News at SEVEn

VOLUME 11 NUMBER 4 December 2004

ENERGY EFFICIENCY NEWS FROM THE CZECH REPUBLIC

Integrated Environmental Pollution Register

In 2003 the Act on integrated pollution prevention and reduction and the integrated pollution register, known as the Act on integrated prevention, came into force. Among other things, the Act aims to establish an Integrated Pollution Register (IPZ). By February 15, 2005 individual polluters will have to report their emission situation in 2004.

The IRZ is a public administration information system accessible to the public, operated as part of the so-called Integrated Environmental Information System. In essence, it is a database of data about selected substances, their transport and emissions. The reason for its setting up has been the state's need to obtain relevant and veracious data on environmental pollution, to create a publicly accessible information system about the environment in the Czech Republic, as well as a database containing information suitable for environmental control, for both state administration authorities when framing environmental policy and industrial companies when increasing ecological efficiency.

Data from the IEPR will be used for the Czech Republic's reports to the European Pollutant Emissions Register (EPER), as a tool for raising public awareness of environmental pollution and for informing the public about emissions from individual sources. It will also enable the public to compare emissions from various sources in various localities. Furthermore, the IEPR will make it possible for individual facilities to compare their environmental behaviour with the behaviour of other firms carrying out similar industrial activities, thus facilitating pursuance of environmental control not only for these firms but industry in general.

By what date should the data be reported to the IRZ? The deadline for the obligation of reporting to the IRZ has been set for February 15. Data for the previous year will be reported, with 2004 being the first year for announcement. Accordingly, the first reporting obligation must be met by February 15, 2005. In certain cases, the Ministry of the Environment may, upon the request of the registered user of substances, prolong the deadline, but by no longer than 60 days.

IRZ issues pertain to the operation of facilities affecting:

a) air quality control;
b) surface water and groundwater protection;
c) soil and forest protection;
d) waste management;
e) serious accident prevention and emergency procedure.

The obligation of reporting data to the IRZ, relevant to hundreds of firms, originates in the case that a legal or natural entity operates a

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Energy savings in the South Bohemia Region – thanks to the Regional Energy Agency

On August 1, 2003, when the Regional Energy Agency (REA) of the South Bohemia Region was established, the parties concerned from the South Bohemia Region were given another possibility of obtaining information about the feasibility of efficient energy use in their business premises, buildings, houses and flats. What are the present activities, experience and interest in the activity of the Regional Energy Agency? We asked Zdeněk Študlar, a representative of the Regional Energy Agency of the South Bohemia Region:

"Our agency was founded upon the decision of the Regional Authority of the South Bohemia Region (SBR) and its task is to ensure development of activities for the public, establish cooperation with partners and stabilise the Regional Energy Agency's financing. The REA's mission is fostering the implementation of the goals set out in the Regional Energy Policy, as well as environmental protection in the South Bohemia Region. Its current organisational form is secured by SEVEn. However, no later than in three years' time the REA will be separated from SEVEn and fully transferred to the management of the South Bohemia authorities."

As is evident from its name, the agency is first and foremost a service and specialist organisation of the Regional Authority of the South Bohemia Region for the energy sector. Hence, its main activities entail services for the South Bohemia Region, for instance:

1. Provision of services concerning the energy sector and energy economy in the region's facilities.
2. Backup for preparing SBR projects for implementation and practice.
3. Conceptual and development work for the South Bohemia Region.
4. Proposals for SBR resources supporting the origination and preparation of new energy projects.
5. Dissemination of knowledge and information among other subjects in the region and professional cooperation with both Czech and foreign partners.

And what can the REA do for the public?

"The agency's activity is focused on the public in the South Bohemia Region, and also oriented to microregions, municipalities and all types of companies. Our activities can be divided into three basic groups:

1) Information activity (seminars, workshops, websites, publications).
2) Consultancy, opinions and statements on energy-related plans and projects.
3) Stimulation and promotion of creating new "energy projects" (including assistance with transacting financial support)."

What has the agency succeeded in doing to date?

"In addition to developing the REA's activity for the Regional Authority and the public, this year we have focused on raising the agency's profile and setting up a framework working programme for the period of the next few years. We can outline the REA's specific activity from several examples:

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What's inside

Question for:

Ladislav Kříž, spokesman of ČEZ, a.s.

At the EEBW: Energy Efficiency Business Week 2004 international conference, ČEZ, a.s (Czech Energy Utility) Managing Director for Trade, Alan Svoboda, gave a presentation on the topic of ČEZ business policy. It outlined the gradual unification of company products offered by individual regional distribution companies. Will the unification offer also apply to the Green Energy product (tariff) offered to its customers by Západočeská energetika (ZČE, West Bohemia Energy Utility)?

"For the present, ČEZ plans to maintain this tariff only in the ZČE offer. We are waiting for the adoption of the Act on renewable energy sources, then we will consider its extension to other regional energy companies for all customers so that the tariff complies with the new Act's requirements and, at the same time, supports the development of renewable energy sources in the Czech Republic. Thus, after the full opening up of the electric power market in 2006, this tariff should be available for all customers, including households, even beyond the present regional range of individual distribution companies."

Energy savings in the South Bohemia Region – thanks to the Regional Energy Agency

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As regards fulfilment of the Regional Energy Policy of the South Bohemia Region, our agency has focused on modernisation and development of the housing stock. This energy-consumption sector is very important, therefore the regional conception pays due attention to it (it has approximately 40% share in total energy consumption, 30% in CO2 emission production and 40% in total waste production). In cooperation with the region, the Czech Energy Agency and the Ministry of Regional Development, the REA organised for owners and administrators of the housing stock a very successful seminar on the topic of "Renovation of the housing stock and reduction of energy intensity of housing" (30.9.2004), which provided information about the possibilities of financing renovation, recommendations in terms of applying suitable technical solutions and advice on how to tackle various legal and legislative problems.

To improve "energy management" in organisations set up by the Regional Authority, our agency carried out a pre-implementation check of 10 selected energy audits of secondary schools. The inspection proved the feasibility of significantly lowering the energy intensity of the proposed measures, which will result in savings in the regional budget. The check has also ascertained some shortcomings in the energy audits, for example, in connection with protected historical buildings. Hence, the REA will continue carrying out the checks next year.

In the form of consultancy, the REA has also participated in the preparation of several pilot projects. They include the project of decentralised heating of a group of municipalities by quality biofuels of their own production. Actually, it concerns implementation of the output of the territorial energy conception of the Blaník-Otava microregion. The project aims at an alternative heating solution for a group of 5 municipalities (with the total population of 2,300), which do not have access to natural gas and which cover more than 90% of their energy requirements by brown coal combustion. With respect to the low settlement density, the conception of decentralised heating (a boiler plant in every building) has been chosen. A reasonable price level of quality biofuels will be achieved owing to their generation in a municipal production plant. Besides environmental benefits, the project shows one of the routes to the development of the countryside in this locality (e.g. in the first phase 11 jobs will be created and the planned revenue from biofuel sale will be further used for the development of municipalities of this microregion)."

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For addresses of other regional energy agencies operating in the Czech Republic, visit the website of the Czech Energy Agency: www.ceacr.cz/?page=kea_cz

New version of energy labels for electrical appliances approved

On August 1, 2004 Regulation No. 442/2004 Coll., on energy labelling and minimum efficiency of electrical appliances, containing several modifications in comparison with the original legislation, came into force.

The major change applies to air-conditioning units and electronic ballasts for light sources, which are new types of appliances obligatorily marked with energy labels at points of sale.

The label has also been changed for electric ovens, whose Czech label has been replaced by a standard European one, which unlike the original label states the energy class type.

Another innovation is "legalisation" of the energy classes A+ and A++ for refrigerators and freezers. Manufacturers have used them for some time, but only now have they been backed up in this legal regulation.

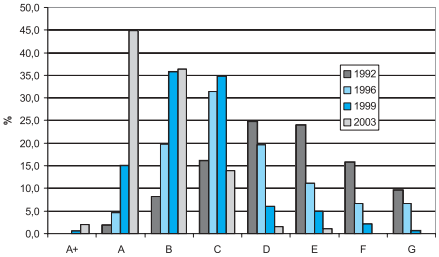
However, owing to the fact that not in all cases have these new rules been sufficiently fulfilled, SEVEn, The Energy Efficiency Center, has set up the website www.uspornespotrebice.cz, on which it is possible to look up individual appliances according to their energy class and to see displayed for each of them the energy label in the form customers should find in shops.

The website www.uspornespotrebice.cz contains more than one thousand white technology appliances marked with energy labels - in the categories of washing machines, dryers, fridges, freezers and dishwashers. Within a short time, electric ovens will be added too. In all cases, they concern both free-standing and built-in appliances.

From www.uspornespotrebice.cz it is also possible to download the complete and current wording of the Regulation, namely, in the "On labelling" section, comprising the part referring to individual types of appliances. The full wording of the Regulation has also been made public at the address of the electronic Collection of Laws http://web.mvcr.cz/rs_atlantic/ftp/sbirka/2004/sb146-04.pdf.

More information:
http://www.esv.or.at/esv/fileadmin/esv_file/Projekte/Waide_ESV_19.10.pdf

Sales-weighted shares of EU cold appliances by label class



The graph documents sales of refrigerators and freezers on EU markets between 1992 and 2003 in terms of the market share of energy classes. As is evident, the share of inefficient appliances has radically declined, whereas the share of class A appliances grew from less than 2% in the early 1990s to nearly 45% in 2003. Source: Paul Waide, Energy Efficiency and Environment Division; International Energy Agency

Integrated Environmental Pollution Register

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technical or technological unit processing or producing a substance registered in the Integrated Pollution Register. It concerns 72 substances pursuant to Annex 1 to Act No. 76/2002 Coll., on the Integrated Pollution Register, which will be gradually extended to include 88 substances. The obligation of reporting to the IRZ ensues in the case that the quantity of a reported substance is equal to or higher than the determined weight, or the so-called reporting threshold.

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More information:
www.irz.cz
www.env.cz/ippc
www.ippc.cz
www.ceu.cz/IPPC

New UNEP publication – Energy Subsidies: Lessons Learned

A subsidy, in principle, is any measure that keeps prices for energy consumers below market levels or for energy producers above market levels or that reduces costs for consumers or producers. Some subsidies can have a direct impact on price. Others affect prices or costs indirectly, such as regulations that skew the market in favour of a particular fuel, government-sponsored technology, or research and development (R&D). Energy subsidies are widespread, but they vary greatly in importance and type according to the fuel and country. Removing subsidies that are both economically costly as well as harmful to the environment would be a win-win policy reform.

The new report Energy Subsidies: Lessons Learned in Assessing their Impact and Designing Policy Reforms of the United Nations Environment Programme's Economics and Trade Branch analyses in detail issues related to energy subsidies and their reform. It aims to raise awareness of these issues among stakeholders, to highlight the impact of subsidies and the barriers to reform, and to provide guidance to policymakers on how to go about designing and implementing reforms.

It contains several country case studies, including the Czech and Slovak Republics, developed in cooperation with SEVEn, which review various experiences and issues related to energy subsidies in the selected countries.

Complete text of the book:
www.unep.ch/etu/publications/energySubsidis/Energysubreport.pdf

News from European legislation and its impact on energy audits in the Czech Republic

Following the Czech Republic's accession to the European Union, harmonisation of the national legislation with European legislation has continued. It concerns both the legal area and technical standards. One of the basic activities is the Energy Charter process and its Energy Charter Recommendations for energy efficiency enhancement and related environmental aspects in the Czech Republic. The experience of European Union countries has shown that market adjustment, including energy price liberalisation, is not in itself a sufficient means for attaining the necessary level of energy savings. Therefore, these states have also adopted laws supporting energy savings.

The Energy Economy Act stems from this legislation. Ensuing for the Czech Republic from the signing of the Agreement on the European Energy Charter in December 1994 and, primarily, the signing of the Protocol on Energy Savings and related aspects of this agreement are the obligations and recommendations fulfilled by the Energy Economy Act. Its implementation has resulted in the approximation of Czech energy-related legislation to the legislation of European Union countries and the determination of conditions for energy utilisation equivalent to those in the EU, as well as the fulfilment of the recommendations of the International Energy Agency in terms of energy savings, which was a precondition for the Czech Republic's accession to this organisation.

EU directives have a specific legal liability. It concerns a number of documents of which the following will have a major impact on the change of legislation:

- European Parliament and Council Directive 2002/91/EC of December 16, 2002, on energy performance of buildings
- Directive 2004/8/EC, on the promotion of cogeneration based on a useful heat demand in the internal energy market
- Directive 92/42/EC, on requirements for efficiency of new hot-water boilers
- The Directive on energy end use efficiency and energy services (COM (2003) 739) is under preparation
- Directive 93/76/EC, on reduction of carbon dioxide emissions through energy efficiency improvement (SAVE)

A leading position is occupied by Directive 2002/91/EC, dealing with energy intensity of buildings, not only in terms of actual construction permits, but also technical and technological equipment.

The Directive obliges EU member states to use on the national level the method of calculating energy intensity of buildings issuing from the general framework stipulated in an annex to the Directive (in principle, the method is implemented by the ČSN 730540 standard), to take necessary measures for setting down minimum requirements for energy intensity of buildings, to be able to distinguish between new and existing buildings and between various categories of buildings.

For new buildings with the area exceeding 1,000 m2, the technical, ecological and economic feasibility of alternative systems, such as decentralised energy supply from renewable energy sources, combined power and heat generation, long-distance or block central heating or heat pumps, will be assessed.

For existing buildings with the area exceeding 1,000 m2 undergoing large-scale modernisation, measures will be taken for reduction of energy intensity with the aim to meet minimum requirements, either for the whole or individual components.

An energy intensity certificate is made out for buildings constructed, sold or rented to the owner or by the owner to a potential buyer or lessee. The document has to contain reference values, valid legal rules and comparative indicators, and must be supplemented by recommendations for improving energy intensity. In buildings with the area of more than 1,000 m2 used by public authorities and institutions and visited by large quantities of people and providing public services, the certificate must be installed in a prominent place well visible to the public, and a number of recommended and real indoor temperatures can be displayed here.

Energy consumption in buildings is significantly affected by heat sources and air-conditioning equipment. Therefore, inspection of boilers and A/C systems is being introduced for energy consumption reduction and carbon dioxide emission abatement. The periodicity of regular inspections of boilers combusting non-renewable liquid and solid fuels with the output of 20 - 100 kW will be determined by individual member states. In the case of boilers with the capacity higher than 100 kW this term is 2 years, with gas it be can up to 4 years, with boilers exceeding 20 kW and older than 15 years a one-off inspection will be carried out and consultancy about replacement of boilers and their dimensioning, changes in the heating system and alternative solutions will be provided.

As regards air-conditioning equipment, regular inspections of A/C systems with the output of more than 12 kW will be introduced and consultancy about possible improvement or replacement of the system and alternative solutions provided.

Certificates of buildings, drawing up of accompanying recommendations and inspections of boilers and air-conditioning systems will be carried out independently by qualified and accredited professionals working freelance or as employees of public or private business subjects.

Implementation of Directive 2002/91/EC into national legislation is required within three years from its issuance. Accordingly, the end of 2005 means the termination of the energy auditing obligation, and the origination of a new obligation.

One of the interesting duties imposed by the Directive is evaluation of designed constructions - so-called "construction in the state of birth". This obligation was inherent in the original wording of the Energy Economy Act, but withdrawn in the 2003 amendment. Over the time of the Act's operation, a number of pilot energy audits for projects have been drawn up. It has appeared that although it concerns a formally similar document, diametrically opposed methods and auditors' knowledge are necessary for its elaboration. Interconnection of three subjects (the client, designer and energy auditor) can be compared to a ménage a trois, with in many cases all the attendant conflicts. This has primarily occurred when an auditor drew up an audit for already completed documentation for construction implementation. In the course of the construction deadlines and the connected merry-go-round of serious money there is no hope for a more effective solution to be carried through. Hence, the amendatory Energy Economy Act under preparation conceives of an "audit for a project" as a new type of audit, chiefly in the sense that an audit must be elaborated already during work on the project.

Incorporation of new international directives on energy efficiency will bring about, on the one hand, the amendment to the Energy Economy Act, on the other, intervention in several other legislative norms - the Building Act, the Administrative Procedure Code etc. From the viewpoint of users of laws, we can only hope that it will concern a piece of work more satisfactory than was the last amendment to the regulation on energy audits.

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EU linking Directive enters into force

Legislation allowing firms involved in the EU emission trading scheme to gain extra carbon credits by funding abatement projects outside the bloc entered force on November 13th, 2004 by being published in the EU official journal. Member states must now transpose the so-called "linking directive" within one year.

The law will apply to EU plants with emission caps under the emission trading scheme. They will be able to reap extra allowances through the Kyoto protocol's flexible mechanisms. Combined with Russia's recent decision to ratify the protocol, the directive significantly alters the market landscape.

Its intended effect is to "increase the diversity of low-cost compliance options" and "improve market liquidity", according to the law's preamble. The content was settled politically in April and the text finalised in September.

Starting in 2005, firms will have direct access through the clean development mechanism (CDM) to credits from countries not subject to Kyoto emission reduction targets. From 2008 joint implementation (JI) credits will be available from those countries that do have targets.

Firms cannot gain credits by funding nuclear or sinks projects, though a review in 2006 might open the door to robust sinks schemes. The same review might also allow extra allowances from funding projects at home. Investments in hydropower plants bigger than 20 megawatts must comply with guidelines from the World Commission on Dams.

There is no EU-wide limit on the number of extra credits firms can gain, but authorities must set national limits, in the form of a percentage of the number of allowances allocated centrally by governments. The Commission may later propose a harmonised limit if it thinks too many external credits are being sucked into the market and preventing efforts to abate emissions inside the EU.

Zdroj:
http://www.pointcarbon.com/article.php?articleID=5323&categoryID=147

Green energy price developments

At present the market for renewable energy certificates is divided into two categories. A short overview of current prices follows:

The first category represents renewable certificates used for compliance purposes. These are typically used to meet renewable obligations set by the government (e.g. UK and Sweden). For example in the UK, the final auction price for the past ROCS compliance period was approximately Ł52/MWh (77 /MWh), while in Italy GRTN offers certificates at a fixed price that differs every year but in 2002 was 84.18/MWh. Hence, compliance certificates, due to tighter regulations surrounding eligibility and requirements for generation within the country are often priced significantly higher than other sorts of renewable certificates.

However, there is also the voluntary market that cannot be used for compliance purposes. In this market a large electricity consumer may purchase certificates to make their electricity consumption greener. Similarly, electricity suppliers may purchase certificates in order to offer products to consumers who are willing to pay a premium for electricity that has been generated from renewable sources. There are several types of such certificates including RECS (renewable energy certificates), EECS (European Energy Certificate System) and GoOs (guarantees of origin).

The price of certificates seen in the voluntary market is heavily dependent upon generating source technology. Indeed, they can even differ widely within a type of technology depending upon age, environmental impact and additionality criteria, however some rough prices seen over recent months are:

- Hydro between 0.15 and 1.50 /MWh
- Wind 5.90 to 8 / MWh
- Biomass 5.90 to 7.00 /MWh.

One of the most heavily traded markets for compliance renewable certificates is the UK ROCs (Renewable Obligation Certificates). This is currently restricted to certificates issued for renewable energy that is generated in England and Wales. When BETTA starts in April 2005 the system will incorporate Scottish ROCS, which are currently traded separately. ROCS are redeemed by suppliers and count toward their renewable obligation for electricity supply. Currently there is no mechanism for international transfer of ROCS, or acceptance of foreign renewable certificates into the ROCS system. The price of UK ROCS for the current compliance period (April 04 to March 05) is 44-45 Ł / MWh (65-67 /MWh).

The Swedish market is currently made of the Elcert certificates. These are used to meet renewable obligations set by the government for energy consumers (where supply companies take responsibility for small customers such as households). The Elcert Certificates in March 2005 will be worth SEK 234- 236/MWh (27 /MWh).

Source: GreenPrices Newsdesk - http://www.greenprices.com/eu/newsitem.asp?nid=829

Development of energy efficiency in the EU and the Czech Republic

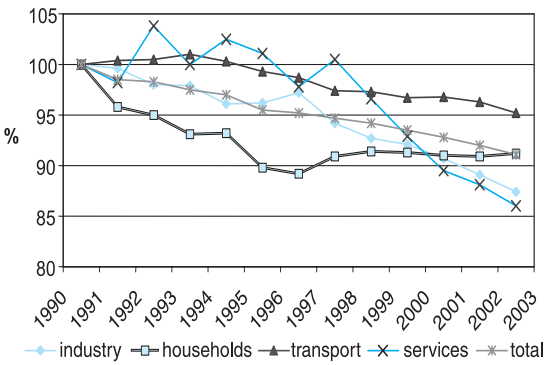
In connection with the proposed EU directive on energy end use efficiency and energy services, a frequent subject of debate has been the requirement for reduction of energy end consumption by 1% annually up to 2012, at least by 6%. What has been the development in this area to date? Between 1990 and 2002, the 15 EU member states achieved a 0.8% annual improvement, with the industrial sector recording 1.1% a year. Only households have not shown any improvement since 1996.

The graph for the Czech Republic shows energy intensity for individual sectors of the economy between 1992 and 2001. Here, it was primarily the transport sector that failed to attain savings.

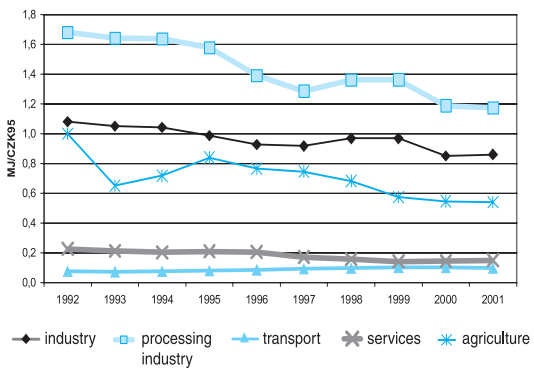
Dr Didier Bosseboeuf: Measurement and verification of the "energy service " directive impact, presentation at EEBW: Energy Efficiency Business Week 2004, Prague, November 2004

Miroslav Malý: Indicators of Energy Efficiency in the Czech Republic, Enviros, presentation at EEBW: Energy Efficiency Business Week 2004, Prague, November 2004

Yearly improvement of energy efficiency in EU



Energy intensity in branches



REEEP To Make 1 Million Available for Renewable and Energy Efficient Projects

The Renewable Energy and Energy Efficiency Partnership (REEEP) is to make 1 million available to fund renewable energy projects internationally.

REEEP, established by the UK government in 2002 to drive the integration of renewable and energy efficient systems (REES) into national and global energy policy, is seeking project proposals for its third funding round, for the period 1 April 2005 to 31 March 2006.

REEEP's priority for this funding round will be projects that either use innovative financing mechanisms to catalyse the uptake of REES, or contribute to a supportive regulative and legal environment. Due to the specific structure of REES projects, which often focus on small scale and off-grid generation, it is vital to leverage the limited resources available, and encourage policy and regulation that overcome market barriers or the perception of risk in new energy markets.

The total volume of this projects call is around 1 million and will be available from 1 April 2005. REEEP expects to fund about 15 projects with an average REEEP contribution of 70,000.

The Regional Environmental Center for Central and Easter Europe as a regional REEEP secretariat is handling the bidding process in CEE countries and Turkey.

For full details about the call please check www.rec.org/REEEP/ProjectCall.html

Please contact Ms. Kristina Vilimaite with any questions: ceeurope.bids@reeep.org

Prices of thermal energy for 2005

Next year heat will remain one of the commodities whose prices are controlled by the Energy Regulatory Office. On October 20, 2004 the office issued its price decision No. 9 concerning thermal energy prices for 2005. What are its main points and what changes have been made in comparison with the previous years? What is the likely development of heat prices next year?

Preserved is the principle of pricing heat below and above the "limit price", which was for the first time applied in price decisions last year. In a simplified way, it can be said that a heating company whose average heat price is above the limit price can only raise its revenues by the growth in variable costs, i.e. mainly fuels, as well as some strictly circumscribed items of fixed costs. A heating company with the average heat price below the limit price level can raise both fixed costs and profit if it does not exceed the average limit price and complies with other rules of objective price regulation. In comparison with last year, the average limit price has been raised, however, to a certain extent mimicking the increase in fuel prices. Thus, most heating companies remain above the limit price, and the companies that get under its level will not have much scope for projecting the growth in their fixed costs and profit in prices.

New is the possibility to include purchase of licences for CO2 emissions in variable econom-

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Prices of thermal energy for 2005

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ically eligible costs, if a heat supplier cannot meet the limit that has been allocated to it within the framework of the national allocation plan. Thus, a price decision responds to the beginning of trading in greenhouse gas emissions, which should start on January 1, 2005. In respect of this, it may be pointed out that if the European Commission adopts the latest version of the national allocation plan approved by the Government of the Czech Republic and there is not an extreme swing in winter climatic conditions, the allocated quantity of licences will be sufficient for the overwhelming majority of heating companies, and consumers need not worry that their possible purchase can reflect in heat price increase.

The major factor affecting significant heat price rises, which can be expected next year, is, as usual, fuel prices themselves. The steep October increase in natural gas prices determined by the high crude oil price on global markets will probably be followed by another one, hopefully this time less severe, on January 1, 2005. Naturally, coal producers do not want to lose out over the long term and are trying to use the situation to increase their margins. Price rises by individual heating companies will stem, on the one hand, from their fuel mix (after all, the coal price increase is less extreme), on the other, from whether they have already projected increased natural gas prices in their prices before the end of this year. A critical situation may occur for the heating companies using biomass, mainly wood chips, whose prices skyrocketed after ČEZ (Czech Energy Utility) began burning it in its heating plants on a large scale.

Essential in view of individual customer groups is that beginning from next January 1 cross subsidies between residential and non-residential customers should be abolished once and for all. The specific situation of individual heating companies considerably differs, nevertheless, in the past a number of companies applied higher prices for non-residential consumers. Price adjustment will result in more moderate growth or even, in some cases, price decrease for customers from industry, services and public administration and, conversely, more significant price rises for residential consumers.

Hence, the outlook for next year is not too bright for most customers since they again will probably have to dip deeper into their pockets. However, profits of actual heating companies resulting from this price increase will be minimal, that's if they make any at all.

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Lighting and energy audits: a natural part, marginal complement or pointless?

By virtue of Regulation No. 425/2004 Coll., evaluation of energy intensity of lighting has become part of energy audits. Pursuant to this regulation, the real condition of luminous and technical parameters of lighting systems, primarily illuminance, illumination balance and luminance ratios, are evaluated. What is the role of energy auditors in this area?

The reality verified by an auditor serves as the basis for evaluating the lighting system's operation in terms of sanitary requirements, as well as for proposing measures for economical management of energy for lighting and assessing the lighting system's energy intensity. However, consumption of energy for lighting represents merely 1 to 5% of the total energy consumption of most buildings. Is it then worth devoting so much of auditors' energy to this sector? And can auditors intervene in the hygiene area, which does not directly bear upon energy consumption?

Consumption of electric power for lighting can form a significant part of costs, especially with such buildings as schools, hospitals and administrative buildings.

Particularly in the case of school facilities, it is often valid that the illumination level does not reach the level of hygiene standards. Hence, it is virtually impossible to "figure out" an energy saving potential, if the illumination level were to increase respectively.

On the other hand, the level of savings does not have to be related to the existing illumination level, but to the increased illumination level using the existing technology.

Regrettably, auditors are not certified to carry out sanitary measurements, with their measurements only being operational, or a benchmark. Accordingly, audit results in this part are only informative, not binding. What then is the practical impact of the chapter on lighting in energy audits?

These and other questions were raised in the section Energy-efficient Lighting which formed part of the specialist EEBW: Energy Efficiency Business Week 2004 conference. It was attended by representatives of the State Energy Inspection, the Czech Energy Agency, auditors and suppliers of lighting systems.

The conclusion of the debates was that although energy audits cannot replace lighting-technical designs, they can serve for management decision-making and can also recommend elaboration of lighting-technical studies. Particularly in the case of school facilities, audits could result in recommendations for carrying out an integrated study, if the given premises do not meet sanitary standards and the auditor warns of the possibility of the facility being closed down as unsuitable for teaching on the part of an environmental health officer.

Thus, even a relatively small part of an audit can have a considerable impact on practical implementation of the measures proposed in it. And this is also important with respect to non-energy aspects of lighting, such as hygiene, psychology and labour protection.

An unanswered questions remains however, if the real goal of an energy audit is to conduct research in areas very remotely associated with energy management.

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Unique biomass heating project in Žlutice

For over two years a unique project of biomass heating has successfully functioned in the town of Žlutice. Its uniqueness also lies in the fact that the district biomass heating system does not have a backup source for another type of fuel.

The town of Žlutice lies under the Žlutice water supply reservoir. In winter there are frequent inversions, which in combination with smoke gases from local combustion plants and block coal boiler stations created an unhealthy atmosphere. Therefore, a heating study for the town was drawn up comprising three variants: gasification, repair of the existing coal boiler stations or construction of a single central heating source using biomass. The biomass heating variant was chosen and in December 2001 trial operation was launched, ending in April 2002.

After the construction had been completed, three housing estates, municipal buildings in the town's old build-up area, five schools, a department store and other institutions were connected to central heating. Along the main heating conduits supply mains are also directed to 47 family houses.

The actual heating station has four boilers with the total capacity of 7.9 MW. Individual boilers

have the outputs of 2.5 MW and 3 × 1.8 MW. The boiler with the highest output has its transport routes adapted to combustion of wood waste, another boiler is designed as combined and can burn both wood waste and straw packages, while the remaining two boilers have transport routes merely for straw combustion. All the boilers have the same structural design, only differing in terms of the fuel transport routes.

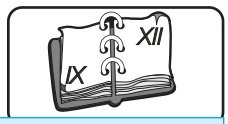
In the first winter the heating station's operators had a nasty surprise in store - at the beginning of the year the straw ran out. Since then they have paid great attention to securing significant stocks. The boilers allow for burning wood chips with high moisture content - up to 60%. However, a number of large industrial-size bags with dry pellets are kept in the upper storey of the fuel storage area as an emergency reserve.

The boilers have proved their ability to combust sawdust, wood waste, chipped branch wood after felling and wood chips from self-sowing woody plants. Grain and rape straw is suitable, even packages of "energy sorrel" have been experimentally combusted. The precondition for burning is fuel quality, primarily moisture, mainly relevant in the case of straw, for which it should reach the maximum of 18 % by weight. As regards wood waste, its moisture can be higher, it is possible to use wood chips with up to 50 - 60 % by weight, naturally, with the calorific value commensurately decreasing.

Also combusted is waste ash, which on the basis of analyses focused on ascertaining the content of mineral substances and the presence of heavy metals is transported back to the fields, where it is used by farmers as an auxiliary fertilisation component.

Compiled according to, and further information:
www.ztzlutice.cz

Conferences



January – March 2005

EcoCity
11th environmental and energy-saving trade fair
9 – 12. 3. 2005
Prague, PVA Letňany
www.ecocity.cz

Bauen + Wohnen Salzburg
International trade fair for the building industry, housing and energy saving
3 – 6. 2. 2005
Messezentrum Salzburg
www.bauen-wohnen.co.at

BAUEN & ENERGIE
The largest Austrian trade fair of civil engineering, housing and energy saving
17 – 20. 2. 2005
Vienna, MessezentrumWienNeu
Reed Exhibitions
www.bauen-energie.at

CLEAN ENERGY POWER 2005
International exhibition and congress on renewable energy sources and energy-efficient civil engineering
26 – 27. 1. 2005
ICC Berlin
Neue Kantstraße / Messedamm
www.energiemessen.de/

ENEX – New Energy 2005
International specialist exhibition and congress on renewable energy sources, energy saving in the building industry and redevelopment
16 – 18. 3. 2005
Targi Kielce, Kielce, Poland
www.enex-expo.com

E-world 2005 Energy & Water
15. – 17. 3.
Essen, Germany
E-world energy & water GmbH
www.e-world-2005.com/

Global Alternative Fuels 2005 Exhibition and Forum
8. – 10. 3.
Berlin, Germany
The Energy Exchange Limited
www.theenergyexchange.co.uk/energy201overview.html

Green-Tech® 2005
4th International Conference and Trade Show on Sustainable and Renewable Raw Materials with 9th Symposium on Renewable Resources
2. – 3. 2.
SeminarisSeehotel Potsdam, Germany
Fachagentur Nachwachsende Rohstoffe e.V.
www.europoint-bv.com/events/?greentech2005

Summit for the Future – Visions & Strategies for 2020
26. – 28. 1.
HES Amsterdam School for Business, Amsterdam, The Netherlands
Club of Amsterdam
www.clubofamsterdam.com

News at SEVEn is produced in English and Czech quarterly by SEVEn, The Energy Efficiency Center.
SEVEn strives to promote energy efficiency in order to support economic development and protect the environment.
The newsletter informs about current energy efficiency events and developments in the Czech Republic and welcomes outside submissions.
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Podávání novinových zásilek povoleno Českou poštou, s. p., odštěpný závod Přeprava, čj. 1009/96, dne 13. 3. 1996 • ISSN 1213 - 5844

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