# News at SEVEn

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## **ENERGY EFFICIENCY NEWS FROM THE CZECH REPUBLIC**

## Municipal ordinances and energy policy for the third time

Does a town and its representatives possess the right to decide on what form of energy for heating should be dominant in its individual districts? The ordinances of several towns have aspired to this form of influence, however, their gradual modifications seem to suggest that this form of a town's influence on the municipal energy sector is not legally acceptable.

What specifically is at issue? When working on their regional energy policies, some towns strive for reduction of competition, divide individual urban districts into areas with a preferred type of heating and confine other manners of energy supplies in these zones. They try to enforce this policy through generally binding ordinances arising either from Act No. 406/2000 Coll., on energy management, Act No. 86/2002 Coll., on air pollution control, or Act No. 50/1976 Coll., on land-use planning. The city of Pilsen is among those to have decided on an energy policy and a solution conceived in this manner. It was the first town in the Czech Republic to issue a municipal ordinance (No.13/2002) for implementing the City of Pilsen Municipal Energy Policy, drawn up in compliance with the new Energy Management Act.

In previous issues of our newsletter we have highlighted the problems originating in the case of such an energy policy with the effort to enforce energy "zoning" through a generally binding ordinance and curtail the possibilities origing ordinance and currall the possibilities of using other energy forms beyond the frame-work of the law. The Director of the State Energy Inspection negatively responded to our article, stating that according to the legal opinion of the State Energy Inspection and the Ministry of Industry and Trade, i.e. the authors of Act No. 406/2000 Coll., the problem does not rest in ordinances. As an example, he cited the Pilsen ordinance – for details, see News at

SEVEn issues 1/2003 and 2/2003 (the newsletter archive at www.svn.cz).

Last autumn the Regional Authority of the Pilsen Region began investigating the legality of the above-mentioned generally binding ordi-nance of the city of Pilsen. To preclude a legal decision of the Regional Authority on the ordinance being contrary to the valid laws, already during the course of the inquiry the city amended key provisions of its ordinance by a new ordinance, No. 9/2003. The main controversial provisions of the original ordinance limiting the possibility of selecting the type of energy supply beyond the bounds of the law were eliminated. Thus, the ordinance de facto merely refers to the legal obligation of connecting to district heating, if it is proved to be technically feasible and economically acceptable. In other areas, the ordinance defines the city's interests and preferences, however, it only recommends, not enforces, these interests so as not to come into conflict with the law. The amended ordinance retains one materially well-founded measure, but apparently still legally contestible provision, namely, an absolute ban on heating with fossil fuels in earmarked zones.

Similarly, following notifications from their legal departments and superior control authorities, several other towns have decided to make their ordinances consistent with the legal order and to abandon the existing manner of binding regulation of the energy sector in their territo-ries (binding zoning with limitation of other than selected types of energy supply), be it stipulated in an ordinance pursuant to the Energy Management Act or the Land-use Planning Act.

The issue of municipal power engineering is extremely complex, having close links to other areas, primarily the environment, and exposed to pressure to exert often antipodal interests Cont. on page 2

## EPC project saves Prague's Motol Hospital energy

In October 2002 the Motol Teaching Hospital signed a contract on provision of energy services that over the period of eight years are to ensure that over the period of eight years are to ensure safe and economically effective heat manage-ment of the largest hospital in the Czech Republic. The contract not only guarantees for the hospital high-quality supply of heat, hot water and technological steam but, in addition, will also result in significant financial savings totalling tens of millions of Czech crowns.

The signing of the contract on implementing a planned refurbishment of an unsatisfactory heat source and obsolete steam distribution was preceded by an in-depth energy audit which provided a clear idea of possible direc-tions in making the hospital's energy manage-ment more efficient. Apart from the proposed technical designs of the refurbishment, one of the audit's recommendations was using the EPC method. As a result, the hospital can implement the required technical and organisational measures without the necessity of securing investment means and, on the top of that, with a contractual guarantee that the hospital will be able to repay the outlaid financial means

from savings attained. In the first year of "functioning" of the pro-



ject, contractually ensured by the specially established company EPC Motol, a boiler room was completely refurbished, a large part of steam distribution was replaced, and several other additional measures were carried out. Operating costs for meeting the hospital's energy requirements, i.e. primarily heat, hot water, operation of steam technologies and electrical appliances, have fallen despite rising gas prices, water tariffs and sewerage charges, increased labour costs etc. Of importance as regards the entire project is that these lowered payments already include instalments of costs for the refurbished boiler room, new distribution and all other measures carried out turnkey Cont. on page 2

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# **Energy labels** of buildings - who are they for and what do they prove?

Both the professional and non-professional public are generally familiar with energy labels for various electrical household appliances. They classify specific appliances into energy classes, thus comparing them with other appliances of the same type. Based on an identical principle are energy labels of buildings, used with increasing frequency in EU countries, the Czech Republic included.

As the picture shows, the energy label classifies buildings into classes A to G, like in the case of conventional labels. It indicates their energy consumption on the scale Extra saving buil-ding – Extra substandard building, according to the so-called energy intensity of buildings. Source materials for determining the energy

intensity of a specific building are set by Czech Technical Standard No. 73 0540-2 of Novem-ber 2002. Pursuant to this standard, energy labels of buildings are made out during approval procedures of new buildings and construction modifications requiring planning permission, energy audits, official acts during their sale, investment and commercial deliberations. Cont. on page 2

## Municipal ordinances and energy policy for the third time

Continued from page 1

and, in some cases, ingrained myths. Both towns and small municipalities do not only have to tackle material issues, but sometimes also haplessly formulated laws. Nevertheless, they are the ones bearing responsibility for the quality of our legal order at the municipal level. It can be safely assumed that the development in this regard has yet to be consolidated and completed. Hence, we will continue to cover this issue.

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# EPC project saves Prague's Motol Hospital energy

through the EPC method.

Since it concerns the first such extensive EPC project implemented on the basis of a public tender on a state property, a host of specialists, not only EPC experts but also lawyers and technicians, were invited to take part from the very beginning of the preparations. After almost one year's efforts, this team jointly managed to put together and evaluate a tender, prepare the contractual details and commence the mentioned eight-year period of the project's operation. In cooperation with SEVEn, at the beginning of 2004 the first year of the project's operation was evaluated. The economic results are favourable and encouraging for the years to come Thus, Motol Teaching Hospital has for the

next eight years contractually guaranteed operating costs necessary for meeting all energy requirements and, in addition, as has been confirmed by the results of the first evaluated year, even reduction of these costs below the originally estimated level. Owing to the EPC project, the hospital will save finance that would otherwise have to be wastefully laid out on energy bills and repairs of dilapidated installations, as well as wages for a large number of employees who until recently had to maintain the inefficient and obsolete equipment in operation.

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# Energy labels of buildings – who are they for and what do they prove?

	Energetický štítek budovy				
ova :	stávající stav - XXXX				
	хжж				
kt:	x00X				
ifikace energelické náročnosti	Sha	Stupeň energelické náročnosti SEN			
Mimolädné úsporná budova		Zjältänä hodnota			
A>	8EN 540%				
B	SEN \$80%	Úsporná			
C>	SEN \$80%	75%			
<u> </u>	SEN \$100%	100% -Poladavsk Can 73 0540-2:2002			
E>	SEN \$120%				
F	SEN \$150%				
G>	SEN 2150%				
Mittofädni nevyhovulici budova					

One of the motivations when implement in g energy labels of buildings is the endeavour to increase the market's interest in more energy-efficient buildings and facilitate owners' access to information pertaining to this area. Besides identification data, energy labels provide to the parties concerned data on the building's size, climatic conditions, as well as the characteristics of several energy-relevant parameters.

In compliance with the current energy legislation, energy labels have become, for example, part of energy audits of buildings, which can serve during decision-making about their possible reconstruction.

In relation to the Czech Republic's accession to the European Union, prepared in the near future will be legislation requiring the making out of energy labels also containing data on the energy intensity of operating building equipment. Use and public disclosure of labels will be obligatory in the course of every sale of a building to a new owner.

-jk-European legislation: www.europa.eu.int/scadplus/ /leg/en/lvb/l21252.htm

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## New co-financing for projects reducing greenhouse gas emissions

Are you preparing a new project aimed at energy savings? Until the end of August 2004 you can apply among projects supported by the Prototype Carbon Fund (PCF). The Fund was established by the World Bank and its mediator in the Czech Republic is the Czech Energy Agency. Pursuant to a contract concluded between the Agency and the World Bank, project winners will receive USD 3 per tonne of  $CO_2$  emission reductions.

The cooperation aims to promote in the Czech Republic the implementation of projects facilitating abatement of greenhouse gas emissions through increased energy efficiency and greater use of renewable and secondary energy sources. Hence, the contract is a springboard for fulfilling the Czech Republic's international environmental obligations related to climate change. Within the framework of the PCF

programme, the Czech Energy Agency has pledged to mediate projects leading to savings totalling 500,000 tonnes of  $CO_2$ .

Three major preconditions must be met for being granted project support:

- the project's implementation will result in the saving of at least 1,000 tonnes of CO<sub>2</sub> emissions a year;
- the investor plausibly proves that the project could not be implemented without PCF support;
- the project is in the preparatory phase (its approval procedure has not taken place).

Within the energy saving programme, the PCF primarily focuses in the Czech Republic on the following project categories:

- district heating;
- small hydro-electric power stations;
- energy efficiency in public buildings;

 $\blacklozenge$  energy efficiency in industry.

The companies SEVEn, o.p.s. and EuroEnergy have been encharged with communication with project subjects, evaluation of technical, economic and environmental merits of projects' implementation and their monitoring. The recipients of finance for achieving emission reductions will be project owners or project operators with which the Czech Energy Agency, as the mediator for the World Bank, will conclude an agreement with the aim of purchasing emission reductions.

More information: Jana Szomolányiová, SEVEn, o.p.s. janas@svn.cz tel.: 224 252 115 www.ceacr.cz/?page=23 News at SEVEn 3/2003

### Phare Energy Saving Fund with renewed contract and new terms

At the beginning of 2004 ČSOB (Czechoslovak Trading Bank) and the Ministry of Industry and Trade concluded a contract on prolonging and modifying some terms for the operation of the Phare Energy Saving Fund. Thus, the parties concerned can henceforth use this financial resource to provide loans under conditions more advantageous than on the regular credit market.

Between 1997 and 2003 the Phare Energy Saving Fund backed approximately 40 projects to the tune of almost CZK 400 million. According to ČSOB representatives, implementation of these projects has brought their executors average annual energy savings amounting to CZK 2.4 million.

Who are the recipients of this support and what types of companies and institutions can seek finance from the Fund? It primarily concerns industrial establishments, district heating companies, towns and municipalities, schools and hospitals, housing and manufacturing cooperatives.

Projects are presented in a form standard for bank loan applications. The specific amount of estimated energy savings must be confirmed in project documents by an energy auditor. However, an integrated energy audit of a building or technology is only carried out one year after a project has been implemented, and the audit costs are reimbursed from Phare funds. If auditing does not prove the planned savings, the bank client forfeits the possibility of further use of Phare benefits, which represent a loan rate reduction of approximately one per cent as against current commercial rates.

The share of credit from ČSOB in total capital costs must not be lower than 60%, while the client's minimum participation is 20% of capital costs. When implementing projects, combination with external resources such as subsidies from the Czech Energy Agency or European Union funds is accepted if the terms of their use so allow. ČSOB grants credits at the level between CZK 2 and 50 million for the period of 4 to 10 years with the maximum deferment of payment being one year.

-jk-More information: ČSOB, a.s.: www.csob.cz information line: 800 110 808

Note: Parties interested in a bank credit guarantee from the funds of the International Finance Corporation (IFC), which has initiated a new specialised financial mechanism in the Czech Republic, can find detailed information in News at SEVEn, issues 2 and 4/2003.

# 9th international conference and specialist exhibitionEEBW: Energy Efficiency Business Week 2004November 8. – 11. 2004 □ Prague Congress Centre

Efficient energy use is undoubtedly one of the most promising, environmentally friendly and economically interesting energy sources for the future. EEBW: Energy Efficiency Business Week 2004 ranks among the leading conferences pertaining to energy efficiency in Central and Eastern Europe.

Characteristic feature of the conference is the combination of practical experience from the implementation of particular projects with information about all important aspects and trends influencing decision-making and enterprise when it comes to efficient energy use.

SEVEn, o. p. s. organises the EEBW: Energy Efficiency Business Week international conference within the framework of "Energy Efficiency Business Week", comprising the following activities: trade and business meetings • advisory and information services • specialist excursions • social activities • professional thematic inputs in the media and company presentations • press conferences.

EEBW 2004 themes:

- Energy policy in the EU and acceding countries
- Energy and the environment: Project financing, EU programmes, structural funds

Project preparation, terms of information from "the state" • How to start and proceed, who gives advice and assistance, what can be combined with what, implementation examples • Support tools - CEEF, PCF

Liberalised electricity and gas market and related EU directives

For new eligible customers – what to do and how to do it • "Menu of services" • Examples of implemented projects and results • Risk management • Market experience – competition or market division • Conditions (EU) for government grants on a competitive market (with green power)

#### Emissions trading

The principle of emissions trading  $\bullet$  The principle of marketable RES certificates  $\bullet$  How to trade and with whom in particular, dates, costs

#### Renewable energy sources (RES)

EU Directive supporting electricity generation from RES and requirements for members states • RES promotion by law in the Czech Republic and abroad • Opportunities for producers: promotion by law, sale of emissions saved, obtaining a subsidy = "triple profit" • Biomass as an economically effective alternative for heating in the municipal and industrial sectors • Practical experience with implementations • Principles for project preparation • Economics of biomass use • Biogas use

#### Sustainable development of settlement complexes and low-energy architecture Development of settlement complexes • Ex-

Development of settlement complexes • Experience with design, construction and operation of standard-comfort buildings with half the consumption of energy for heating without raised capital cost • Passive buildings • "Zero" buildings • "Plus" buildings • Energy-efficient lighting (interior, outdoor)

#### Prefab buildings and social housing

European approaches to refurbishing prefab housing · Legislative environment and conditions for renovation and reconstruction of prefab buildings

Energy services with a guarantee and energy audits

Energy services on offer • Examples of implemented projects, practical experience and results • Risk management • Combining projects  economies of scale • Use of energy audits in EPC/EC projects and selection procedures • Experience with announcing selection procedures for EPC/EC projects • Monitoring and evaluation of results • Use of EPC in lighting • Energy audits and feasibility studies • Energy audits in industry and the public sector

The conference is intended for:

- Government administration and local authorities' representatives
- EU Commission representatives
- Financial institutions
- Consulting companies
- Investors
- Professional and craft associations
- Energy suppliers and consumers
- Corporate energy service providers
- Energy efficiency technology and equipment manufacturers
- Research and educational institutions
  Conference languages with simultaneous in-

terpreting provided: English, Czech.

Media partners:



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## New project seeking routes to faster renovation of the housing stock

Comprehensive thermal insulation of a flat or an entire house, consisting of replacing windows, insulating envelope structures, roofs and floors, requires capital investment of at least CZK 160 thousand per flat and for overall regeneration of a house more than double this sum. In the Czech Republic almost 1.2 million flats, i.e. approximately 30% of the housing stock, are situated in prefab buildings. To date, only several tens of thousands of flats have been comprehensively repaired. Is the reason for this negative trend merely general lack of finance?

Repairing apartment houses, especially those built using prefab technology, has increasingly become a bare necessity for staving off the frequent threat of a house's imminent collapse. However, removing static failures of structures is a costly business. According to current technical standards, reconstruction in practice also requires a building's subsequent thermal insulation and overall improvement in living comfort, which is supported by various government programmes. But this further increases reconstruction costs by several tens of thousands of crowns to more than three hundred thousand per flat.

Thus, it appears that a barrier to greater investment in the housing stock's renovation has paradoxically become comprehensive renovation of a house, although co-financed by the state through various support programmes. And this is not even mentioning the administratively complicated conditions for obtaining a government subsidy, subsequent problems with providing appropriate securing by a credit and the general legislative framework itself. The result is the present slow rate of progress in the housing stock's renovation, leading to its further dilapidation.

This was precisely the reason for establishing an all-encompassing task force, consisting of representatives of all the housing sector seg-

Table: Cost of comprehensive reconstruction of an average flat in a prefab house

Manager (	Capital cost per flat [CZK]	
Measure (min/max)	Min	Max
Removal of static defects and improvement of them	nal and technical parar	neters
- Repairs of units, anchorage of foundations, substructures, spine walls, floors and stairs	15,000	30,000
- Rehabilitation and thermal insulation of envelopes	70,000	110,000
- Rehabilitation of membrane roofing (waterproofing and insulation, including pitching)	10,000	18,000
- Replacement of windows	6,000	60,000
- Repairs of recessed balconies (with max., including glazing)	30,000	50,000
Building equipment		
- Replacement of distributions (water, heating, gas, electricity)	15,000	30,000
- Rehabilitation of heat sources (exchanger stations or internal boilers)	10,000	15,000
- Refurbishment of lifts (replacement of cages)	15 000	40 000
Comprehensive reconstruction in total	160,000	350,000

(1 EUR = 32 CZK)

Note: Gradual reconstruction according to owners' deliberations is possible of course. Source: SEVEn

ments (cooperative, tenant and proprietary), as well as ministries and state institutions influencing housing policy, financial institutions and consultancy companies, which should find an effective way to overcome these barriers. The team's brief is to propose specific measures with the aim of their practical implementation. The task force first met at the beginning of May 2004.

The project's initiator is the Dutch Ministry for Land-Use Planning, Housing and the Environment. It perceives the problem of the dilapidated housing stock of the Czech Republic

and other new European Union members as one of the major obstacles to their social and economic convergence with other EU countries.

However, housing policy is at present exclusively the domain of national governments and the European Commission does not possess a mandate for direct intervention in this area and, accordingly, financial assistance.

Since the quality of housing undoubtedly has profound socio-economic and ecological dimensions, the Dutch government intends to elevate this problem to the level of common European policy.

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## Sušice Low-energy Low-cost Apartment House project wins **Energy Project 2003 prize**

On March 11, 2004 the results of the Energy Project 2003 competition were announced. It was organised by the Ministry of Industry and Trade of the Czech Republic in cooperation

with ABF, a.s. and the Czech Energy Agency within the Eco – City 2004 trade fair. In the category Reconstruction, Refurbishment and Construction of Low-energy Apartment Houses, SEVEn was awarded a prize for the Sušice Low-Energy Low-cost Apartment House project. Thanks for the project's successful implementation are in order to its author, the architect Pavel Vaněček, the company Union Arch Liberec, the town of Sušice as the project's investor, the organisations UNDP and GEF, as well as other partners without whom it would not have been possible to materialise the project.

The evaluation committee appraised the house's structural and architectural design issuing from the principle of low-ener-

gy construction. We guote from the evaluation: "Extremely compact layout, high thermal and technical standard of envelope structures, the roof and windows in linkage to the climat-



ic and economic conditions in the Czech Republic mutually exponentiate in the quality of a sustainable construction. The project's exceptional benefit lies in the fact that the public

has the possibility to verify on a repeatable construction the applicability of project methods taking into consideration aspects of sustainable development of society.

The approval procedure of the house comprising nine apartment units with capital costs of CZK 12 million took place in February 2003. The house is exceptional in the fact that its construction costs were not increased owing to its "lowenergy nature" and the tenants will pay for heating on average half of what they would in a standard residential building.

-ik-

More information:

http://www.estav.cz/souteze/ /energoprojekt/ lvysledky2003.asp

## What type of contract to sign with EPC?

In recent years a host of projects allowing customers, mainly those from the public sector, to attain cost reductions for energy consumption either through installing saving measures on the consumption side or converting inefficient energy sources (boiler plants) have been successfully launched in the Czech Republic. However, the organisation of selecting suppliers in the form of public contracts to a certain extent conformed to the developing market in these services and the consequent rather free provisions in final contracts. This could lead to lower opportunities of choosing the most suitable supplier.

Hence, in addition to other instructions and experience with applying public procurement acts, the Clearcontract national project also entailed the drawing up of a model contract for two types of energy services contracts - Energy Performance Contracting (EPC) and Energy Contracting (EC).

The model contract precisely stipulates all important relations between the ordering party

and the contractor, such as determination of the method of calculating reference and real energy consumption, definition of the manner of the contractor's guarantee for energy saving etc. Its title "Contract on guaranteed energy savings" indicates that it primarily concerns a service, while the delivery of material elements (technical "saving measures") is not pivotal with this type of contract.

This contract has already been used during the preparation of tenders for the "Provision of energy services guaranteeing savings in operating costs necessary for meeting energy requirements in selected structures of the town of Most" pilot project and "Provision of energy services guaranteeing savings in operating costs necessary for meeting energy require-ments in the Ostrava Depot of Rail Vehicles -Bohumín operating unit"

The contract and the related services provided comply with the Public Procurement Act, in the wording valid since 1. 5. 2004. Some changes in placing public orders in comparison with the manner in which we have hitherto prepared tenders and selection procedures for our customers will be described in the next issue of News at SEVEn.

The "Clearcontract" (Clearing House for TPF in Eastern Europe) project aims at reducing energy consumption in Central and Eastern European countries through opening up the market for the still relatively new and uncommon type of services - energy services with a guarantee. The draft contract and further information about the mentioned services can be found at http://czech.clearcontract.net, where there is also a reference to the project's main (international) page.

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## District heating - route to sustainability or conservation of an old regime?

District heating in Central and Eastern European countries forms a significant share in total heat supplies. In many cases, it represents a considerable contribution to environmental protection owing to effective energy supplies to consumers. In other cases, however, it may concern conservation of an old and ineffective system hindering beneficent modernisation of heat and hot water supplies. How then to ensure that district heating is synonymous with efficacy and efficiency in the energy industry? Focused on this issue was the Prague "District Heating Policy in Transition Economies" international conference organised by the International Energy Agency and held in February 2004

The conference was attended by more than 100 representatives of 26 CEE countries, including five deputy ministers of industry, from the

Czech Republic, Belarus, Latvia, Moldova and Ukraine. The event's organisational backup was provided in cooperation with SEVEn, o.p.s. As Ambassador William Ramsay, Deputy Director of the International Energy Agency, said at the conference, "district heating has the potential to make a substantial contribution to a sustainable energy future in Central Europe and the former Soviet Union. These systems can do much to save energy and boost energy security, but stronger policy measures are needed to encourage wise management and investment.

At the present time, district heating, a source of economically effective and environmentally sound energy supply in the Central European region, has a 60% share in heat and hot water supplies. However, many supply systems face various economic and technical problems that result from the local legislative environment. In order to boost district heating, the conference participants declared themselves in favour of:

- Improving energy security with more efficient district heating, Enhancing business practices and service-ori-
- entation,
- Reducing overcapacity through competition or better regulation, Encouraging technological leapfrogging to
- protect the environment,
- Incorporating district heating in national energy legislation.

-jk-

More information: International Energy Agency:

nmc@iea.org

http://librarv.iea.org/dbtw-wpd/textbase/ /work/workshopdetail.asp?id=182

## Děčín geothermal energy – the biggest in the CR

Geothermal energy is a renewable energy source with a relatively low number of specific implementations. However, in the Czech Republic we can find an example of a notable project utilising earth heat for heating and heating up water. It concerns the Děčín Heating Plant, supplying heat to part of the town of Děčín.

The project of using geothermal energy in Děčín commenced in the early 1990s but had to wait a long time for a strong investor to emerge. The heat producer in Děčín, the company Termo, used warm water from boreholes as pre-heated drinking water. Only following the entry of the fourth-

largest player on the Czech district heating market could the project be implemented to the full extent. The company MVV Energie realised a project whose costs, including preparatory work (a geothermal borehole, construction of a source, a distribution system and a drinking water inlet into the municipal water reservoir), exceeded CZK 550 million. Construction started in October 2000 and was completed in September 2002. Heat prices reached approximately 400 CZK/GJ (excluding VAT), however, their growth is not expected in the future owing to low fuel costs. (1 EUR = 32 CZK.) Energy in Děčín is "concealed" in a vast un-

Energy in Děčín is "concealed" in a vast underground lake from which water with the temperature of 30° C flows out through natural overpressure of 20 metres of a water column to the ground from the depth of 550 metres. The borehole yield is 54 litres a second. By means of heat pumps, geothermal water is used for gen-



erating thermal energy. After cooling down to 10° C and simple treatment it meets requirements for quality drinking water and is supplied to the municipal water reservoir in the volume of approximately 1 million m<sup>3</sup> a year.

The central source of Termo Děčín a. s. consists of two heat pumps, two gas cogeneration units and two gas boilers. The basic load is covered by heat pumps and cogeneration units. Production plants always come in twos, in order to attain the necessary flexibility during their use. The water's passage from the borehole is difficult to change, therefore the source is supplemented by a heat reservoir. The limited flexibility of using geothermal water from the borehole also precludes intermittent operation of heat pumps and motors, as is otherwise common with CHP plants.

Network water of the return pipe with the temperature of approximately 55° C is first

heated up by means of a heat pump system to the temperature of about 72° C, subsequent fur-ther heating up to about 90° C is ensured by the heating output of motors. Electricity generated through cogeneration primarily serves for driving the heat pump compressors and other circulation pumps of the source and the distribution network. If output above 9 MWt is necessary, further heating up to a maximum of 110° C and the remaining necessary output capacity is provided by peak boilers using natural gas, which can also serve independently as a backup source for covering the entire requirement of the network

during outage of heat pumps or motors. The hot-water distribution network has the nominal parameters of 110/65°C. In comparison with the hot-water system with the temperature of 130°C, this solution allows for better use of heat from heat pumps.

Total annual heat supply from the source is approximately 280 TJ. One-third of heat generation should be covered by geothermal heat. The source's total efficiency expressed as the share of heat supplied to distribution and the calorific value of consumed natural gas in an annual aggregate ranges between 120 and 130%.  $CO_2$  saving in comparison with heat generation merely from natural gas is roughly 10,000 tonnes a year.

#### -/t-

## More information:

www.mvv.cz/index.php?cmd=page&id=118

## How to save 1% more energy a year

At the end of 2003 the European Commission prepared and submitted to the European Parliament a proposal for adopting the Directive on energy efficiency and energy services in the European Union. Its objective is to attain annual energy savings totalling at least 1% of energy consumed. By 2012 this endeavour should have led to an energy efficiency increase of at least 6%.

According to estimates, energy consumption in the European Union is approximately 20% higher than is economically reasonable. Hence, a large, hitherto untapped, saving potential exists. The European Commission assesses it to be the equivalent of more than 200 million tonnes of crude oil a year.

A major part of the savings can be attained through energy services and other saving measures. Their value is presumed to account for EUR 5 to 10 billion a year, with another benefit being that it concerns projects requiring intensive engagement of labour forces, such as reconstruction of buildings.

The main mechanism inherent in the proposed Directive is the endeavour of the European Commission to remove barriers hindering full development of a functional and competitively strong market in energy-saving measures. Scheduled for the beginning is the use of a certain form of subsidies and government programmes, however, their functionality should eventually be a purely commercial service.

What specific objectives does the Directive set out? EU member states should annually save at least 1% of energy in comparison with the average annual power consumption over the period of the past five years. As against 2006, by 2012 energy consumption should decrease by approximately 6%. In addition, the public sector should set a special example, with annual savings at the minimum level of 1.5% being factored in. The Directive also requires that energy suppliers actively provide services resulting in energy savings too, or offer energy audits.

It will be up to individual member states as to which sector of energy consumption is the object of major attention, although every form of energy consumption should have the possibility to use at least some type of energy services or programmes aimed at energy savings.

On the basis of the Directive, EU member states will have to implement a system of quantification and certification of energy services providers. National energy regulatory offices will then have to introduce price tariffs and possibilities of covering investments, which will support the implementation and wider use of energy services, measures and programmes. Furthermore, it will be necessary to diminish or remove legislative barriers to the use of monetary tools for financing energy services, as well as earmark or set up an organisation responsible for monitoring and checking energy savings achieved.

Does it concern an entirely new possibility of gradual but permanent and efficient energy consumption reduction or a further administrative burden on doing business in the energy sector and the raising of new barriers to trade? Opinions differ. However, the text formulation of the draft new directive, although with an interesting objective, does give grounds for misgivings.

> -jk-, -jz-More information: http://www.managenergy.net/ /products/R448.htm

http://europa.eu.int/comm/energy/demand/ /legislation/end\_use\_en.htm

## New legislation supporting hi-efficiency cogeneration in the EU

In February 2004, Directive No. 8/2004 "on the promotion of cogeneration based on a useful heat demand in the internal energy market" was approved. The Directive proposes support for efficient cogeneration as an energy-efficient manner of heat and electric power generation by means of removing the barriers impeding its wider use on liberalised energy markets.

The Directive defines highly efficient cogeneration allowing for attaining at least 10% energy saving in comparison with separate heat and power generation. However, the document does not set any numeric objective, although in 1997 it presumed a doubling of energy produced in the form of cogeneration by 2010 to 18%. Instead, it requires that EU members themselves analyse their own potential of highly efficient cogeneration.

In 2001 combined heat and power generation in EU countries made up 10% of the total installed capacity of power plants, with its share in individual member countries ranging between 2 and 60%. Approximately 40% of the electric energy generated in CHP plants is used for supplies to households and the public sector, mainly in district heating systems. About 60% is generated by self-producers in the industrial sector.

http://europa.eu.int/comm/energy/demand/ /legislation/heat\_power\_en.htm

<sup>-</sup>jk-More information:

### July – September 2004

IEA/CSLF Joint Workshop on Legal Aspects of Storing Carbon Dioxide 12. – 13. 7. IEA, Paris Contact: International Energy Agency info@iea.org www.iea.org/Textbase/work/ workshopdetail.asp?id=183

Dům 2004 (House 2004) 20. – 22. 8. Louny Exhibition Grounds Contact: Diamant Expo spol. s r. o. sekretariat@diamantexpo.cz www.diamantexpo.cz/vystaviste/index.html

Domov a teplo 2004 (Home and Warmth 2004) 2. – 5. 9. Lysá nad Labem Exhibition Grounds Contact: Výstaviště Lysá n/l vystaviste\_lysa@pvtnet.cz www.vystaviste\_lysa.cz

Solar technologies for reconstruction of buildings (SOTERE 2004) 6. – 14. 9.

## Conferences

#### Prague

Contact: International Solar Energy Society (ISES) Tel: +49 761 45906 93 Fax: +49 761 45906 99 Email: mvanstaden@ises.org www.ises.org

FOR ARCH 2004 14. – 18. 9. Prague Letňany trade fair complex Contact: ABF, a. s. forarch@abf.cz www.forarch.cz/2004

#### Energetics

2<sup>nd</sup> international power engineering trade fair 14. – 19. 9. Zagreb Fair Contact: Zagreb Fair, Croatia energetika@zv.hr www.zv.hr/sajmovi/316/index\_en.html www.zv.hr/sajmovi/316/index\_en.html

International Trade Fair for Hydrogen and Fuel Cell Technologies 15 – 17. 9. Hamburg Messe Contact: Hamburg Messe und Congress GmbH



hamburg-abroad@hamburg-messe.de www.hamburg-messe.de/H2Expo/h2\_de/ /start\_main.htm www.hamburg-messe.de/H2Expo/ /h2\_de/start\_main.htm

#### MSV 2004

**46. mezinárodní strojírenský veletrh** 46<sup>th</sup> international engineering fair 20 – 24. 9. Brno – Exhibition Grounds Contact: Veletrhy Brno, a. s. msv@bvv.cz www.bvv.cz/msv

#### UNEP FI Renewable Energy & Energy Efficiency Finance Forum

Green Power in Central & Eastern Europe 27 – 29. 9. Radisson SAS Hotel, Budapest Contact: Green Power Conferences Probyn@greenpowerconferences.com www.GreenPowerConferences.com

# EEBW 2004: Energy Efficiency Business Week

9<sup>th</sup> international conference and exhibition 8 – 11.11. Prague Congress Centre Contact: SEVEn, seven@svn.cz www.svn.cz

## EU structural funds and their use in the CR

CzechInvest

http://www.czechinvest.cz

Ministry of Regional Development http://www.strukturalni-fondy.cz/

#### **Ministry of Industry and Trade**

http://www.mpo.cz/CZ/Evropska\_unie/Strukturalni\_fondy\_EU/ /default.htm

#### Ministry of Informatics http://www.micr.cz/eintegrace/fondy.htm

**Delegation of the European Commission in the CR** http://www.evropska-unie.cz/cz/article.asp?id=2737

#### Europeum, Institute for European Policy www.europeum.org/sf

#### Raven consulting / Economia Online

http://www.edotace.cz/

#### Institute for Structural Policy, o.p.s.

http://www.ireas.cz/index.php?pg=projekty&id\_zajem= 1&lang=cz

#### European Union

http://www.europa.eu.int/index\_cs.htm http://europa.eu.int/comm/regional\_policy/funds/ /prord/sf\_en.htm

Czech Energy Agency http://www.ceacr.cz/?page=sfeu\_cz

Biogama, s. r. o. http://www.strukturalnifondy.info/kategorie.php? kategorie=33

#### Egovernment

http://www.egovernment.cz/fondy

#### Foundation for International Studies / Centre for Community Work http://www.sfcd.cpkp.cz/SF/index.html

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