energy service levels are maintained. The strong focus on energy efficiency is the most cost-effective and the most environmentally benign mechanism involved in the vision.



Graph: Electricity production is not reduced much in the vision, but it is increasingly used for transport.

Zero Carbon Britain – The Next Stage of the Project

By Paul Allen, CAT, UK

The Centre for Alternative Technology (CAT) is now working with INFORSE-Europe, building on what we learned from our first Zero Carbon Britain report, to create a much more detailed vision of what we actually have to do if we are to meet the challenges of the 21st century.

This new project will create a framework to integrate the detailed knowledge and expertise gained across the EU, linking innovations in transport, food, energy, economics, buildings and a great many other areas into a common, coherent vision which endorses local action and can be clearly and effectively articulated to alert and inform local, national and international government.

Such a rapid transition away from fossil fuels is new ground both for our society and for our democracy, but by investing in the necessary action now, we not only tackle climate and energy security, but also get the economy back to work, forestalling recession and delivering a new sense of purpose. Zero Carbon Britain aims to build a consensus over this new and challenging terrain, and seeks collaborations with others working on similar visions, with the aim of presenting our findings at the UN climate negotiations in Poznan and Copenhagen.

The first Zero Carbon Britain report is available free of charge as a PDF download from www.zerocarbonbritain.com, Paul Allen, paul.allen@cat.org.uk

Balancing Energy Governance Project CUBE

How to Overcome the Recurrent Democratic Deficit in Energy Policy

By Chris Braun, Helio International

Energy issues have been given an increasing importance in the political debates over recent years. However, in the traditional scheme currently prevailing on the international scene, decisions are still taken by the political leaders in accordance with the energy producers, while citizens are completely factored out of the decision-making process. This unilateralism has revealed in the past its incapacity to provide solutions for the most serious environmental issues; it failed to avoid the aggravation of pollution and climate change at the local and global scales.

The impacts of energy-related decisions on civil society and its environment are today far too important to be taken without the active participation of the customers of the energy utilities. These decisions should follow a balanced public debate in which all parties can express their opinions, discussing the costs and benefits of the different options available.

Furthermore, the recent evolution and liberalisation of the energy sector have triggered the need for users to be able to consult an independent and objective source of information which could advise on topics such as, e.g., energy-efficiency measures, renewables, prices, and externalities. This would help the end-users make the best choices for their respective needs and financial situations.

The CUBE Proposal

The Citizens' Utility Boards for Energy (CUBE) Project developed by HELIO addresses these two complementary needs: an involvement of citizens in the energy decision-making process, and the provision of comprehensive, independent and accessible information on energy solutions to the end-users. It is inspired by the Citizens' Utility Boards (CUBs) created

in the USA by and for citizens, which are already highly popular and which have to their credit some legal achievements in several US States.

Similar initiatives also exist in Europe, but they remain isolated exceptions and their success typically depends on the good will of the municipalities.

The CUBE Project aims to recognize such existing organizations. It is also intended to support the creation and development of new similar groups of energy users sharing the will to know more about their choices in energy as well as to have a real influence on the policies and measures eventually adopted.

Activities Online

HELIO therefore recently created an online framework on the website <http://cubeinitiative.org>, in which every group of citizens following the CUBE guidelines can be registered. Through this framework, the participants can share their experiences, learn new strategies for a better governance and contribute to an extended knowledge-base on energy questions.

Looking for a Partner City

Additionally, HELIO is currently looking for a partner city where a pilot project concretely implementing a CUBE could be started. Another possible path is the development of a CUBE Label defining the criteria that should be fulfilled by such groups and that could help to identify the existing ones and/or in pointing out the missing components that should be improved in priority for the good of citizens.

HELIO is also looking for partners and support for the CUBE Project and we would welcome new ideas and/or comments and contributions on any of the proposed activities.

Please visit <http://cubeinitiative.org> for more information or write to us at helio@helio-international.org.



Prize-Winning Project for Centre for Sustainable Rural Development in Romania - Youth Summer Camp '09

by Ion Zamfir, Earth Friends, Romania

At the beginning of 2008, the Earth Friends association, a member of INFORSE-Europe, participated in a national Romanian contest of projects for sustainable development and won a shared first prize. The project "Good Wealth for Farmers and Profit for Environment" won an award of 75,000 Euro, representing half of its budget.

The project aims to help the villagers living in the Trotus River Valley in Romania, nowadays dependent on tree-cutting in mountain forests, to live in better conditions by reviving local traditions and using renewable energy, thus protecting their environment.

In the coming three years, Earth Friends expect to succeed, together with an initiative group of local people, in building the centre for sustainable rural development, and to organize a continuous stream of events promoting the project and the traditional products, folklore, the use of renewable energy, appropriate technology, training on sustainable rural tourism, and associative life promotion. These are all activities needed to empower the community. The centre will provide:

- a workshop to produce renewable-energy low-cost equipment for use in the area.
- a workshop for the maintenance of the existing equipment and of the centre.
- place for meetings as well as a central source of information and advice.
- a workshop for manual production of everyday-use wooden objects.
- an appropriate space for producing and storing traditional food products, in the required sanitary safety.
- a workshop for manual production of traditional carpets.

The centre will be built as a normal house of traditional architecture and will be equipped with solar collectors, a forest-biomass heating system, systems for collection and use of rainwater, its own wastewater treatment plant, and some accommodations for collaborators and occasional visitors.

The centre will be open every day for its beneficiaries, the activities to be run in the centre being coordinated by the most active and involved local young people.

The building will be made from local materials, based upon eco-design documentation. The thermal insulation will be done also using local environmentally friendly materials (natural wool).

Special attention will be paid to the relationship with the schools from the Valea Muntelui, the centre being able to offer technological education for the school students and training on practical activities connected with the traditional crafts in the region.



The centre's philosophy is based on the positive example of success stories, with project participants able to promote and to establish the cooperation of local people towards a sustainable life style. The use of renewable energy sources will be an example for the villagers in the whole area, being an invitation to switch from the unsustainable use of fuels to the intelligent use of local biomass, solar, and wind resources.

Additional Funds Needed

Earth Friends is looking for additional funding for the sustainable energy equipment to be installed in the centre.

Youth Summer Camp 2009

Next year there will be a summer camp for young people from Europe who will be involved in organising the yard of the centre as well as in several cultural activities together and for the local youth.

More information:

Ion Zamfir, Earth Friends,
e-mail: earthfriends@clicknet.ro.

Events

With INFORSE participation



November 11, 2008

International Energy Saving Day! Children SPARE !
JOIN !!

Save energy in the school and at home! Write postcards, articles, make exhibitions! 7,000 children engaged already in 16 countries. W: www.spareworld.org



December 1-12, 2008

United Nations Climate Change Conference UNFCCC, Poznan, Poland
Info: The Secretariat of the UNFCCC, Bonn, Germany.

T/-F: +49 228 8151000/ -8151999

W: www.unfccc.int; www.cop14.gov.pl
See page #3.



February 9-13, 2009.

EU Sustainable Energy Week with session on sustainable energy visions, EUSEW Award Ceremony and others

Organised by the Sustainable Energy Europe (SEE) Campaign initiative of the European Commission DG for Energy and Transport.

Info: [EUSEW, Brussels, Belgium](http://EUSEW.Brussels.Belgium).

W: www.sustenergy.org



Contents

Editorial p. 2

- Sustainable Energy in the 21st Century

World p. 3

- Climate Change – The Negotiations
- IRENA is Becoming a Reality

Europe p. 4-7

INFORSE-Europe activities, etc.:

- Poland Can Benefit from Climate Solutions
- CEE NGO Climate Study for COP in Poznan
- Energy21 Network Revitalised - 2009 Plans
- Sustainable Energy Vision and Actions for Bulgaria
- Visions: Latvia, Lithuania, & Belarus - Updated
- European Sustainable Energy Seminar - October
- Straw-Bale Eco-house and Energy Training in Belarus
- Proposal for EU-Ukraine Cooperation

EU Policy Update:

- EU Climate and Energy Package Update
- Agreement on Electricity and Gas Market Regulation
- EU on Track to Reach Kyoto Target
- Ecodesign,
 - Decisions for Four Product Groups
 - More Products Will Be Covered
- Updates of Labelling and Ecodesign Directives
- Efficiency Package and Building Directive

Theme: Visions p. 8-10

- INFORSE Sustainable Energy Visions
- Zero Carbon Britain – The Next Stage of the Project
- Balancing Energy Governance Project CUBE

Events p. 11

- Prize-Winning Project for Centre for Sustainable Rural Development in Romania - Youth Summer Camp '09

Back Page p. 12

- Sustainable Energy News,
- DIERET CD, South Asia CD,
- INFORSE Online Database

1,000 Contacts - Online



INFORSE maintains a database of more than 1,000 NGOs and public officials, including as well 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 Singhalese) 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



Published: December 2007;
Price: 15 €
1 year SEN + CD costs 35 €

