News at SEVEn

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ENERGY EFFICIENCY NEWS FROM THE CZECH REPUBLIC

Another wave of liberalisation

On January 1, 2003, electricity market opening entered a new phase when the number of eligible customers increased from approximately 80 to 450, i.e. all entities with electric power consumption exceeding 9 GWh a year. Evidently, both consumers and suppliers are satisfied with the market opening, with competition bringing a fresh wind of change into this former "natural monopoly".

Although the vast majority of eligible customers, now having the possibility of selecting their electric power supplier, have remained with the original supplier this year, all of them enjoy increased attention on the part of individual energy traders. According to the Association of Large Energy Consumers (SVSE), whose members consume 70 % of the electricity of all eligible customers and 20 % of the electricity of the entire Czech Republic, by 31.12.2002 five of the 58 members of the association had replaced their suppliers. On 1. 1. 2003 this figure was 47 out of a total of 300 members.

The first wave of liberalisation saved customers with annual consumption above 40 GWh a total of CZK 0.5 billion. It is estimated that this year's savings will exceed CZK 1 billion. These savings resulted from reduced electricity prices for authorised customers, representing approximately 6% in 2002. Jan Kanta, Director of the Energy Trading Division at the West Bohemia Energy Utility (ZČE), expects that the second wave of liberalisation will lead to a 7 – 9% price cut for authorised customers. As Jan Slabý, an analyst for Wood and Company, points out, the firms which last year benefited from lower prices accounted for roughly 20% of total domestic consumption. This year's phase of market opening means approximately 10% more electric power consumption in the Czech Republic.

Reduced prices for eligible customers are the result of competition between regional distribution companies, as well as new traders. In this struggle, the South Bohemia Energy Utility has so far won nine new customers and lost two, the Prague Energy Utility has lost one customer and gained one, and the Central Bohemia Energy Utility has won two customers and lost 18. According to published data, the Czech Energy Utility (ČEZ) has gained six customers and lost one. ZČE's Kanta says that his company has gained nine new customers and lost two – the bottom line being that in 2003 ZČE plans to sell 100 GWh more than in the previous period.

SVSE considers the preconditions for securing market functionality to be full independence of the transmission network, independence of the Regulatory Office, a transparent and reliable legislative environment, and no administrative barriers to cross-border trading. As successes, SVSE representatives cite the modification of the pattern for variance evaluation reducing under-purchasing of consumption diagrams, as well as the change in the definition of the basic connection of 110 kV lines between energy consumers and suppliers.

What development can be expected in this respect? Luděk Piskač, an SVSE representative, assumes that most authorised customers will not yet become subjects of accounting in the second wave of electro-energy industry liberalisation, i.e. they will place themselves in the care of a trustworthy and reliable trader, choose the regime of delegated liability for variances and occasionally verify whether their supplier's offer is still the most advantageous. However, the European Commission is already preparing a proposal for a directive that would accelerate and unify the procedure of market opening within the EU.

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Energy policy and municipal ordinances

In recent years a serious problem has emerged in the municipal energy sector: some towns aiming to enforce their energy policies have adopted their own municipal ordinances or regulations dividing the energy market in the town between individual suppliers, thus eliminating possible competition. Consequently, consumers do not have the opportunity to select the form and supplier of energy at their own discretion but are forced to use the form of energy permitted by the local authority. Municipal ordinances formulated in this manner contravene both the principle of economic competition and the constitutional order. In the event of protest, agreement with the municipality is reached and the incriminating ordinance is abolished or, in extreme cases, judicial proceedings are commenced. There has been no case in practice when in such an event a court would not cancel a municipal ordinance or regulation.

A broad view of the municipal energy sector indicates a fundamental discrepancy. The development of infrastructure for energy supply in the territory of a town needs to be coordinated and centrally planned in order to prevent unnecessary investment, particularly in long-distance heating. This standpoint is also supported by the effort to reduce the use of high-emission fuels. However, this approach comes up against a lack of legal instruments and support for the implementation of such a vision within the municipal energy sector. The Constitution of the Czech Republic says that "no one can be forced to do what the law does not impose" and, similarly, the Charter of Fundamental Rights and Freedoms stipulates that "obligations may only be imposed on the basis of the law and within its bounds".

The new Act No. 86/2002 Coll., on Air Pollution Control, provides municipalities with several powerful new tools for energy sector regulation. These primarily include:

- The power of municipalities to ban in their territory the types of fuel for small-scale combustion pollution sources specified in the Act (pursuant to the Act, this involves brown coal, low-grade coal, coal sludge and shed coal).
- The obligation of legal and natural entities to use central heat sources, possibly alternative sources, in new buildings and in the case of the modification of existing constructions, if technically possible and economically acceptable, and to check the technical and economic feasibility of combined heat and power generation.
- The possibility to issue a Programme of Emission Reduction, or the obligation to issue a Programme for Air Quality Improvement which, pursuant to the Act, are essential for land-use planning and building authorization.

The formulation of the obligation to use central heat sources is indeed strongly worded. It is also interesting that the Clean Air Act does not specify which environmental parameters such a central

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What's inside

Biomass for energy purposes and its fuel costs

Faster development of biofuel use is hindered by a number of factors of an economic, technical, financial and legislative nature, as well as the lack of deeper knowledge at all levels of state administration, including municipalities. Economic reasons, i.e. costs, form one of the main obstacles.

The price of biofuels is determined by their manufacturing cost and demand for them. Production costs are low merely in the case of waste, however, once energy-usable waste becomes "goods", its price rises too.

For instance, when used in-house, energy straw is valued at 200 – 500 CZK/t, but today is being sold on the market for 1,000 to 1,200 CZK/t. The situation with wood fuels is compounded by their high water content (up to 55 %), which means that the comparable price converted to dry matter highly exceeds 1,000 CZK/t. Even more difficult is the situation with biofuels that are the product of

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Energy policy and municipal ordinances

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source should comply with. In practice, there are cases when a central source uses low-quality fuel, thus being a source of environmental stress much larger than decentralised sources based on less polluting fuels (for example, coal or heavy fuel oil versus natural gas). Unfortunately, the Act fails to specify the "economically acceptable" means. Hence, it can hardly be expected in practice that this provision will be realistically enforceable against the investor's will.

Act No. 406/2000 Coll., on Energy Management, stipulates that a municipality has the right to draw up a municipal energy policy which is a binding legal basis for a land-use plan, and to issue a binding legal regulation for its implementation. The authors of the Act based themselves on the opinion that the municipal energy policy would become a regulating tool for market division and demarcation of zones with permitted use of selected energy forms and a ban on the use of other energy forms. In accordance with these ideas, specific demarcation of these zones and the ban, or obligation, involving the use of certain energy forms should then be anchored in municipal ordinances and/or regulations. In line with SEVEn's legal analysis and on the basis of discussions with state bodies (i.e. the Ministry of Regional Development - the director and coordinator of land-use planning, the Ministry of the Environment, the Office for the Protection of Competition) and experts in constitutional law, this idea is inconsistent with the requirements of the Constitution that obligations be exclusively imposed on the basis of the law and within its bounds. No law imposes the specific obligation to use, or not use, fuels and energy forms that would be prescribed by a municipality on the basis of an energy policy - with the exception of the type of fuel and energy listed in the Clean Air Act.

At the present time, SEVEn is initiating negotiations with all institutions concerned. The aim is to clear up this issue definitively and to make it easier for municipalities to adopt regulations consistent with the law.

Jiří Zeman

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Biomass for energy purposes and its fuel costs

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purpose-bound cultivation, including fast-growing ones which "swallow" entire manufacturing costs.

Naturally, these prices are further increased by transport, storage and handling, sometimes also drying costs. Thus, the economic law of necessary coverage of manufacturing costs and the law of supply and demand applies here too.

The issue of capital costs for facilities using biofuels is similar. The vast majority of the several recently built boiler plants using biofuels could not exist without enormous investment subsidies. This may be understandable in the case of experimental and verification projects, but on no account can it be generally repeated all the time and on a mass scale. In addition, primarily in the case of municipal boiler plants in villages, a number of problems of a local nature arise, significantly adding to construction expenses, even raising them beyond the reasonable limit. The main reason is the dispersion of built-up areas and the share of "weekend house and cottage owners", in the main not interested in central heat supply.

Energy straw	In-house price Market price	200 – 500 CZK/tonne 1.000 – 1.200 CZK/tonne
Woodchips and sawdust		Above 1.000 CZK/tonne
Culmcrops (cereals, miscanthus, sorghum)		1.200 – 2.500 CZK/tonne
Woodchips from fast-growing poplars		Up to 3.000 CZK/tonne
Shaped biofuel, briquettes and pellets		2.500 – 4.500 CZK/tonne
Forestry brillet firewood		500 – 600 CZK/tonne
log firewood at petrol stations		4.000 CZK/tonne
Brown energy coal		400 – 1.500 CZK/tonne

Václav Sladký

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Compiled from a paper given at the EEBW 2002 Conference

The connection between growth of demand for pellets and their rising price can be documented from the example given by Elmu Potter from the Estonian Regional Energy Centre. Between autumn 2001 and autumn 2002 the price of pellets in Estonia went up by one-quarter, whereas the fuel oil price was virtually stable. This was the result of ever-increasing demand for pellets.

http://www.managenergy.com/conference/biomass0203/potter/slide.html

Green electricity for large companies

One-third of large and medium-sized companies in some European countries are likely or very likely to buy green electricity from renewable sources in the near future, as has been confirmed by market research carried out among 1,200 medium-sized and large firms in Great Britain, Germany, Sweden, the Netherlands and Finland. The greatest interest has been shown by large companies with more than 500 employees. On the other hand, research also revealed that up to two-thirds of respondents have never been offered green electricity to purchase.

The study carried out by Finland's Vasaa University points out that sale of green electricity to large energy consumers may be much more effective than sale of this product to households since the electricity consumption of one large energy consumer equals that of tens of thousands of households.

Although the marketing abilities of companies selling green electricity are nothing to write home about, the fact that three-quarters of companies are interested in improving their environmental image offers them a chance to assert themselves on the market. At the present time, the number of green electricity consumers in Europe is estimated at 1.4 million. For more details on the aforementioned study, visit

www.vaasaemg.com

or

www.greenprices.com.

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Canada supports greenhouse-gas emission abatement in Central Europe

After having recently ratified the Kyoto Protocol, Canada has decided to initiate Joint Implementation projects in Central and Eastern Europe. From the long-term viewpoint, inclusion of mechanisms for reducing climate changes facilitates total restructuring of the energy market in this region, meeting more demanding environmental criteria and proving the possibility of adhering to European pledges on greenhouse gas abatement. This is the common interest of the Canadian investors, local partners and governments.

In September 2002, the Regional Office for Climate Change was set up in Warsaw, its task being to support technologies for climate change reduction, energy saving and renewable energy sources in the industries, households and services of Central and Eastern European countries. The Office will seek opportunities to use Canadian technologies that could facilitate abatement of greenhouse gas emissions, thereby keeping the Canadian pledge within the framework of the Kyoto Protocol.

In addition, it is in charge of promoting Canadian and international financial mechanisms that could simplify transfer of technologies. The Office has its headquarters at the Canadian Embassy in Warsaw and also cooperates with commercial sections of the Canadian Embassies in Budapest, Prague, Bratislava, Kiev and Bucharest.

For more information, contact Mrs Ramona Baksh, First Secretary (Commercial) – Climate Change, Canadian Embassy, Warsaw, Poland, Tel: (48 22) 584 3274, fax: (48 22) 584 3195, ramona.baksh@dfait-maeci.gc.ca.

Angelika Gronowska

Saved greenhouse gases help project financing

In recent times we have been able to observe the endeavour of many countries worldwide to set a price for greenhouse gases. Although the Kyoto Protocol is still awaiting adoption by the required number of states, the time has finally come when it will be feasible to use unimplemented emissions of CO_2 and other greenhouse gases to finance projects resulting from their savings.

Close to signing is the international agreement with the Prototype Carbon Fund (PCF), which originated in the wake of the Kyoto Protocol. It concerns a partnership of more than 20 countries and private companies set up with the aim of effectively supporting projects saving greenhouse gas emissions, in the form of the creation of a market in saved emissions.

The PCF contributes to projects by means of continuous purchase of emissions that will be saved as a result of the projects' implementation. Purchase prices at which the PCF buys saved greenhouse gas emissions, whose quantity is converted to the greenhouse effect of carbon dioxide (so-called CO_2 eq.), now range between USD 3 and 4 per tonne of saved emissions (ERU - Emission Reduction Unit).

For the Czech party, the agreement with the PCF should be signed by the Czech Energy Agency and the State Environmental Fund. Presumably, each institution will pledge to implement a total of 650,000 ERU (i.e. 1,300,000 tonnes of CO_2 eq.) by the target year of 2012.

This quantity should be gradually "filled" by projects the Czech Energy Agency and the State Environmental Fund will start selecting this year. The main evaluation criterion for a project's inclusion in the PCF will be the total amount of emissions saved.

Hence, for their assessment, a reference development scenario, the so-called baseline, will be drawn up for each suitable project. This baseline will determine what volume of emissions would otherwise, i.e. without implementation of the submitted project, be produced annually. A conservative approach is applied for its calculation and it is recommended that it be compiled by an independent party.

Furthermore, from this year on it is possible to obtain an investment subsidy from the Czech Energy Agency for projects that will bring a sufficient minimum saving of CO_2 eq. emissions. This subsidy can be up to CZK 3 million, dependening on the volume of annual reduction of greenhouse gas emissions and the life span of the measures implemented. Financial support can be attained by projects aimed at utilising renewable energy sources, modernising central heat supply systems and introducing saving measures in buildings and industrial facilities.

For example, the minimum emission abatement limit in the case of construction or refurbishment of sources combusting biomass is 600 tonnes of CO_2 eq. a year. A similar limit applies to saving measures enhancing energy efficiency in public sector buildings and the housing stock.

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For more information visit: Czech Energ Agency, www.ceacr.cz
State Environmental Fund www.sfzp.cz

An example of refurbishment of a small municipal biomass boiler plant:

Annual heat generation of 10,000 GJ, a coal boiler (variant A), or natural gas boiler (variant B)

Annual fuel consumption
A) approximately 1,000 tonnes of brown coal
B) approximately 350,000 m³ of natural gas

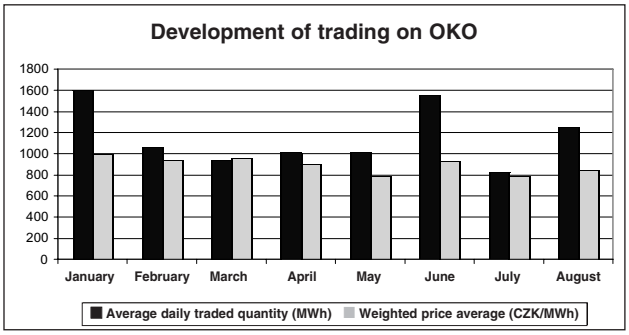
Quantity of CO_2 emissions produced a year:
A) 1,400 tonnes of CO_2 (with 0.36 kg of CO_2 / kWh fuel efficiency)
B) 660 tonnes of CO_2 (with 0.20 kg of CO_2 / kWh fuel efficiency)

Financial benefits from refurbishment of the biomass boiler plant (= zero CO_2 emissions) and emission sale (with the price of USD 3 – 4, i.e. approximately CZK 90 – 120 per tonne of CO_2):
A) 126,000 to 168,000 CZK/year (*12 years of the project's life span)
B) 59,400 to 79,200 CZK/year (*12 years of the project's life span)

With the alternative fuel consumption (e.g. woodchips) of 110 kg for the production of one GJ of heat (annual woodchips consumption would therefore be equal to 1,100 tonnes) the income from saved CO_2 emissions sold would be between CZK 100 to 150 per tonne of woodchips in the case of replacing a coal source, or CZK 50 to 75 in the case of replacing natural gas.

Electricity market liberalisation - roles and results of the Electricity Market Operator

Through the short-term electricity market (OKO), the Electricity Market Operator provides market participants with the possibility of optimising their position with the aim to minimise variances and reduce costs for electricity purchase, register bilateral contracts (including foreign) after closing of trading, as well as the opportunity to influence payment for a variance of individual accounting entities.



As the graph below shows, a quantity of electricity approximately corresponding to less than 1% of the Czech Republic's total consumption is traded daily. In the beginning, supply prevailed on the market, with only minimal demand. After some time, there were also situations with minimal supply and relatively high demand.

The relatively low marginal electricity prices on this exchange represent a certain potential for saving total electricity purchase costs, on the precondition of leaving a certain purchased amount on the short-term market, while respecting the limited market liquidity. In all months of trading so far the minimum marginal price has occurred (1 CZK/MWh), which is down to the current manner of variance evaluation, making it possible to a certain extent to affect the distribution of total payments for variances between individual accounting entities. Resulting from the course of trading is also the relatively strong dependence of the electricity quantity traded on temperature.

Reasons for OKO stagnation

What are the reasons for the relatively low quantity of electricity traded on the short-term market? Above all, it involves securing bilateral contracts due to distrust in the short-term market's functionality since 1.1. 2002 and the differing business strategies of existing suppliers which offered a reduction in electricity prices for authorised customers. Furthermore, it has to do with the lack of traders, especially foreign ones, operating on several markets who would strengthen market liquidity through their price arbitrage. The minimal number of such traders is probably caused by protection of the EU/CR market, conservative securing of finance and insufficient information (also in foreign languages).

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Compiled from the paper presented at the EEBW 2002 Conference

By comparison, electricity sales on the European Energy Exchange based in Leipzig tripled in 2002 compared to 2001. The average electricity price on the exchange fell by 1.50 EUR/MWh (basic) to 1.80 EUR/MWh (in peaks).
www.eex.de

Another wave of liberalisation

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As regards electricity prices, Kanta anticipates price decline over the short term resulting from further market opening and entry of new traders. Over the long term, it is possible to expect price growth in line with inflation. In his opinion, it is a consequence of the fact that production in the Czech Republic does not depend on the import of primary energy, oil prices and, to a significant extent, even on the Czech crown exchange rate, as well as the fact that major investments in the Czech energy system have already been made. Jiří Zeman from SEVEn adds that another factor will be the price level in EU countries since the relevance of national borders will diminish alongside progressing market liberalisation. "On the other hand, it will be interesting to observe the ratio between electric power prices and the decreasing surplus of overgeneration capacity in the Czech Republic and other countries," Zeman points out.

Juraj Krivošík

Readers' letters... Regulation of heat prices in 2003

The heating sector is probably the last branch of the Czech energy industry in which cross-subsidies between prices for households and other consumers still remain. Heat prices are so-called objectively regulated prices, i.e. the price is set on the basis of eligible costs and adequate profit of heating companies. However, first the Ministry of Finance and since 2001 the Energy Regulatory Office (ERÚ) have simultaneously determined the maximum growth of heat prices for households. But specific costs in many heating companies rose faster, with other consumers having to shoulder some of the burden, while cross-subsidies gradually increased.

In general terms, the fact that the Energy Regulatory Office reassessed this approach in the price regulation for 2003 can be considered to be a positive change. It requires removal of cross-subsidies by 1. 1.2005, when prices for consumers at "the same level of delivery" should become balanced. Although the price adjustment will be step-by-step, in many cases it will mean a significant heat price growth for households. Conversely, other consumers can look forward to a smaller price increase.

Nevertheless, adjustment of the heat price regulation from 1. 1. 2003 has brought with it worries for heating companies and their informed consumers. According to the present model, heating companies are in no way motivated to reduce variable expenses. Investment in more efficient operation or replacement of fuel by a cheaper type is not returnable since in proportion to lowering variable expenses the company must also lower its sales. When connecting a new consumer, a heating company has only covered the growth of variable (fuel) costs. Corresponding deductions of fixed assets and growth of profit cannot be reflected in prices, thus the finance invested in connection will never be paid back to the company.

If the present regulation model were to remain in force for a longer period, the development of the heating sector as a whole would be threatened since private investors would simply invest elsewhere. Without investment in more efficient operation and connection of new consumers, heat prices will rapidly rise and centralised heat supply will cease to be able to compete. At the present time, we can only hope that the Energy Regulatory Office will take the aforementioned objections into consideration when setting the heat price regulation for 2004. Cleaner town centres and abated pollutant emissions are certainly worth it.

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Additional information:

www.eru.cz

Readers' directory update

Dear readers,
As part of our updating and transferring of the readers' directory we would like you to send us your correct email address to which we can continue sending you our magazine in an electronic form. Please send a short email to the address news@svn.cz, fax +420 224 247 597, or send your contact details to the following postal address: SEVEn, o.p.s., Americká 17, 120 00 Prague 2, Czech Republic. You can use the attached card. We will no longer use unconfirmed addresses. News at SEVEn will still be regularly published at www.svn.cz. Thank you

Prague Electricity Distribution Company promotes energy-saving fluorescent lamps

The importance of energy efficiency in lighting as one of the ways of improving customer services has been acknowledged by the Prague Energy Utility (PRE). Within the framework of the Efficient Lighting Initiative (ELI) and in cooperation with SEVEn, it is organising a competition for energy-saving fluorescent lamps.

During the course of the first three-quarters of 2003, PRE will enclose together with bills to its household and small-business customers a leaflet with a competition question and detailed information on the advantages of using energy-saving compact fluorescent lamps. The winners will receive prizes that will bring them further savings in the form of a reduced electricity bill.

Electric power supply need not be merely sale of a product without subsequent interest in the customer. It is a service encompassing the endeavour to optimise customers' energy consumption and attain the highest possible energy efficiency. "In this regard, energy-saving lighting possesses a significant potential. Compact fluorescent lamps bring high-quality illumination alongside considerably reduced energy consumption for this service," Josef Raffay from the PRE marketing department says. "Our company aims to provide added value to its customers, i.e. not only supplying electricity but also offering consultancy on its efficient use."

Another form of extended cooperation within the ELI project involves wider distribution of information leaflets on energy-saving fluorescent lamps through the PRE advisory centre and business offices.

More information:

www.uspornazarivka.cz

www.pre.cz/aplikace/zarivky

The ELI project also includes standard marketing promotion of energy-saving compact fluorescent lamps, for instance, through TV and radio advertising or materials installed at points of sale. This primarily concerns electrical-appliance shops and lighting equipment sections in department stores.

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Kyoto Protocol dead in the water

The binding force of limits for greenhouse gas emission reduction, as agreed in the Kyoto Protocol, has two preconditions. First, the Protocol must be approved by at least 55 signatories of the Framework Convention on Climate Change. This precondition has been met; since its signing the Protocol has been ratified by 104 countries.

Now for the tricky part. The second precondition, far more difficult to fulfil, is that the countries that have pledged to abate emissions were in the baseline year 1990 responsible for at least 55 % of total greenhouse gas emissions among all the Protocol signatories. This precondition has yet to be complied with, and the question arises of whether it will ever be.

To date, only three big greenhouse-gas producers have failed to ratify the Protocol: Ukraine, Russia and the USA.

In March 2001 President Bush pronounced the Kyoto Protocol dead in the water. His reasons are purely economic. If the emission reductions agreed in Kyoto became binding, the USA, in light of its ever-growing greenhouse gas emissions, would have to spend several billion dollars a year to adhere to the set limit.

Hence, of decisive importance for the fate of the Kyoto Protocol is the position of Russia. Although Russia has been continuously "promising" the European Union that it will adopt it, recently it has begun to increasingly emphasise its possible economic disadvantages.

The actual reason is the nay-saying approach of the USA. At present, due to the economic slowdown Russia possesses a huge amount of "saved" greenhouse gas emissions, totalling more than 1,000 million tonnes of CO_2 eq. This involves emission abatement of such enormous volume that given the existing situation they would only be saleable in the case of demand on the part of the USA. The European Union has managed to partially reduce emissions, while emission abatements in candidate countries would suffice as the remaining share for meeting its reduction pledge. Other large greenhouse-gas producers, such as Canada and Japan, would need much less of these "emission credits" to comply with their national limits.

This January, Russian and American ministers met in Moscow with a view to agreeing upon seeking a "new direction" in tackling global warming and climate change. The result of the negotiations is an agreement on extending cooperation and strengthening joint endeavours in this issue. This autumn Moscow is scheduled to host the World Conference on Climate Change.

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Conference programme:

wwww.meteo.ru/wccc2003

SEVEn on the move

After spending more than 10 years at Slezská 7, SEVEn is moving to a new address. From April 2003, our registered office will be at Americká 17, in the same Prague district. Telephone numbers and email addresses remain unchanged.

Sušice low-energy low-cost apartment house complete

At the beginning of February the low-energy low-cost residential house in Sušice was approved. Fourteen days later the owners took possession of the keys to their flats and ever since the house has been bustling with life. A basic deposit ranging between CZK 200,000 and 700,000 was paid for a flat, the rest of the price will be paid to the town in instalments over the next 20 years. However, the occupants pay much less than the usual sum for heating. SEVEn has no intention of abandoning the Sušice project after the building's completion. Over a period of 18 months, the house's operation will be monitored and energy consumption evaluated. Only then will it be possible to answer the question of whether or not specific energy consumption of 50 kWh/m^2/year, as defined in the project order, has been attained.

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Awards for low-energy family houses

Last autumn the Ministry of Industry and Trade of the Czech Republic, in cooperation with the Czech Energy Agency and ABF, announced a competition entitled "Energy Project 2002". The competition's results were announced on the occasion of the opening of the Prague trade fair season 2003 – on February 6 in the Municipal House in Prague, where the new year of the competition was announced too.

In category A 1.– "Projects" the work "Roztoky – four low-energy family row houses" of Akad. arch. B. Arch. Josef Horný, Ing. Vladimír Žďára, CSc. and Doc. Ing. Karel Kabele, CSc. were presented with a prize.

It not only reflects low-energy, low-cost and ecological aspects, but also factors connected with urban planning and the quality of life of city dwellers in general.

The prize-winning solution for all four houses represents capital costs of CZK 9,000,000 including the lot in Roztoky u Prahy and engineering networks. Specific heat consumption for house heating complies with the standard of passive buildings, i.e. up to 15 kWh/m^2/year. The entire plan demonstrates the designers' endeavour to apply environmentally suitable materials, to attain a high-quality internal microclimate and a hygienic indoor environment.

Information on the Energy Project 2002 competition:

http://www.estav.cz/souteze/energoprojekt/vysledky2002.asp

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New publication on heat pumps

If you are interested in how exactly heat pumps work, which buildings they are suitable for, what operating cost savings they can bring or how to proceed when selecting a specific heating system, we recommend a new publication entitled "Heat Pumps". Its author is Ladislav Tintěra. The book provides a summary of heat pumps already installed in Czech Republic and information on economic aspects of their operation. It also describes particular types of pumps, heating systems and forms of heat consumption in households. The publication also offers a number of contacts from which more specific data can be obtained.

For detailed information on the "Heat Pumps" publication, please contact the publishing house ABF, a.s.:

http://www.eprodejna.cz/kniha.asp?id=617

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Setur water engine wins Negawatt 2002

Great interest on the part of visitors to the EEBW 2002 Conference last November was aroused by the domestic hydroelectric power plant DVE 240, the winner of the Negawatt 2002 title. It generates electricity even when applied in watercourses with minimal flow. The device's heart is a bladeless Setur water engine, the invention of Professor Miroslav Sedláček from the Civil Engineering Faculty of the Czech Technical University in Prague.

This "generating liquid machine" works on the basis of a hydrodynamic principle not yet applied in practice. Its structure allows for the use of input energy of extremely small flows of about 4 - 15 litres of water per second with a gradient of 3 - 20 metres, and also absolutely minimal gradients of 0.6 - 1.2 metres with flows of approximately 20 - 200 litres of water per second, and their transformation in useful mechanical work with an efficiency between 55 and 80%. Such extraordinarily low natural parameters have not been used in practice despite representing more than half the total hydro-energy potential.

The entire device is characterised by its simplicity and reliability and, last but not least, minimal operating cost.

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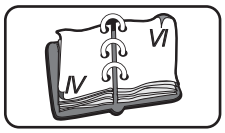
e-mail: misetur@post.cz
http://web.iol.cz/kz-mechanika

Conferences, exhibitions and presentations



April – June 2003

Amper 2003
11th international trade fair of electrical technology and electronics
1. – 4. 4.
Prague – PVA Letňany
Contact: Terinvest
e-mail: info@fractal.cz
www.amper.cz

I9th nationwide meeting of electricians of the Czech Republic
2. – 3. 4.
Conference Centre, Hotel Olympik, Prague
Contact: ETM,
e-mail: hala@etm.cz
www.etm.cz

Racioenergia
13th international trade fair of energy efficiency and energy use rationalisation
1. – 5. 4.
Bratislava, Slovakia
Contact: Incheba Bratislava, a.s.
e-mail: info@incheba.sk
www.incheba.sk

Heating Days – Renewable Energy Sources
9th international specialist exhibition of techniques and technologies for long-distance heat and cooling supply, power engineering, and renewable energy sources
9. – 11. 4.
Hradec Králové - Aldis Congress Centre
Contact: PAREXPO s.r.o.
e-mail: navratilova@parexpo.cz
www.parexpo.cz/oze/

Enviro 2003
8th international exhibition of techniques and technologies for environmental protection and planning
10. – 13. 4.
Nitra, Slovakia
Contact: Agrokomplex - výstavnictvo Nitra
e-mail: agrokomplex@agrokomplex.sk
www.agrokomplex.sk

Alternative energy sources
Exhibition and conference
21. – 23. 5.
Ostravské výstavy, a.s. - Černá louka Exhibition Grounds
Contact: Ostravské výstavy, a.s. – Výstaviště Černá louka
email: vystavy@cerna-louka.cz
www.cerna-louka.cz/

Sustain
The World Sustainable Energy Exhibition & Conference
13. – 15. 5.
Amsterdam, Netherlands
Contact: Amsterdam RAI,
e-mail: sustain2003@rai.nl
www.sustain2003.com

For Arch Slovakia
6th international building trade fair
13. – 16. 5.
Banská Bystrica, Slovakia
Contact: ABF, a.s.
e-mail: abf@abf.cz
www.abf.cz

ISES 2003
ISES Solar World Congress 2003
14. – 19. 6.
Göteborg, Sweden
Contact: Congrex Göteborg AB
e-mail: ISES2003@gbg.congrex.se
www.congrex.com

ESTEC
European Solar Energy Conference
26. – 27. 6.
Freiburg, Germany
Contact: DFS – Deutscher Fachverband Solarenergie e.V.
e-mail: esif@estec2OO3.org
www.estec2003.org

Directory of publications devoted to renewable energy sources development

WWW

Renewable sources and global energy consumption – Information for 2002
International Energy Agency
The publication presents the main factors in the development of renewable energy sources. It emphasises their contribution to total consumption of primary energy sources, their role in global electric power generation and prospects for their wider use. This book is the first in a series of statistical publications of the International Energy Agency focused on utilisation of renewable sources in OECD countries. It provides extensive information on electricity and heat generation, final consumption and the installed rate of renewable energy sources in 30 OECD members states
http://www.iea.org/stats/files/ren2002.pdf
http://www.iea.org/leaflet.pdf

Summary of successful sustainable energy projects in Central and Eastern Europe
INFORSE–Europe & ECO–Forum
A summary of more than 20 projects aimed at sustainable power engineering, most of them representing important activities in the given area. Some projects have been initiated by civic associations, others are financially supported by foreign sources, but all are long–term projects with a potential for expansion
http://www.inforse.org/europe/contents.htm

Energy for the future – Renewable energy sources: White Paper
European Commission
The White Paper of the European Commission presents the strategy for doubling consumption of primary energy from renewable sources in the EU by 2010 (from the present 6% to 12%), including the time schedule for the introduction of individual measures. They entail strengthening successful measures, increased international cooperation and support for investment and exchange of experience from the development of renewable sources.
http://europa.eu.int/comm/energy/en/com599.htm

Possibilities of merchantable green certificates for renewable energy sources development
Dutch Energy Research Centre
The publication presents the principle of merchantable green certificates as a tool for supporting commercial use of renewable energy sources and the possibilities of their practical use. It describes barriers to their introduction, the role of central government bodies and the applicability in individual countries.
ftp://ftp.ecn.nl/pub/www/library/report/1999/c99072.pdf

The investment climate for climate investment: JI in transition countries
European Bank for Reconstruction and Development
Central and Eastern European countries have a high potential for reducing greenhouse gas emissions at a low cost. But the success of these projects is also dependent on the market environment offered to investors. This study describes the situation in the EU accession countries and other Eastern European countries.
http://www.ebrd.com/pubs/econ/workingp/77.pdf

Atlas of facilities using renewable energy sources
Calla Association
A website and a collection of printed publications providing a detailed list of facilities using renewable energy sources in the Czech Republic.
http://calla.ecn.cz/atlas/publikace.php

Development of wind power engineering and successful model projects
European Association for Wind Power Engineering
The document presents the sequence of measures for successful implementation of wind–park construction. From the examples of individual projects, it demonstrates the necessity of their implementation for achieving the goal, and from the viewpoint of these projects' initiators it describes the individual aspects which predetermine their success.
http://www.ewea.org/doc/BPG.pdf

Policy for green power support
Pollution Probe
The document describes and evaluates individual mechanisms and policies introduced to support growth of electric power generation from renewable energy sources. It points out their successes and shortcomings and assesses the possibility of practical application.
http://www.pollutionprobe.org/Reports/greenpower.pdf

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