

“Energy Savings and EPC” international conference

On 27 November 2012, the Hotel Diplomat in Prague played host to an international conference on the topic of “Energy Savings and EPC”, which took place under the auspices of the Czech Prime Minister, Petr Nečas, the Ministry of Industry and Trade and the Ministry of the Environment of the Czech Republic. The forum, financially supported by the Ministry of Industry and Trade, was organised by the Association of Energy Service Providers (APES) in collaboration with the companies SEVEN and Enviros.

The conference aimed to set in motion a debate on improvement of the energy performance of build-

ings in the Czech Republic by means of applying the Energy Performance Contracting (EPC) method. Speeches were given by representatives of the Office of the Government of the Czech Republic, ministries and experts. The European Commissioner for Climate Action, Connie Hedegaard, referred to the magnitude of the climate crisis, which she considers to be just as critical as the economic crisis. She handed over awards to municipalities that in 2012 had prepared or announced public tenders for EPC projects. The day prior to the conference, Connie Hedegaard paid a visit to the National Theatre in Prague, which serves as a practical example of a Czech building in which an EPC project has been implemented.

The “Energy Savings and EPC” conference addressed the EPC issue in its entirety, from the method’s basic aspects and its practical use, including examples of implemented projects, the current situation in the EPC domain in the Czech Republic and the EU in general, to the financial tools for EPC within the European context.

The presentations given by individual speakers and a video recording from the conference are available on the APES website (www.apes.cz, in Czech).

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European Commissioner for Climate Action Mrs. Connie Hedegaard and Minister for Environment Mr. Tomáš Chalupa attended the conference.

Standard documents for EPC projects

Within the EFEKT programme, in 2012 the Association of Energy Service Providers (APES) received finance from the Ministry of Industry and Trade of the Czech Republic for drawing up standard documents for the application of Energy Performance Contracting. SEVEN participated in the preparation of the documents.

The main objective was to elaborate textual documents applicable within the practical implementation of EPC projects, to see to their dissemination and organise accompanying events. The most significant of these textual documents is the new form of the “standard contract on provision of energy services with guaranteed savings”, including the contents of its appendices, which can be used as part of the tender documentation when announcing public tenders for EPC. The standard contract reflects the current legislation, as well as the knowledge and experience gained from the implementation of EPC projects in the Czech Republic. When drawing up the document, emphasis was placed on its transparency, comprehensibility and evenness of contractual terms and conditions for both contracting parties.

Moreover, the new sample contract takes into account the European Commission’s requirement for

standardisation of documents for EPC projects at the national level. Closely connected with the contract was the creation of standardised contents of its appendices, with the main focus being given to the appendix setting the rules of measurement and verification of energy savings. This appendix is based on the contents of the International Performance Measurement and Verification Protocol (IPMVP), which is deemed an international standard for testing energy performance within energy-saving projects.

The new website www.sluzby-epc.cz (in Czech) provides standard documents, good practice examples, news in the area of application of the EPC method, as well as practical procedures when announcing a public tender, the principles of tender documentation and processes of EPC project solutions for clients.

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PRŮKAZ ENERGETICKÉ NÁROČNOSTI BUDOVY
vytvářený podle zákona č. 406/2000 Sb., o hospodářství energií, a vyhlášky č. xxx/2012 Sb., o energetické náročnosti budov

Ulice, číslo: _____
 PSČ, město: _____
 Typ budovy: _____
 Plocha obálky budovy: _____ m²
 Objemový faktor tvaru A/V: _____ m³/m²
 Celková energeticky vztažená plocha: _____ m²

ENERGETICKÁ NÁROČNOST BUDOVY

Celková dodaná energie (Energie na vstup do budovy)		Neobnovitelná primární energie (Vše provoz budovy na Zvěrné prostředí)	
Měrné hodnoty kWh/m ² rok			
Minimální úsporná A	Dop. A	Dop. A	Dop. A
Velmi úsporná B	Dop. B	Dop. B	Dop. B
Úsporná C	Dop. C	Dop. C	Dop. C
Mírně úsporná D	Dop. D	Dop. D	Dop. D
Neúsporná E	Dop. E	Dop. E	Dop. E
Velmi neúsporná F	Dop. F	Dop. F	Dop. F
Minimální neúsporná G	Dop. G	Dop. G	Dop. G
Hodnoty pro celou budovu MWh/m ²	XX,X	XX,X	XX,X

NEW ENERGY PERFORMANCE CERTIFICATES FOR BUILDINGS

Since 1 January 2013, pursuant to new Act No. 318/2012 Coll., on energy management, the obligation to draw up Energy Performance of Buildings Certificates has been extended to include more situations and buildings. Moreover, as of 1 April 2013, when the amendment to Decree No. 148/2007 Coll., on energy performance of buildings, will come into force, the Certificates will be compiled according to a newly modified methodology whose aim is, among other things, to provide tenants and owners of buildings with more information, and in a user-friendly form.

The current statutory duty to draw up certificates for **new buildings** remains in place, while it will be extended to apply to all **major modifications of existing buildings**, i.e. buildings in the case of which more than 25% of the total area of the envelope will be changed (accordingly, the limit of the minimum 1,000 sq. m. of total floor space has been abolished). The obligation will be also extended to include **public buildings** – more specifically, buildings owned and used by a public authority or a subject constituted by a public authority. From 1 July 2013, this will apply to buildings with the total energy reference

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Results of verification of CO₂ emission reduction within the Green Light to Savings programme for 2011

Within the Kyoto Protocol, the Czech Republic had in the 2008–2012 period a presumed surplus of approximately 150 million tonnes of CO₂ eq. (or AAUs, Assigned Amount Units). Of this quantity, about 100 million AAUs can be traded within the international emission trading mechanism. The Green Light to Savings programme, financed from the Czech Republic's revenues from the emission surpluses, mainly aims to support selected measures resulting in increased energy efficiency carried out in residential buildings. This will lead to immediate abatement of CO₂ emissions, as well as the starting up of the long-term trend of sustainable construction. The Green Light to Savings programme is administered by the State Environmental Fund of the Czech Republic. This article provides information about the results of verification of CO₂ emission reduction for the programme's Annual Report for 2011.

SEVEN verified the presumable decrease in CO₂ emissions achieved in the Green Light to Savings programme on the basis of applications registered and approved by 31 December 2011 across the supported areas. The reduction of CO₂ emissions was calculated by the State Environmental Fund (SFŽP) according to the validated calculating method for evaluation of CO₂ emission reduction within the Green Light to Savings programme. The calculating method was validated in the spring of 2010 by an external independent subject, Det Norske Veritas.

According to the Green Light to Savings Annual Report for 2011, the total number of applications registered within the Green Light to Savings programme by the end of 2011 was 75,318. Moreover, a total of 80,341 projects were filed by the end of 2011. The total volume of support allocated to the applications registered by 31 December 2011 exceeded CZK 20.46 billion. The following picture shows the support apportioned to individual areas.

Allocation of support (in CZK and %) to the registered applications by individual areas. Source: Green Light to Savings Annual Report for 2011.

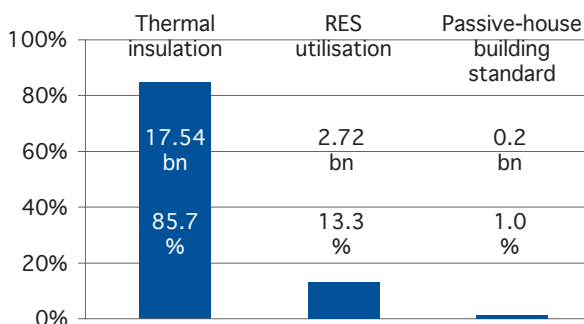
The programme's environmental benefits were evaluated on the basis of approved and paid applications.

The total presumed reduction of CO₂ emissions in 2011 in the case of the approved applications amounted to 760,738 tonnes a year. (A total of approximately 72,000 applications were approved by the end of 2011.) When it comes to the applications with paid support, the total reduction of CO₂ emissions is estimated at 461,443 tonnes a year (for about 47,000 applications, with support paid by 31 December 2011).

A total of 90 million AAUs were successfully traded by 31 December 2011. According to the information provided by the Ministry of the Environment (on 11 January 2012), by the end of the Green Light to Savings programme all qualified applications submitted by 25 October 2010 should be satisfied.

In 2012, on behalf of the State Environmental Fund, SEVEN also checked projects in the places of their implementation ("check-out surveys") with the aim to verify whether the respective measures had really been carried out and to examine to the greatest extent possible whether CO₂ emissions had been reduced. In collaboration with representatives of the State Environmental Fund, SEVEN carried out 209 check-out surveys throughout the Czech Republic's regions.

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Allocation of support (in CZK and %) to the registered applications by individual areas.

Source: Green Light to Savings Annual Report for 2011.

COMBINING SUBSIDIES AND EPC TO ATTAIN ENERGY SAVINGS

In recent years, the public sector has been afforded a very attractive possibility to obtain subsidies for thermal insulation of buildings granted within the Operational Programme Environment, which is administered by the State Environmental Fund of the Czech Republic. The subsidies above all support thermal insulation of building envelope, as well as replacing windows and doors.

The projects that have been implemented to date have, however, often revealed that thermal insulation of a building alone is not sufficient to attain the optimal reduction of energy consumption, which should result from the money granted. Thermal insulation of buildings must be ideally supplemented by refurbishment of heating-related technological equipment, primarily heat sources and regulation systems. In most cases, however, renovation of energy technologies need not be subsidised since, owing to the short pay-back period of the investment, it can be carried out otherwise. One of the possibilities is application of the Energy Performance Contracting (EPC) method.

When using EPC, renovation of the whole building does not result in increased investment requirements since the necessary investment is covered only subsequently from saved operating costs associated with energy consumption. Combining the two approaches, i.e. partially subsidised thermal insulation of a building and renovation of technological energy equipment, brings about the synergic effect of optimal reduction of energy consumption. What's more, when applying the EPC method in the case of renovating technological energy equipment this consumption reduction is guaranteed by the provider of the EPC project over the long term, usually 8-10 years.

These and similar possibilities of combining subsidies and application of the EPC method are a focus of the CombinES international project, which has been joined by partners from six countries (the Czech Republic, Slovakia, Poland, Germany, Slovenia and Italy). The Czech participants are SEVEN and the Energy Agency of Vysočina.

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CombinES
Combining energy services with subsidy schemes
to finance energy efficiency in Central Europe



12
2012
SVĚTELNÉ ZDROJE A SVÍTIDLA
PRO VĚŘEJNÉ OSVĚTLENÍ V ROCE 2012



LAMPS AND LUMINAIRES FOR STREET LIGHTING IN 2012

At the end of 2012, SEVEN prepared a publication providing an overview of the basic conceptions and components of street lighting and the currently most frequently used lamps. It mainly focused on comparison of street lighting systems with traditional high-pressure sodium lamps and the incoming LED lamps. The publication also contains an outline of LED lamps available on the market, recommendations as to which LED lamps to choose, the future outlook and examples from practice.

If you are interested in the printed or electronic version, please do not hesitate to contact us.

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Ecodesign of directional lamps

The technology of lamps is undergoing great development, which has also been reflected in changed legislation on energy-labelling of lamps and ecodesign, which determines the lowest possible parameters of the products that are placed on the market. In 2012, legislation introducing new energy labels for luminaires was adopted, as was European Commission Regulation No. 1194/2012, with regard to ecodesign requirements for directional lamps, light emitting diode lamps and related equipment. Similarly to the well-known legislation phasing out traditional incandescent bulbs from the market, the new Directive will result in a ban on the placing of further inefficient directional lamps on the market.

Regulation No. 1194/2012/EU mainly applies to directional lamps that are most frequently used for illumination of corridors, for accent lighting or designer lighting in hotels, restaurants, shops, etc., directional lamps and halogen spotlights, which are also frequently installed in households. Furthermore, the new Directive applies to LED lamps (both directional and non-directional) and other equipment

designed for installation between the mains and the lamps (control gear and devices, modules, etc.).

What does the Regulation prescribe? As was the case of traditional incandescent lamps, it requires at least the minimum efficiency, owing to which low-efficiency directional lamps will not be allowed to be placed on the market. And similarly, it prescribes the basic quality requirements and data which the



manufacturer is obliged to state on the package. A major change will be compulsory mention of the luminous flux in lumens, which is common in the case of non-directional lamps (at the present time, the maximum luminous intensity is stated in candelas with the majority of directional lamps). In consequence of this change and the fact that the new labelling will only be introduced for newly launched products in September 2013, initially it will not be entirely clear which lamps will be allowed to be placed on the market. The following chart states the most frequent cases that will be affected by the new Regulation and the presumed minimum energy classes required for directional lamps.

Moreover, the Regulation determines the maximum power input of control devices and their their stand-by mode, allowed decreases in the luminous flux, the maximum lamp start-time, the number of switching cycles, etc. The Regulation also specifies the minimum quality criteria for LED lamps (directional and non-directional): a start-time shorter than 0.5 seconds, the minimum number of switching cycles of 15,000 in the case that the service life is longer than 30,000 hours, and half of the value of the lifetime in hours if the service life is longer than 30,000 hours. Furthermore, the Regulation stipulates the minimum colour rendering of LED lamps: $R_a = 80$ (and 65 for outdoor use).

By 2020, the Regulation should result in electric power saving of 25 TWh as against the situation had it not come into force. In addition to savings, it will also bring about a significant unification of labelling and improvement of the quality of directional lamps.

The minimum energy classes of directional lamps

	Mains-voltage incandescent and halogen lamps (most frequently designated as R and PAR with E27/E14 base and lamps with GU10, GZ10 bases)	Other incandescent and halogen lamps (most frequently lamps with GU5.3, GU4, GZ4, G53 bases)	Other lamps (e.g. LED lamps and compact fluorescent lamps)
Phase 1 Sept. 2013	Phasing out of inefficient directional lamps with the luminous flux above 450 lm, to be replaced by halogen lamps, compact fluorescent or LED lamps. More than 450 lm: min. D, others unlimited.	Phasing out of inefficient halogen lamps, stricter criteria for lamps with the luminous flux above 450 lm, probably to be replaced by efficient halogen or LED lamps. Less than 450 lm: min. C, more than 450 lm: min. B.	Setting of the minimum efficiency for directional compact fluorescent lamps, directional LED lamps and other directional lamps. Min. A (and, in part, B)*
Phase 2 Sept. 2014	Phasing out of all inefficient directional lamps, to be replaced by halogen lamps, compact fluorescent and LED lamps. All min. D	Phasing out of all inefficient halogen lamps, to be replaced by LED and efficient halogen lamps. Min. B	Same requirements as in Phase 1. Min. A (and, in part, B)*
Phase 3 Sept. 2016	Tightening up of the minimum efficiency, probable replacement in the form of improved halogen lamps, compact fluorescent lamps and LED lamps. Min. B*	Same requirements as in Phase 2. Min. B	Further tightening up of requirements, which will probably only be met by directional LED lamps and some discharge lamps. Min. A+ (and, in part, A)*

* The minimum energy classes and replacements are approximate, since individual lamps can, owing to their specific design, have different requirements or exceptions.

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Support for transparency and development of the energy services market in 20 EU countries



Support for a credible Energy Performance Contracting market is the objective of the new TransparensE international project, financed by the European Union and to be launched in April 2013. It has been joined by an unusually high number of partners from 20 EU countries, with SEVen being the main co-ordinator.

TransparensE will focus on the major characteristics of the Energy Performance Contracting (EPC) projects in individual countries. One of its main outputs will be a Code of Conduct for the implementation of EPC projects and its 20 national modifications in the participating countries. The Code of Conduct will define the fundamental principles of conduct when preparing and implementing EPC projects. Compliance with the Codes of Conduct will markedly improve the quality of EPC projects. Another goal is to increase the number of energy service companies (ESCOs) that will be ready to adhere to the principles of the Codes of Conduct, which

should result in raised confidence in using EPC on the part of potential clients. Individual Codes of Conduct will be directly tested out on specific pilot projects in all participating countries, at the same time contributing to the promotion of good practice principles both on the part of ESCOs and clients.

Gradually increased demand for EPC will be further supported by the new EU directive on energy efficiency, which will define the requirements for making use of energy services by public institutions and should also lead to a growth in the number of new ESCOs. Within TransparensE, energy service companies will be offered high-quality training pro-

grammes and materials. Accordingly, the project will serve to abet the transfer of experience from more advanced EPC markets, including the Czech Republic, to those less experienced. Moreover, TransparensE will entail the establishing of publicly available databases providing an overview of EPC markets throughout the European Union through specific information about ESCOs, their associations, EPC models and the existing initiatives promoting EPC.

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System changes in the building industry aimed at net-zero-energy buildings

The implementation of the Energy Performance of Buildings Directive (EPBD) II and the resultant requirements for construction of net-zero-energy buildings have given rise to the necessity to improve the processes on building sites so as to make it possible to complete such houses in a high quality.

Representatives of specialist organisations operating in the building sector, associated within the BuildUp Skills Czech Republic project, have defined the following system shortcomings in the education of construction industry professionals and in the building sector in general:

- The absence of a unified management system in the building industry.
- Low interest in studying the discipline on the part of young people.
- Low labour productivity in the building industry in comparison with Western European countries.
- Feeble co-ordination of works and low quality of management on building sites.
- Insufficient inspection of the set quality of works and performances.
- Lack of specialists for operation and management of buildings.
- Low interest in adult training in crafts (low motivation).
- An inflexible education system in relation to new technical and technological approaches.
- Insufficient interdisciplinary education.

So as to attain the desired level of knowledge and skills of those working in the building industry, it is necessary to pursue specific activities for which support across the public and private sectors is being sought within the BuildUp project. The creators of the *National Plan for education in the building industry aimed at net-zero-energy buildings* have to date marked out the following activities whose implementation will be conducive to increasing the qua-

lity of constructions in the Czech Republic. They include, in particular:

- Making use of craft manuals and plans of retraining courses for individual monitored professions as the basis of the contents of professional education to attain the desired status.
- Integration of the project's outputs within the updating of the National Professions System and the National Qualifications System.
- Creation of a model programme for craftsmen focused on their flexibility and new construction requirements.
- Introduction of a specific competence for the owner's technical supervision, system of authorisations, compulsory lifelong education and strengthening of its function.
- Establishment of an accreditation place for registration of craftsmen with records of their training and a single place for keeping records and accreditation of training courses for craft professions.
- Improvement of the system for assessment of the quality of products, technologies and constructions.
- Model construction of experimental buildings.

The next steps within the project will entail the completion of the *National Plan of education in the building industry aimed at net-zero-energy buildings*, communication between the project's partners and the parties concerned, and the creation of a qualification platform for training in the building sector.

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Regulation on boiler efficiency checks

Regulation No. 276/2007 Coll., stipulating the obligation to make regular records on the efficiency of boilers with a nominal output of more than 20 kW, has been in operation for five years now. This statutory duty appertains to boiler operators and owners, with the exception of boilers installed in family houses and individual flats in multiple dwelling houses. The frequency, scope and manner of checking boiler efficiency depends on the boiler's nominal heat output and the type of fuel burned in the boiler.

In the case of boilers burning liquid, gaseous or solid fuels with the nominal output up to 200 kW, their owners or operators are obliged to secure that their efficiency is regularly checked. The frequency, scope and manner of testing are defined by the respective implementing legal regulation.

- a) "The frequency, scope and manner of checking the efficiency of boilers with the nominal output ranging from 20 kW to 200 kW inclusive and above 200 kW, serving to heat buildings and installed in these buildings – regular checking of boilers."
- b) "Assessment of the efficiency of boilers older than 15 years with the nominal output above 20 kW, assessment of the dimensioning of a boiler or boilers in proportion to the requirements for heating of a building only, including checking of the indoor distribution of thermal energy in this building – one-off checking of boilers."

The frequency of regular checking of boilers is described in Section 4 of the mentioned Regulation:

(2) "Regular checks of boilers are carried out in the frequency of at least once every two years in the case of boilers burning coal and liquid fuels with the nominal output of up to 200 kW inclusive and in the frequency of once every four years in the case of boilers burning gas with the nominal output of up to 200 kW inclusive, in the case of boilers with the nominal output above 200 kW in the frequency pursuant to a specific legal regulation."

In practice, regular or one-off checks of boiler efficiency are often confused with regular checks, overhauls, emission measurements, etc. The implementing regulation explicitly emphasises as follows: *Carrying out a regular check of a boiler or a one-off check of a boiler does not substitute for checks, overhauls, audits and the like, conducted pursuant to specific legal regulations.*



UTILISATION OF DRAINAGE AND RAIN WATER IN THE CHODOV SHOPPING CENTRE

The Chodov shopping centre in Prague is currently implementing several sustainability projects aimed at reducing the energy intensity of its buildings. One of them is focused on lowering drinking water consumption and waste water production. In December 2012, the centre's management addressed SEVEN with a request for the company to link up to the measures recommended within the 2010 energy audit and draw up a thorough study of the possibility of waste water utilisation in the Chodov shopping centre's buildings.

The study concentrated on drainage and rain water, which, after not overly exacting treatment, can be used for flushing toilets, watering grassy areas and replenishing cooling towers. Three solution variants were proposed by SEVEN. The first entailed the utilisation of drainage water for flushing toilets, the second suggested using rain water for watering grassy areas, while the third counted with comprehensive exploitation of drainage and rain water for flushing toilets, watering grassy areas and replenishing cooling towers. The calculations confirmed that the most advantageous was the third variant. Its main benefit is maximum saving of water with acceptable costs for implementation, above all in construction terms. The comprehensive variant entails building a common storage reservoir, filter plant and pumping station, with the two types of water being divided and mixed according to their quality and demand.

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Over recent months, the State Energy Inspection, as an auditing body, has increased the frequency of checking boiler efficiency at boiler operators' and boiler owners', and it has come to light that many operators and owners have failed to draw up the compulsory records and that they have been levied financial fines and required to make immediate remedy.

Boiler efficiency can only be checked and the respective records made out by persons registered on the Ministry of Industry and Trade's list pursuant to Act No. 406/2000 Coll., on energy management (Amendment No. 318/2012), who have passed a boiler checking details test before an expert committee.

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New ways of generating energy from waste

Act No. 165/2012 Coll., on supported energy sources, which, with the exception of a few provisions, came into force in January 2013, has brought about a number of changes to the former system of support for production of energy from renewables.

One of the changes most significant for waste management, although one merely resting in the removal of a single adjective, is the new definition of the term "biomass" (Section 2, Letter b) of the Act). The missing word is "assorted" in the phrase "biologically degradable part of ... industrial and municipal waste".

This redefinition of biomass, which is based on binding new European legislation requiring member states to further develop RES (Directive 2009/28/EC), has thus created scope for subsidising "green" electricity generation from mixed municipal waste, which was not previously possible (or was considered energy made from secondary sources).

Accepted proportion of biodegradable municipal waste

The proportion of the biologically degradable part in mixed (or otherwise non-assorted) municipal waste, or the "green" energy generated from it, is specified in Implementing Regulation of the Ministry of Industry and Trade No. 477/2012 Coll. (Section 5), which qualifies it as 60% of the total energy content of waste, unless the energy producer documents its real value.

Direct determination of the proportion has evidently been motivated by the endeavour to simplify the manner of proving it, nevertheless, it cannot be ruled out that producers will carry out measurements so as to show an even higher level. The reason is the

fact that according to one of the possible methods determining the share of biodegradable municipal waste, resting in assessing the proportion of biogenic carbon in combustion gases, the value can exceed 70%.

Title to support

The new legal framework has also been responded to by **Price Regulation of the Energy Regulatory Office No. 4/2012**, which newly includes the independent categories *electricity generation through combustion of municipal waste or combined combustion of municipal waste and various energy sources*, namely, for facilities placed into operation by 31 December 2012 and after this date (at the level of the green bonus, i.e. a premium to the market price of the electricity generated of 680 CZK/MWh or 1,830 CZK/MWh). Yet the title of the category alone indicates that facilities co-combusting waste containing a biologically non-degradable part, as is newly stipulated in the Clean Air Act, will also be entitled to receive support.

On the other hand, acknowledgment of support for new facilities will be complicated by the fact that in the case of the plants placed into operation 24 months from the Act's publication in the Collection of Law (i.e. from 30 May 2014), the payment of support will be conditioned on attaining highly efficient cogeneration, which in practice means electric power

being only produced in a back-pressure steam turbine or in the high-pressure part of the extraction condensing turbine-generator unit. If the provision (Section 4, Clause 5, Letter b) is retained even after possible amendment to the Act, new large facilities using waste to generate energy which are now in an advanced phase of preparation (Chotřkov and Komořany) will have to take it into account.

Additional sources of revenue

Facilities producing electricity and heat (from biologically degradable) waste, however, can concurrently receive up to four other additional means of support in the form of the green bonus.

In the event of a suitable constellation, it would be theoretically possible to obtain the total support exceeding 500 CZK/tonne of waste applying to highly efficient combined heat and power generation, which equals the current fee for dumping municipal waste in a landfill.

What's more, it is not certain whether the Act in the present wording will "last" for more than a year, since the Ministry of Industry and Trade and the Energy Regulatory Office are now preparing its amendment with the aim to cease granting operating subsidies for all new facilities placed into operation after 2013. Nevertheless, support for generating energy from waste should not be stopped, otherwise the minimum fee for reception of waste from future facilities using waste to generate energy would be increased, which is not good news for their owners and, in the final analysis, waste producers. The situation should be clearer next year.

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Prague seminar on (bio)waste to energy

On 27 November 2012, a seminar dealing with the prospects of producing energy from (bio)waste in combined heat and power generation was held in Prague. Taken into consideration was the expected amended legislation pertaining to support for renewable energy sources, which will come into force in 2013.

The seminar's agenda was divided into two main sections. The first part entailed familiarisation with the new law on supported energy sources (Act No. 165/2012 Coll.) and its implementing legislation, primarily that stipulating the support for combined heat and power generation (CHP). Presentations were given by representatives of the Czech Technical University, SEVEN and Komerční banka.

In the second section, the seminar participants were acquainted with the technologies suitable for utilisation of biodegradable waste by means of anaerobic fermentation and gasification as alternatives to direct combustion in large-capacity facilities generating energy from waste. Their applicability and outlooks were also discussed. Presentations devoted to the possibilities of applying anaerobic fermentation to use biological waste to generate energy were delivered by representatives of the Czech Biogas Association and implementation companies.

The presentations and subsequent discussions revealed that owing to the changed definition of the term "biomass" in the respective Act the prospects of utilisation of waste over the next few years will to a significant extent be affected by the altered view of what (bio)waste and renewable source actually are. Inclusion of the biologically degradable component of non-assorted municipal and industrial waste in (solid) biomass markedly boosts the use of biodegradable waste in large facilities using waste to generate energy, instead of its being processed in specialised plants, such as biogas stations, treating, for example, municipal biological waste.

It would seem that this fact will not even be changed by the re-categorisation of new facilities generating electric power from biogas in terms of the level of operating support (not according to the structure of inputs, but merely according to electric output), which has been required by specialists for several years.

The seminar participants were presented with alternative technologies applying the principle of "dry" gasification. Yet this thermal process, taking place at temperatures similar to those of direct combustion but in the absence of oxygen, results in the combustible of the charge turning into synthesis gas rich in carbon monoxide and hydrogen, and has been successfully used for decades in the case of low-moisture wood (here, the syngas is commonly called wood gas). Possibilities have been intensively tested of its being applied to other types of biodegradable substances, as well as materials of fossil origin and various types of waste, such as, for example, sewage sludge and solid alternative fuels based on paper, wood and some plastics. The gasification process, however, is complicated by the necessity to rid the originating gas of impurities, tar in particular, prior to its being used for generating energy, and a number of the current semi-operation units have so far failed, owing to not being able to satisfy this precondition.

In the long-term horizon, the methods of anaerobic fermentation and gasification could in commercial applications be supplemented with hydro-thermal conversion of organic substances into gaseous products.

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ENERGY LABELLING OF ELECTRICAL APPLIANCES – EXPERIENCE AND NOVELTIES

On 15 March 2013, SEVEN organised a seminar on energy labelling of appliances on the premises of the Permanent Representation of the Czech Republic to the European Union in Brussels. It was devoted to the new EU legislation pertaining to energy labelling and other planned changes in this sphere after 2014.

The seminar was held within the Come On Labels project, co-ordinated by SEVEN. Its participants included representatives of the European Commission, national energy agencies, manufacturers and retailers of electrical appliances, market surveillance authorities, non-profit organisations and other subjects.

For more information and presentations, visit: www.come-on-labels.eu/news/presentations-from-the-project-event-15-3-2013-available

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ECOWILL has 500 participants in the Czech Republic!

Since June 2012, Czech passenger car drivers have been afforded the opportunity to attend a brand-new type of driving lesson aimed at improving driving technique so as to attain lower fuel consumption and higher road safety.



The ECOWILL training course originated within the eponymous international project, whose objective it is to harmonise economic driving lessons throughout Europe. Its format is unified and the driving schools interested in providing the lessons must undergo special training.

As regards the Czech Republic, more than thirty instructors at almost twenty driving schools have been trained to give the course (a list is available on www.uspornajzda.cz).

The course entails repeated driving in the participant's or the school's car on a selected route together with a certified instructor. In the first round, the drivers drive in the manner they are accustomed to, while in the second round they strive to improve their driving with the active assistance of the instructor. During the lessons, the coach evaluates the driver, in a total of ten categories for each round.

The results of the 500 training courses that have taken place in the Czech Republic have confirmed

the initial presumptions that by complying with several basic rules it is possible to attain on the same route and under similar conditions an average reduction of fuel consumption of about 10%. In absolute terms, this means a saving of approximately 0.65 litres of fuel per hundred kilometres driven. If we project this effect into the annual mileage of an average driver of 10–15,000 km, it means a fuel saving amounting to 65 to 100 litres a year, i.e. one to two full tanks, representing saved fuel costs of approximately 2,500 to 3,500 Czech crowns, given the current fuel prices.

Even more interesting is the result attained at the average driving speed, which was one of the evalu-

ation criteria noted down by the instructors in the report. Whereas the average speed in the first round was about 35 km/hour, in the second it rose on average by about 0.5 km/hour. This outcome has thus rebutted the frequent assertion that economic driving must necessarily be slow.

ECOWILL training courses also prepare Czech driving schools for the new European legislation, which from 2014 on will require from the member states that they test Category B learner drivers' practical economic driving skills.

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« NEW ENERGY PERFORMANCE CERTIFICATES FOR BUILDINGS

» cont. from page 1

area exceeding 500 sq. m., and from 1 July 2015 to buildings with the total energy reference area above 250 sq. m. The total energy reference area is in general larger than the floor area, since it is based on the building's total outside dimensions.

Furthermore, proprietors, owners or owners' associations are obliged to draw up the Certificate for occupied residential buildings or administrative buildings, which have:

- The total energy reference area larger than 1,500 sq. m. - by 1 January 2015,
- The total energy reference area larger than 1,000 sq. m. - by 1 January 2017,
- The total energy reference area smaller than 1,000 sq. m. - by 1 January 2019.

The amended law also requires that owners or associations of owners secure the drawing up of the Certificate in the case that the whole building is being sold or let, or an integrated part is being sold (flat, office space, etc.). Certificates in the case of letting on lease of an integrated part of a building will only have to be compiled from 1 January 2016.

The new Energy Performance Certificate contains

information not only pertaining to the energy supplied to the building (electric power, gas, heat, etc.), for which its owners or tenants would pay if they used it in a standardised manner, but also information about the non-renewable primary energy, which expresses the building's environmental impact. The Certificate also provides recommendatory information about possible measures that could help to improve the building's energy performance.

The Energy Performance Certificate is valid for ten years from the day of its making out, which in practice means that the Certificates that were drawn up in previous years pursuant to Decree No. 148/2007 Coll. as, for instance, an appendix to a request for a subsidy are still in effect. The current Certificate, however, is only valid until a building is significantly modified, which is defined by law as a modification made on more than 25% of the area of the building's envelope structures.

Energy Performance of Buildings Certificates can only be drawn up by energy specialists, as stipulated in Sec. 10, Clause 1, Letter b) of the Act, or a person resident in another EU member state, if he/she is competent and authorised to carry out such a service.

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DOPORUČENÁ OPATŘENÍ		PODÍL ENERGOINTENZITĚ NA DODANÉ ENERGII																																																									
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