A European Commission supported Campaign

www.repromo.org

Action: Objective: Where: Your role: Fields:

Renewable Energy Promotion Campaign (RePromo) Quicker market penetration for renewable energies Central and Eastern European Countries You are invited to get involved! Biomass and photovoltaic solar systems

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CEE framework conditions

RePromo analyses the economic and legislative framework conditions in the highly interesting RES markets of Estonia, Czech Republic, Hungary and Poland.

In these countries, important stakeholders from the bio-energy and solar sectors are identified and compiled in the RePromo Database.

Best practice

RePromo highlights successfully implemented RES actions in Central and Eastern European Countries by documenting their complete technical and economic characteristics. These Best Practices will be presented on the four RePromo Seminars and in the Campaign Publications.

Catalysing role

Main objective of RePromo to invite project developers from CEEC to present their ideas to financing institutes and manufacturer in EU. RePromo supports the development of these new project ideas by forging alliances around concrete RES actions out of manufacturers, financial institutes and project developers. These actor groups are brought together on the RePromo Market places which will be organised in 2004 on the World

Conference on Biomass in Rome and the European PV Solar Energy Conference in Paris.

Events list

You are invited to the following free RePromo events in 2004, details will be on the <u>www.repromo.org</u>:

- Czech RePromo Seminar in Prague: 16 January 2004
- Estonian RePromo Seminar in Tallin: 12 March 2004, in parallel to the Int. Energy Fair Enerex
- Polish RePromo Seminar in Warsaw: 21 April 2004

You are also invited to the following conferences, for which a fee is required:

- "The 2nd World Conference and Technology Exhibition on Biomass for Energy and Industry": Rome, 10-14 May 2004, see http://www.conference-biomass.com
- "19th European PV Solar Energy Conference and Exhibition": Paris, 11-17 June 2004, see <u>http://www.photovoltaic-conference.com</u>

The latter 2 events are the dominant RePromo market places, where project developers can present their ideas to manufacturers and financial institutes. RePromo will select the most promising RES ideas and will cover the financial expenses of the initiators for attending the market places!



Source: www.ncsu.edu







Winds of Change

Renewable energy sources like wind, biomass and geothermal energy are abundant in many CEE regions. The exploitation of these resources is still limited due to a energy policy which was dominated by the combustion of cheap fossil fuels. Recent developments now show a shift in the energy policies in many CEE countries towards enhancing the share of renewables in the energy mix. These changes result from rising prices for fossil fuels as well as from the growing understanding for the necessity to increase national capacity and to cut greenhouse gas emissions. In the process of reaching EU Membership, the Accession Countries committed themselves to indicative targets for future renewable electricity production:



We cannot direct the wind, but we can adjust our sails'

Source: www.windsofchange.ca

CEE Countries	RES-Electricity in 1999	RES-Electricity in 2010
Czech Republic	3.8%	8.0%
Estonia	0.2%	5.1%
Hungary	0.7%	3.6%
Poland	1.6%	7.5%

The CEE governments are developing various policy tools for fulfilling these ambitious targets.

- In the Czech Republic, waste wood, forestry and agricultural residues are seen as the most promising renewable source for fulfilling the indicative targets, although wind energy and small hydro may also play an important role. In May 2004, the New Renewable Energy Act is expected to come into force, which will redefine the framework conditions for support of electricity and heat produced from renewable sources in order to meet the indicative targets and fulfill requirements of RES-E Directive (2001/77/EC). The new framework will mean a gradual shift from the current feed-in tariffs to a

quota and a certificate based system. One important change is also that the current level of support will be long-term guaranteed.

In **Poland** the parliament expressed in 2001 that the largest RES potential is seen in the field of bio-energy, specially agricultural residues, waste and energy-crops. In January 2001 the former feed-in tariff was replaced by an Ordinance (ammended in May 2003) that energy utilities must purchase a certain amount of energy from renewables.

A similar regulation can be found in **Hungary**, which is known for its large geothermal resources and abundant biomass feedstock.

- In Estonia the most suitable replacement of the dominant oil-shale combustion should be the enhanced use of the rich wood and peat resources.

The Electricity Market Act implemented in 2003 lays down the obligation of the energy utility to purchase electricity on prices being 1,8 times above average. Furthermore, green certificates have been introduced that can be purchased on a voluntary basis.

The low energy prices in CEEC still create barriers against the economic feasibility of renewable energy actions. These barriers can be overcome by financial incentives. Potential incentives are the national energy programs, the World Bank and European funding. Moreover, the future trading regime for "emission certificates" and "green certification" are efficient incentives.



Source: www.californiasolarcenter.org



Peat in Estonia. Source: "James S. Aber, Emporia State University"





BEST PRACTICE PROJECTS

Methane gas combustion in Estonia

The Estonian capital Tallinn generates 400 thousand ton/y organic waste, storing it in the Pääsküla landfill with an area of \pm 25 ha and depth 35 m. During decomposition, 3500 million m3/y methane is formed. This gas is a strong greenhouse gas: its global warming effect is 21 times that of CO2. At the same time, it is excellent for combustion. Thus, the idea for its exploitation was borne. Therefore, in 1994 the first 5200 meters of gas

filters were installed. The collected gas was used for local district heating. To make use of the gas also in summer, a Jenbacher Otto engine co-generation plant was erected in December 2001, with total efficiency of 87%. The process is completely automatic and output is sufficient to heat 1000 dwellings. Annual reductions of CO_2 , NOx and SO_2 are 36 387, 150 and 400 tons. So far, the project has appeared to be very feasible, which has encouraged the planning of the next biogas collection network and cogeneration plant in the new Jõelähtme landfill.

Biomass heating in Poland

The school complex in Wegorzewo, of the beginning of XX century, comprises of 7 buildings with volume of 18.190 m³ and heat demand of 1089 MWh/a. The boiler house was converted to wood fuel in 2000. It is now equipped with two fully automatic wood chip boilers of 500 kW and 250 kW (for peaks), made in Poland. The initiative was realised with the effort of the school director Mrs. A. Siwolowska, supported by the Danish school. The chips come from waste wood of the city parks, neighbouring forests, sawmills and a willow plantation of 17 ha, specially established



for the project and to be increased with 20 ha. Therefore, boilers will be completely supplied by willow fuel. The

completely supplied by willow fuel. The cost of wood fuel is very low compared to traditional fuels. The total investment was 669.000 PLN (app. 175.000 Euro) and covers installation of a heating network and domestic hot water systems. It was co-financed by EcoFund. A soft loan was provided by Voivodship Fund for Environmental Protection and Water Management. The project equity was contributed by the owner of the complex, Wegorzewo County.

"Sun to Schools" in the Czech Republic

The installation of PV solar systems in schools and universities is supported in the Czech Republic by State Environmental Fund through the programme "Sun to Schools", which provides up to 100% subsidy for installation of demonstration grid-connected PV solar systems with varying capacity. In total 654 PV solar projects with total capacity 270 kW, and 500 solar thermal projects with total annual production of 215 MWh/y were supported within the programme. The total subsidy was CZK 148.8 million (\in 4.8 million). The main objective - 100 demonstration PV systems in schools and universities - was several



times exceeded. The programme contributed significantly to the increase of public awareness of PV applications and, due to involvement of local technology suppliers, to development of national PV industry. It is expected that "Sun to Schools", with updated methodology, will continue in January 2004. The current feed-in tariff for PV-based electricity valid since January 2002 is 6 CZK (0.2 €) /kWh and is expected to increase after adoption of new Renewable Energy Act in 2004.



The REPROMO campaign aims to accelerate RES market penetration in the CEE region

- by compiling and disseminating all information relevant for RES actions in CEE.
- by supporting the development of concrete project ideas.
- by forging alliances around concrete RES actions out of manufacturers, financial institutes and project developers.



How to get involved in REPROMO?

There are various ways how to get involved in the RePromo Campaign:

Get registered in the RePromo database for receiving regular campaign news

Develop your ideas for RES actions in CEEC together with the RePromo consortium

Participate in the RePromo seminars in Czech Republic, Estonia, Hungary and Poland

Present your own project ideas on the RePromo Market Places, which will be organised in 2004 on the Worldwide Conference on Biomass in Rome and the European Conference on PV Solar Systems in Paris.

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> For more information please visit: www.repromo.org



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