

Insulation of buildings within the Green Light to Savings programme – experience and recommendations

In the spring of 2009 the State Environmental Fund (SFŽP) launched the Green Light to Savings programme. The programme, unprecedented in the Czech Republic, makes it possible to obtain a financial contribution to thermal insulation of buildings designed for permanent dwelling – family and apartment houses. What has the experience been with the programme's application in practice to date

The practice so far has shown that in many cases, by proper selection and optimisation of measures, it is possible to obtain the finance provided within the Green Light to Savings programme even where it does not appear so at first glance. Also instrumental in this respect have been the changes in conditions made during the summer of 2009. These modifications have opened up the possibility to obtain a contribution even in the case that a selected measure is implemented only partially; for instance, replacement of part of windows or thermal insulation of merely some façade. Following the June amendment, the basic evaluation criterion is the percentage of heat saved on heating. Compared to the previous conditions, this represents a significant change and liberali-

sation given that the most decisive thing is no longer what type of measures the applicant can attain saving through but it is possible to choose a specific measure according to one's own needs, provided that at least the minimum required level of heat saved for heating is met and at the same time (in the case of partial thermal insulation, i.e. category A.2 of the grant programme) the recommended standard values of the heat passage coefficient are complied with. The result is that the already implemented partial measures definitely need not be an obstacle in the endeavour to insulate a house so as to meet the conditions of the Green Light to Savings programme.

At the same time, partial measures can also be a suitable stepping stone towards attaining » [cont.](#) » [page 6](#)

inside:

- 2 *News from www.uspornespotrebice.cz*
- 2 *What is the standby consumption? Results of measurement of hundreds of products*
- 2 *New energy management system*
- 3 *Eco-design – Overview of new requirements for energy efficiency of products*
- 3 *Combining thermal insulation subsidies and energy services with a guarantee*
- 4 *Promoting the use of Funds for energy investments in new EU member states (PromoSCene)*
- 4 *An end to refrigerating appliances of class B, C and worse on the European market*
- 4 *Energy labelling of refrigerators, freezers and their combinations*
- 5 *Photovoltaics – The present and future in the Czech Republic and in a world context*
- 5 *Green shopping – advantages for public organisations*
- 6 *Energy services as a marketing tool for producers, traders and distributors of (not only) thermal energy*
- 6 *Use of biogas in transport*



The end of incandescent lamps in households

In March 2009 the European Commission adopted a regulation on household lamps. From 2009 to 2012 inefficient conventional incandescent lamps will be phased out and replaced by more efficient halogen bulbs and compact fluorescent lamps. The new light source technology has been fully developed and tested, and there is no need to worry about the transition.

September 2009 saw the launch of regulation of lamps used in households. This marked the beginning of the gradual replacement of light sources, which will have the greatest impact on traditional inefficient bulbs.

As of this date, it is no longer possible to produce in the EU or import into the EU any **non-clear** (opaque) lamps with an energy class lower than A. The customer can choose from a wide range of compact fluorescent lamps whose parameters are much better and more efficient than those of classical incandescent lamps. Compact fluorescent lamps are manufactured in many versions: conventional tubes, lamps with an opaque bulb and candle-shaped lamps (so-called mignon lamps with the E14 base).

When purchasing a compact fluorescent lamp, it is only necessary to pay attention to several basic properties. To retain the same luminous intensity as in the case of incandescent lamps, the fluorescent lamp should have an energy input approximately four

times lower than that of the light bulb – a 15W compact fluorescent lamp is an adequate replacement for a 60W incandescent lamp. The installed compact fluorescent lamps should be labelled with the service life of 6–15 years or longer (given average lighting of three hours a day). The colour of light should be designated as “warm white” (the codes 2700K or 827 on the packaging). It is recommended to choose products of large and renowned manufacturers. When you meet these simple requirements, a compact fluorescent lamp will give you a long service life, pleasant light and much lower electricity costs.

Clear (transparent) lamps are being phased out. As of September 2009, bulbs with the energy input of 100W and more have to be of energy class C or better. The same obligation will gradually be applied to incandescent lamps with the input of 75 W (in 2010), 60 W (in 2011) and for all light bulbs in 2012. Should, for aesthetic reasons, the customer require transparent light sources, it is possible to buy clear tungsten halo-

gen lamps, which are indistinguishable from traditional incandescent lamps and have the energy class of B or C. These lamps are manufactured in 18 W, 28 W, 42 W, 54 W, 70 W and 105 W outputs and have double the service life of classical bulbs. Halogen lamps are produced in the shape of traditional incandescent lamps with the E27 base, as well as in the shape of the candle bulb (with the E14 base).

The plan for gradual transition to modern, efficient light sources only applies to common non directional lamps used in households. Hence, it does not pertain

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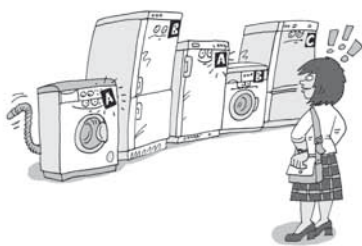
NEWS FROM

www.uspornespotrebice.cz

The objective of the website www.uspornespotrebice.cz, part of the international Euro Topten Plus project, is to provide information about the parameters and availability of specific products in terms of their operational energy intensity. The latest new products mentioned as an independent category are coffee machines. It may come as a surprise that their energy consumption can be quite significant.

Several studies have revealed that a coffee machine often consumes more electric energy than, for example, a class A++ refrigerator. Therefore, a new category, Coffee Machines, has appeared on www.uspornespotrebice.cz. This category has been selected owing to the ever-increasing number of these appliances in Czech households. Moreover, these machines are responsible for substantial energy losses since they need a significant quantity of electric power for continuous warming of cups even after being switched over to the standby mode.

Energeticky úsporné spotřebiče



www.uspornespotrebice.cz

Jak je vybírat?

Only espresso coffee machines were selected, the test was not carried out on filtered-coffee makers, coffee makers with lever dosing devices and appliances with inbuilt permanent water supply. The criteria for the selection of the most energy-efficient coffee makers on the Czech market are more complex than in the case of refrigerators or washing machines, primarily due to the non-existent labelling of these appliances. Accordingly, the most efficient coffee makers must be equipped with Auto-power-down function switching off the permanent heating of the water after a certain time lag to standby or off). Furthermore, the input in the standby mode (following the auto-power-down) must not exceed 1W. The average input in the ON mode, measured according to the Swiss S.A.F.E. method, must not exceed 30W in the case of portion coffee machines and 35W in the case of automatic coffee makers. The required specifications are provided by manufacturers and are verified by means of random measurement.

An overview of the parameters of energy-efficient products is available in the information leaflet Energy-efficient appliances – How to select them? (in both the electronic and printed versions). If you are interested in receiving one, please send us your postal or email address.

More information: www.uspornespotrebice.cz

What is the standby consumption? Results of measurement of hundreds of products

Standby energy consumption of appliances accounts for a significant portion of overall electricity consumption. This has been proved by a survey within which standby energy consumption of several hundreds of devices was measured. In the future, the standby consumption of individual products (owing to the adopted legislative measures among other things) should gradually decrease. It is however probable that this trend will to a certain extent be negatively affected by new types of appliances, their functions and design.

The standby energy consumption of appliances represents a significant part of electricity consumption in both households and offices. According to the European Commission's estimates, energy consumption in the standby mode throughout the EU accounts for approximately 47 TWh a year (roughly equivalent to the overall electricity consumption in Portugal). Standby consumption in the average household represents about 11% of electricity consumption.

Since July 2009, 12 European Union countries have been conducting a campaign aimed at ascertaining the standby consumption of individual devices on the market and drawing attention to the persisting problem with the standby mode. In the Czech Republic almost 500 products have been measured.

The survey's results have confirmed that the vast majority of new products consume less than 1W when switched off. The only exception is portable CD players, which still consume an average of 2W when switched off. The true surprise is some washing machines, which consume up to 1W in the off mode. Yet it must be added that such models represent a definite minority on the washing machine market.

In the standby mode (i.e. when the appliance is switched off by a remote control or a standby switch), the majority of appliances consume less than 2W on average and less than 1W in the case of new television sets.

The exceptions are primarily represented by set-top boxes, DVD recorders, micro (hi-fi) systems and computer speakers. In the case of these appliances, the average standby consumption is more than 4W. *This means in practice that if, for example, a DVD recorder were switched on for 2 hours a day, the user would pay more for its consumption in the standby mode than if the device were on.* In addition, the majority of these types of appliances do not have a "real" switch and it is only possible to switch them to the standby mode (in which they are ready to react to a remote control or have an active display with a clock).

Some appliances were also measured in the active standby mode, i.e. when they are on but do not perform their main function (accordingly, in the case of DVD recorders or home cinemas it is the state when they are on yet a disc is not inserted; in the case of washing machines, when they have a programme selected and are waiting for the start button to be pressed, etc.). The average difference between the consumption in this (active standby) mode and in the passive standby mode ranges from 2W to almost 20W (i.e. the same energy input as a small incandescent bulb or more than the majority of efficient fluorescent lamps). Hence, it is evident that switching off appliances really does pay off; if not completely then at least by switching over to the (passive) standby mode.

In January 2010 a new European Commission regulation introducing the limits of standby consumption will come into force. It will be interesting to monitor to what extent it will affect the level of standby consumption and the design of new products coming on to the market.

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NEW ENERGY MANAGEMENT SYSTEM

Energy management is not a new term. New, however, is the approach that has appeared recently and defines a system of controlled energy management in relation to ISO standards. It concerns a proposal of a new standard that will soon be introduced as EN 16001 in the Czech Republic too.

The new EN 16001 standard has been drawn up by an expert team from the European Committee for Standardisation. Its aim is to help organisations in creating systems of management and processes necessary for increasing energy efficiency. This should result in cost reduction and greenhouse gas emissions abatement by means of a systemic approach to energy consumption control.

The standard is intended for organisations of all types and sizes and will be divided into chapters which are similar to the structure contained in the ISO 14001 standard (environmental management systems).

Therefore, it will even be suitable to connect the certification EN 16001 with the certification pursuant to EN 14001.

This year, implementation of EN 16001 in the form of energy management is being introduced on a trial basis in three significant Czech companies. The trial implementation, which should be completed this year, is expected to be successful. The new version of the standard should appear in the Czech Republic at the beginning of 2010.

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ECO-DESIGN – OVERVIEW OF NEW REQUIREMENTS FOR ENERGY EFFICIENCY OF PRODUCTS

Four years ago an important regulation stipulating the requirements for eco-design of electrical appliances (Directive 2005/32/EC) was adopted. The document sets the framework for reduction of energy consumption and other negative environmental impacts throughout the whole life-cycle of products. Based on the Directive, in 2009 the first series of so-called implementing measures was adopted, more will ensue in 2010 and over the next few years. The table below provides a brief overview of the approved regulations

and the new energy efficiency requirements stipulated in them.

Further implementing measures, planned for 2010 and the next few years, will apply to, for example, washing machines, dishwashers, computers, printers and air-conditioning units.

More at www.eceee.org/Eco_design_or_ec.europa.eu/energy/efficiency/ecodesign/eco_design_en.htm

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« THE END OF... cont.

to spotlights, special lamps for ovens and refrigerators, decorative lighting and lighting used in industrial and commercial spaces, nor to theatre and concert stages. The regulation does not apply to products that are already in stock in warehouses and shops. The measures are solely focused on production and import. Hence, purchasing classical incandescent lamps “as a reserve” makes no sense. At the present time, there are high-quality and much more efficient replacements. For the highest-quality and most energy-efficient light sources, visit www.uspornespotrebe.cz.
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Appliance Regulation No.	Requirements – in brief	In-depth study
Household refrigerators and freezers Adopted (August 2009) 643/2009/EC	2010: Only cooling appliances of the current A class and better (EEI>55). 2012: Only the best cooling appliances of the current A class and better (EEI>44). 2014: Only (the best) cooling appliances of the current A+ class and better (EEI>42)	www.ecocold-domestic.org
Household lighting Adopted (March 2009) 244/2009/EC	Gradually as of 2009: Minimum energy efficiency standards for individual light sources.	www.eup4light.net
Office and public lighting Adopted (March 2009) 245/2009/EC	Gradually as of 2012: requirements for design and maximum consumption of lamps, used especially in office spaces and for public lighting	www.eup4light.net
Simple set-top boxes Adopted (Feb. 2009) 107/2009/EC	2010: maximum power in on mode 5W; standby and off mode 1 W 2012: standby and off mode 0.5 W	www.ecocomplexstb.org
Television sets Adopted (July 2009) 642/2009/EC	2010: maximum electricity consumption lower than the current average 2012: a standard TV set 20% more efficient and „full HD“ 30% more efficient than the current average	www.ecotelevision.org
„Standby“ Adopted (Dec. 2008) 1275/2008/EC	2010: maximum 1 W for the standby and OFF modes 2013: maximum 0.5 W	www.ecostandby.org
External power supplies and chargers Adopted (April 2009) 278/2009/EC	2010: Maximum consumption in no-load 0.5 W 2011: Maximum 0.5 or 0.3 W	www.ecocharger.org
Electric motors (1–150kW) Adopted (August 2009) 640/2009/EC	2011: Minimum efficiency IE2 2015: Minimum efficiency IE3, Minimum efficiency IE2 for motors with variable-speed drives 2017: Minimum efficiency IE3 for all motors	www.ecomotors.org

Note: The regulation pertaining to lighting in households is described in detail in the article on page 1, the regulation on cooling appliances on page 4.

COMBINING THERMAL INSULATION SUBSIDIES AND ENERGY SERVICES WITH A GUARANTEE

Within the Operational Programme Environment almost 600 public-sector buildings have received the green light to receiving a subsidy for thermal insulation. Another 1,000 or so applications for subsidies were filed at the beginning of August. In the case of some of the projects supported in this manner, thermal insulation of buildings financially supported from public budgets has been successfully combined with a project designed in the form of providing energy services with a guaranteed result (Energy Performance Contracting, EPC)

The amount of more than CZK 6 billion has been earmarked for the 600 projects that have received approval for subsidies from the Operational Programme Environment. A number of these projects have already been implemented this year. Another approximately CZK 5 billion has been set aside for the projects whose applications for subsidies were submitted to the State Environmental Fund at the beginning of August. The money required for these projects exceeds CZK 8 billion, hence the received applications will be assessed and only the best projects will be awarded a subsidy.

In several cases, a project of thermal insulation of buildings financed from the Operational Programme Environment has been combined with a project using

Clearinghouse
Support

the EPC method for refurbishment of the technological equipment of the respective buildings. Thus, the applicant will not have to lay out more than 20 to



35% of the total investment in the combined overall reconstruction of a building, since part of the investment in the EPC project will be covered by an energy service company (which will have its investment paid back only subsequently from the costs savings) and part will be acquired as a subsidy for construction measures in the buildings.

SEVEn is also attempting to promote projects of this type within the activities of the international Clearinghouse Support project, whose aim it is to facilitate the preparation and implementation of energy-saving projects. For more information, visit www.clearsupport.cz. On the basis of this aid, more than 15 school buildings will be thermally insulated with financial support from the OP Environment and refurbished by means of the EPC method.

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PROMOTING THE USE OF STRUCTURAL AND COHESION FUNDS FOR ENERGY INVESTMENTS IN NEW EU MEMBER STATES (PROMOSCENE)



Increase in generation of electric power from renewable sources by 10% and annual energy savings amounting to 1.12 PJ – these are among the results of European Union Structural Funds in the Czech Republic monitored within the PromoSCene project. Over one third of the European Union's budget, approximately 347 billion euros, is allocated for Structural Funds (SF) and the Cohesion Fund (CF). The key element of these funds is solidarity: assistance aimed at strengthening the economic, social and local cohesion within the EU. The main EU priorities are competitiveness and sustainable development. The goal of the PromoSCene (Promoting the use of Structural and Cohesion Funds for energy investments in new member states) is to make use of international experience with successful use of these funds for financing renewable energy sources and energy efficiency.

Energy programmes within the Operational Programmes of the Ministry of Industry and Trade and the Ministry of the Environment are a great impulse for the development of energy saving and renewable energy sources (RES) projects in small and medium-sized enterprise and the public sector in the Czech Republic. The Eco-Energy programme within the OP Enterprise and Innovation (OPEI), co-ordinated by the Ministry of Industry and Trade, serves to stimulate the development of energy-efficiency projects for large enterprise. The amount allocated for these programmes in the CR should amount to at least € 916 million, which is approximately 3.5% of the total finance allocated for the cohesion policy for the period of 2007 – 2013.

As to results, for instance, on the basis of the ex-ante

evaluation of the supported electricity generation from renewable sources projects within the 1st call of the Eco-energy programme, the electricity production from RES in the Czech Republic should increase by 408 GWh/year, which represents about 10% growth in annual electricity production from RES.

Furthermore, on the basis of the ex-ante evaluation of the calls of the energy programmes within the Operational Programmes of the Ministry of Industry and Trade and the Ministry of the Environment the annual energy saving should amount to about 1.12 PJ within the final annual energy consumption in the CR. These energy programmes are and will be an extremely important tool for meeting the respective national targets, i.e. the objective of attaining by 2020 a 13% share of RES in the gross final energy con-

sumption (pursuant to Directive 2009/28/EC), and the objective of attaining 9% energy savings by 2016 (pursuant to Directive 2006/32/EC).

Within the PromoSCene project, managers of individual funds and national agencies exchanged their practical experience with the use of the funds for implementation of these projects at national information seminars and international regional conferences. Moreover, the implementation of operational programmes in 2004–2006 and 2007–2013 (the entire process of administration, selection of projects and evaluation) was monitored in the individual countries concerned.

The project's materialisation with ten European participants was supported within the Intelligent Energy for Europe programme. Besides SEVEn, its implementation in the Czech Republic was carried out by experts from the respective departments of the Ministry of Industry and Trade, CZECHINVEST, the Ministry of the Environment and the State Environmental Fund, which are responsible for financing these types of projects in the CR.

More information about PromoSCene can be found on the project's Czech website www.svn.cz/cs/projekty-verejnost/promoscene, where it is also possible to download the papers that were presented at two national information seminars on the PromoSCene project and the manual on the topic "How to effectively use EU Structural Funds for renewable energy and energy efficiency projects".

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AN END TO REFRIGERATING APPLIANCES OF CLASS B, C AND WORSE ON THE EUROPEAN MARKET



Since the time energy labelling was introduced, the technical progress has been rapid indeed. In the majority of European countries the energy label A is not sufficient for domestic refrigerating appliances (refrigerators, freezers and their combinations). Between 20 and 30% of the market comprises more efficient, class A+ equipment (the energy consumption is at least 25% lower than in the case of class A) or even class A++ equipment (a mere 30% of the energy consumption of class D appliances). At the present time, class B refrigerating devices are sold to a negligible extent, while appliances with worse energy efficiency have virtually disappeared from the market.

The European Union strives to support this trend. Hence, in July 2009 the European Commission approved a directive (643/2009/EC) pertaining to energy consumption of refrigerating equipment.

Pursuant to this directive, as of 1 July 2010 it will not be possible to sell refrigerators, freezers and their combinations of class B, C and worse in the EU. From 1 July 2012 on, sale of class A appliances will be restricted (only the most energy-efficient will remain on the market). From the middle of 2014 only cooling equipment of the current energy class A+ will be available on the EU market. Together with another regulation, pertaining to TV sets, this measure should bring about savings of up to 30 TWh a year for the whole EU by 2020, approximately equivalent to two thirds of the annual electric energy consumption in the Czech Republic.



ENERGY LABELLING OF REFRIGERATORS, FREEZERS AND THEIR COMBINATIONS – TESTS TO VERIFY THE TRUTHFULNESS OF THE DECLARED VALUES

Are the specifications about the electric energy consumption stated on energy labels of household appliances true? The information on energy labels is the result of a standardised test, the specific numbers on labels are stated by the manufacturer, while the retailer is responsible for making them accessible to the customer. Government organisations in individual EU countries should check this information at random and in case of inconsistencies arrange for rectification. However, is this checking sufficient? Although newspapers and magazines occasionally publish independent tests of electrical appliances, evaluating their energy intensity, the vast majority of these tests are not carried out exactly according to the requirements of the respective technical standard. In some cases, the tests check the energy consumption of appliances under their common operational load, which differs from the conditions in laboratories.

The international Atlete project, organised with the support of the European Commission, and with the participation of the French and Italian energy agencies and the European Committee of Manufacturers of Domestic Equipment (CECED), aims at formal measurement of electric energy consumption of randomly selected refrigerators, freezers and their combinations. In 2010 and 2011, selection and comprehensive testing of 80 types of products will take place. The results of the tests will be published in full and discussed with manufacturers, government authorities, consumer organisations and the media.

The results of the tests will be published continuously on www.uspornespotrebice.cz and www.atlete.eu. More information: juraj.krivosik@svn.cz

Photovoltaics – The present and future in the Czech Republic and in a world context

Currently, photovoltaics is the most rapidly developing sector of renewable energy sources in the Czech Republic. The main reason is that the Czech Republic is among the countries providing the most advantageous economic conditions to photovoltaic applications. Whereas at the end of 2008 the total installed capacity of photovoltaic sources in our country was approximately 50 MW, by the end of 2009 this figure is expected to have climbed to 180 MW, i.e. a growth of more than 250%, and in 2011 even double. What is the reason behind this growth, and what further developments can be expected in this area?

The number of new projects is so dramatic that connecting new large installations (which are built in open spaces) in some regions is starting to encounter problems related to insufficient capacities of local distribution systems, and hence the local distributor either does not accept further applications or requires that the photovoltaic power plant is connected to a superior voltage network, or switching station, frequently tens of kilometres away. Nevertheless, in the places these limitations are not yet in evidence and the investor manages to convince the local authorities, PV power plants are originating – and in high numbers. The rapid development of photovoltaics bears witness to how interesting this area is for investors. However, the economic advantage is not uniform for all types of installations and basically it can be said that attractive returns on investments can only be attained in the case of projects in open spaces with the power output of hundreds of kilowatts to units of megawatts. The simple payback on the mentioned projects is shorter than 10 years, which given the installation's service life of at least 20 years makes the average annual capital return exceed 10%.

Therefore, there are voices requiring change in the level of support that would hinder, or control, this spontaneous development. This apprehension is well-founded since every end customer contributes to generation of electricity from renewable sources – this year, compound support, including development of electricity production in electricity and heat

cogeneration and from secondary sources, is approximately CZK 0.05 per kilowatt-hour, yet according to some scenarios next year it could triple.

The changes in conditions that can be expected from 2011 on will be largely inspired by the changes which have been adopted this year in neighbouring Germany. Owing to the rapid technological development, the conditions for support have been changed in such a manner that, for example, the guaranteed feed-in tariff for installations in open spaces in Germany for the next 20 years is only 32 EURct/kWh, which is merely approximately 65% of the feed-in tariff for installations above 30 kWp valid in the Czech Republic. The level of support for constructions in Germany is also lower than in the Czech Republic (between 33 and 43 EURct/kWh, 15 to 25% less than in the Czech Republic).

Between 2008 and 2010 the undifferentiated support for all new installations will decrease by 8 to 10% every year, in dependence on the total installed capacity. The aim is that from 2012 to 2015 the support for projects will be the average price at which electricity is supplied to small-scale consumers. Consequently, an interesting situation will emerge – electricity from the grid will be more expensive than that from independent generation.

A surprising argument in favour of photovoltaic installations in open spaces is that they use land earmarked for electricity generation much more effectively than in the case of growing biomass that would

subsequently be converted to electricity through direct combustion or in a biochemical manner. Using current technologies, one hectare of land occupied by a photovoltaic power plant can produce approximately 400 MWh/year, 40 times more than in the case of generating electric energy from biomass.

In addition, the energy intensity of producing new panels has been constantly decreasing, demands for the amount of materials and raw materials necessary for their production have been dwindling. There are various semiconductor materials available converting solar radiation to energy more efficiently. Although new materials have lower efficiency with direct sunshine (currently the highest efficiency of 8 to 11%) than standard panels from crystalline silicon (today having the efficiency between 16 and 18%), they have a relatively higher output when the sky is cloudy, since they are able to transform the diffuse component of light more efficiently. In the final analysis, they attain similar annual electricity generation per unit of installed capacity – and they are, or will be, cheaper. Hence, by the end of the next decade photovoltaics will probably have become a massively used and, at the same time, cheap electric energy source. It seems that the hitherto headlong development is merely the beginning of the expansion of this sector of “new power engineering”.

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GREEN SHOPPING – ADVANTAGES FOR PUBLIC ORGANISATIONS AND AUTHORITIES



Public-sector organisations in the European Union countries annually spend more than 1 trillion euros on their operation. A considerable part of their purchases also has a significant impact on the environment and energy consumption. These include, for example, construction and reconstruction of public-sector buildings, office technology, vehicles, detergents, etc. Yet selection and purchase of products with lower operational energy consumption and less adverse environmental impacts is possible, and it definitely need not concern a more expensive alternative to common products. Bearing witness to this are many examples from the public and private sectors in the EU, including the Czech Republic.

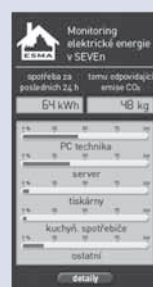
Decree No. 720/2000 of the Government of the Czech Republic supports the development of sale and use of environmentally sound products. The document recommends to members of the Government and heads of other public administration bodies that when commissioning public procurements they give preference to direct purchase of goods labelled as environmentally friendly products. The Decree, whose fulfilment is voluntary, is intended for all public administration and local government organisations – mini-

stries, regional and municipal authorities, schools, kindergartens and hospitals instituted by regions and municipalities, as well as other institutions.

SEVEn has joined the international consortium of organisations from seven EU countries, headed by the Berlin Energy Agency, which within the Buy-Smart project will provide public- and private-sector organisations with consultancy on the possibilities of bulk purchase of goods and services necessary for their operation which have lower energy consumption and less negative environmental impacts.

Background materials are available specifying the possibilities of bulk purchase and selection of products and services, including building materials, electric energy, household electrical appliances, lighting, office technology, vehicles, etc. The information includes a description of the current legislation, environmental labelling, examples of specific parameters advisable for selection of given products, etc.

Examples of individual projects and further information on this topic are available at www.buy-smart.info. More information: jana.szomolanyiova@svn.cz



Monitoring of electric energy consumption at SEVEn

SEVEn'S WEBSITE has been extended to include the interesting function of monitoring of electric energy consumption by different end-uses (PC technology, servers, printers, kitchen appliances, others, including lighting). This form of measurement has been made possible by installing a special electric meter which allows for division of energy consumption according to individual types of appliances. The main reason for implementing this project was SEVEn's endeavour to contribute to the extension of the smart-metering concept, whereby electrometers inform customers not only of their total electric energy consumption but provide a breakdown of the energy consumed by individual appliances.

« INSULATION OF BUILDINGS..., cont.

the low-energy standard of a house. If the applicant implements these partial measures and is granted the respective subsidy, he can then ask for more finance in order to "finalise" his project up to the low-energy standard, defined by the so-called overall thermal insulation, i.e. category A.1 of the Green Light to Savings programme. Another subsidy for this "finalisation" will be approved at the level of the difference between the subsidy for this overall insulation and the already granted subsidy for the implemented partial measure. Another key motivational factor of the programme is a contribution to the preparation of a project – writing up of the project documentation and the energy assessment. This is acknowledged and paid at the moment when the State Environmental Fund approves the application for granting a subsidy (a contract on granting finance for implementation of the proposed measures is signed). When it comes to family houses, the sum of CZK 10,000 for the energy assessment is granted and another CZK 10,000 for the drawing up of the project documentation. As for

apartment houses, the amount is CZK 15,000 for the energy assessment and CZK 2,000 for writing up the project documentation for each flat in the house, however, not exceeding 5% of the subsidy for implementation of a measure.

This is the amount that often will cover virtually all the costs for the drawing up of an energy assessment document. In the case of project documentation, the costs naturally to a much larger extent depend on the building's complexity and the required degree of documentation. As to new passive houses, a one-off subsidy amounting to CZK 40,000 is awarded. Currently, granting finance for preparation of projects is presumed until 31 March 2009 or until the allocated money is spent.

Individual categories of the subsidy programme can be advantageously combined. For example, thermal insulation of a house alongside with the installation of solar collectors means for the applicant a bonus of CZK 20,000 for family houses and CZK 50,000 for apartment houses.

With respect to the smooth course of settling financial contributions for house insulation, it is recommended to first address an engineering or consultancy company operating in the energy sector. The energy auditor or the competent authorised person will propose measures that would meet the conditions for obtaining the subsidy. Such groundwork will serve a designer to prepare project documentation on the basis of which it is possible to address an implementation company. In all cases the designer and the energy expert should co-operate in such a manner that all appendices to the application will be in mutual accordance. To fill in the cover note, it is also necessary to co-operate with an implementation company whose identification data must be stated. Doing things in the opposite order, i.e. drawing up of the project documentation and subsequently doing its energy assessment, is inadvisable. This can result in the measures not being sufficient and therefore the project documentation has to be revised, which means additional costs and an unnecessary loss of time.

SEVEN's experience within the Green Light to Savings programme reveals that it is possible to prepare projects that are financially and administratively advantageous for the applicant and, at the same time, can lead to the necessary reduction of energy consumption of the given building.

More info: www.svn.cz/en/activity/zelena-usporam
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Energy services as a marketing tool for producers, traders and distributors of (not only) thermal energy

The price of thermal energy from district heating systems is an issue discussed with increasing frequency. Small-scale and bulk consumers have often disconnected themselves from these systems owing to the consideration that they would be much better off with the thermal energy price when operating their own source. Admittedly, this can really be the case, yet often, consumers do not overly gain and rather become victims of suppliers of local sources. In addition, disconnection of consumers from district heating systems also results in "increased" thermal energy prices for the customers who have remained linked to the system.

If the supplier is not able to adapt the price according to its customers' needs, requirements and possibilities and, at the same time, its position is from a certain point of view perceivable as a monopoly, then its operation on the given market can be apprehended negatively. One of the routes leading to change in this status could be extension of the spectrum of services on offer. At the present time, district heating systems primarily offer delivery of thermal energy as a standard. Usually, they also offer heat economy management, yet it is generally perceived as mere operation of a facility and, above all, means an increase in the price for the customer.

A new type of service that producers and distributors of thermal energy (and, naturally, other forms of energy too) could provide to their customers is so-called energy services. This entails establishing a relationship with the customer based on the mutually positive effect resulting from the energy savings attained. The subject of energy services is provision of saving measures to the customer and, at the same time, contractual guaranteeing of the determined savings. At first glance, it may appear that this product might be at variance with the natural strategy of the thermal energy producer and distributor, which rests in the

endeavour to generate and sell as much energy as possible, yet in point of fact the very opposite is the case. Although implementation of saving measures on the part of the customer results in reduction of his consumption, at the same time the customer enters into a long-term contractual relationship with the supplier consisting of provision of energy services, which gives the thermal energy supplier the assurance that the customer will not disconnect himself and, moreover, the supplier gains detailed information about the customer's future consumption. The customer in turn attains guaranteed energy savings from which the implemented saving measures will be paid.

Accordingly, it concerns a service that is in a way mutually beneficial and concurrently reducing final energy consumption.

Inclusion of these products in the portfolio of the services provided by our district heating systems would undoubtedly be a positive step for consumers, while it would also help district heating producers and distributors attain a different, more market-like, position. In the final analysis, it concerns a step in the right direction, a step beneficial to all parties concerned.

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USE OF BIOGAS IN TRANSPORT



Within SEVEN's participation in the MADE-GASCAR project, perhaps the first comprehensive information leaflet about using biogas in transport has been prepared in the Czech Republic. It aims to familiarise the Czech professional public with the technical, economic and legal

aspects of converting biogas into biomethane, which is a full-value substitute for natural gas utilisable not only for electricity and/or heat generation but also as fuel in motor vehicles powered by compressed (natural) gas – CNG. The leaflet also contains detailed presentations of several projects implemented abroad. It is SEVEN's aim to accelerate the preparation of similar projects in the Czech Republic too. Upgrading biogas to biomethane results in higher energy efficiency and, at the same time, positive environmental impacts, especially in the case that biomethane is used to power, for example, buses. For this reason, SEVEN, in co-operation with a number of institutions (the Czech Gas Association, the Energy Regulatory Office, the Czech Biogas Association, etc.) is actively striving to remove barriers, both when it comes to technical standards and the current legislation.

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The material is available on www.svn.cz, in the News section.



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The Prague office of SEVEN is using PREKO electricity tariff, contributing to the development of renewable energy sources.



SEVEN is a holder of the ČSN EN ISO 9001:2009 and ČSN EN ISO 14001:2005 certificates approved by Lloyd's Register Quality Assurance.