

## ENERGY EFFICIENCY NEWS FROM THE CZECH REPUBLIC

### Join the "We are seeking class A drivers" campaign

*Transport and the emissions resulting from it are a significant environmental burden. Besides a good technical condition of vehicles, the daily manner of driving can also markedly contribute to reduction of fuel consumption and greater road-traffic safety.*

This is the message of the information campaign of the international EcoDriven project, which will take place in the Czech Republic under the motto "We are seeking class A drivers" with the aim to categorise drivers into energy classes according to a methodology similar to that applied today in the case of white goods. Consequently, within the campaign the successful energy labelling concept will be extended to encompass automobile transport. In addition, with regard to the ease of monitoring of real consumption, it will be for the first time used for evaluation of the



user's conduct – this being a novelty not only in the Czech Republic but throughout Europe too.

The energy-saving manner of driving and conduct of drivers will be communicated in the context of traffic safety (especially when it comes to abidance by the prescribed speed limits) and economy of driving (fuel saving = money saving). The reasons for it are clear: By adhering to the rules of economical driving (appropriate gear change, speed, tyre pressure, etc) it is possible to affect 20 and more per cent of vehicles' "standard" fuel consumption ... cont. on page 4

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### Competition for the best energy services

*The Economic Chamber of the Czech Republic has announced a competition for energy services used in the best manner. The aim is to support the use of energy services with a guarantee. At the same time, the competition is organised in linkage to Directive No. 2006/32/ES of the European Parliament and Council, on energy end-use efficiency and energy services. Pursuant to the Directive, by 2018 EU member states should strive to reduce energy consumption by 9% as against the average annual consumption in the period from 2002 to 2007.*

Within the competition, intended for public administration bodies, partial fulfilment of the Directive for each department will be assessed, and reduction of energy intensity and the scope of use of energy services evaluated.

In 2007, the competition's introductory phase will take place within which individual departments will be informed of the competition's objectives and forms, as well as the expected outputs from the provision of energy services. The Economic Chamber of the Czech Republic has entrusted SEVEN with the given activities. Furthermore, projects planned to be implemented in 2007 or the following years will be prepared.

The standard competition will run between

2008 and 2017. It will entail evaluation of the preparation of energy-saving projects, the form of agreed contractual terms, including the scope of guarantees for savings and effectiveness after their implementation.

The evaluation criteria will include the number of successfully ordered projects and concluded public procurements implemented in the form of provision of energy services with a guarantee in the given year. The basic evaluation criteria will concern the number of concluded contracts for implementation of energy-saving projects and the volume of expected guaranteed and really attained energy savings per contract.

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### A farewell to traditional bulbs?

*In February 2007 media outlets worldwide brought the news that by 2010 Australia will ban the sale of incandescent lamps. Extremely inefficient appliances, they convert just 8% of the energy consumed for the required service – lighting. This measure has given rise to a number of discussions concerning the energy-saving potential in lighting and the necessity of further measures in this area.*

Global consumption of energy for lighting is approximately as high as the energy generated in all nuclear and water power plants worldwide and consequently forms a significant segment of consumption. In addition, lighting accounts for 19% of total global electric energy consumption, while its share in production of CO<sub>2</sub> emissions is equivalent to 70% of the emissions produced by all automobiles worldwide. This significant share is caused by the fact that we still use too many inefficient light sources, ... cont. on page 5

### EPC and possibilities of its use in social residential houses

*At the present time, the concept of social housing is much wider than the public is aware of. It concerns not only houses with community care services and old people's homes but also prefabricated houses. These buildings, completed over the past 50 years, have defects, primarily as regards insufficient thermal insulating properties of engineering constructions, heating technologies, hot water preparation, lighting, etc. However, improvement of the current conditions is possible, using the principle of energy services.*

Act No. 406/2000 Coll., on energy management, imposes energy efficiency requirements upon everyone. However, houses constructed by means of classical building technologies, for

example, T06, T08, VVÚ ETA and BANKS, no longer meet current requirements for specific consumption of heat for heating expressed by the quotient of energy consumption per floor

area (kWh/m<sup>2</sup>). Moreover, depreciation resulting from long-term use manifests itself in these buildings. Reconstruction and renovation is extremely costly and many ... cont. on page 2

## Emissions trading reduces emissions production

Trading in carbon dioxide emissions has resulted in specific projects for reduction of their production. According to research carried out by Point-Carbon, it was stated by two-thirds of the 800 questioned participants in the European system of greenhouse gas emissions trading. In last year's survey only 15% of respondents confirmed it.

Hitherto, the prevailing opinion was that introduction of the emissions trading system had failed as regards one of its main objectives – reduction of the total quantity of emissions. Representatives of the European Commission welcomed the results of the research, adding that virtually no company considers moving as a consequence of this measure.

Eighty per cent of respondents expect that they will comply with part of their companies' emissions limit by means of their own measures and partly from flexible mechanisms pursuant to the Kyoto Protocol.

In the opinion of former US Vice-President Al Gore, it is likely that by 2010 the USA and China will have concluded an agreement on specific measures aimed at reduction of greenhouse gas emissions after 2012.

*Drawn up according to [www.eceee.org](http://www.eceee.org), using ENDS Europe Daily sources.*

## Growing number of partners of the GreenLight programme

*In previous issues of News at SEVEN we have informed you of the GreenLight programme initiated by the European Commission with the aim to promote companies and organisations using energy-saving lighting in their premises (including street lighting in the case of towns and municipalities).*

In 2006 the GreenLight programme was joined in the Czech Republic by the IKEA stores in Ostrava and Prague-Černý most, the Regional Authority of the South Bohemia region, the Municipality of Hostětín, Grand Hotel Symphony Ramada in Prague and the Municipality of Prague 8 within relighting of the nursery school in Poznaňská street. The programme's official promoters in the Czech Republic include Philips Lighting, Kanlux, the National Network of Healthy Towns, and the Regional Environmental Centre.

SEVEN also coordinates the New GreenLight project in another seven Central and Eastern European countries, where the programme has been joined by towns and municipalities, private companies and other organisations. One of the most recent registrants is the Romanian Parliament.

In total, there are more than 350 partners of the GreenLight programme in European Union countries, ranging from large multinational companies to small towns and villages.

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*Further information: [www.eu-greenlight.org](http://www.eu-greenlight.org)*

## EPC and possibilities of its use...

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a time is carried out in a piecemeal manner. What then is the solution?

Some technological modifications of buildings have such an energy-saving effect that they are self-financing, which means they are paid from energy savings without the necessity of external subsidies. For instance, investment in heating control and improvement of piping insulation brings savings of energy costs that can serve not only to pay off the initial investment but also to cover service charges related to the building's energy rationalisation.

Such projects are usually implemented through EPC - Energy Performance Contracting. These types of contracts have already been materialised in many places and resulted in significant savings in the evaluated period.

In the town of Most, for example, only prefabricated social-care houses and houses with community care services were selected for evaluation. It mostly concerns blocks consisting of three of four buildings, one of which is technical and the others residential. Heating is universally hot-water. Exchanger stations in which hot water is prepared are connected to the hot-water network of the company První mostecká, a.s.

Defects of the heating system in the buildings ascertained during an energy audit were as follows:

- the heating system was controlled as a whole, with night attenuation in the exchanger station;
- the heating system worked without internal control;
- the heating system was hydraulically imbalanced;
- horizontal heating water and hot water mains had damaged insulation.

After two years of operation, the results presented in the table were ascertained.

The table reveals that heat savings in individual buildings differ. Their amount depends on the technical level of the original heating system and the volume of investment. The total heat saving in the block of buildings was 25% in 2006 and meets the contract's requirements. In

addition to heat savings amounting to almost 6,000 GJ a year (corresponding to the annual saving of 2,400 tonnes of CO<sub>2</sub> emissions), the company providing energy services guarantees permanent cost saving. The town, as the owner of the buildings, has ensured maintenance of heating systems and hot-water preparation systems without having to invest more finance into maintenance throughout the duration of the contractual relation with the energy services company.

### Conclusion

EPC is a method of financing energy-saving projects for the municipal sphere, as well as large residential houses, that tackles the problems of rising heating costs/lack of own investment me-



*Retirement home, Ke koupališti street, Most*

ans and is at the same time suitable for preparation of projects aimed at overall reduction of energy intensity of buildings linking up to European Directive No. 2002/91/EC (Energy Performance of Building Directive). This method affords the opportunity to permanently reduce heat consumption, prepare a comprehensive project for a building's renovation and also help educate tenants to behave in a more energy-conscious manner.

We presume that the number of buildings for residential and other forms of use in which the EPC methods is applied is higher. Hence, we would like to publish results about their successful implementations within the European RESHAPE project, which seeks ways of meeting the requirements of the above-mentioned Directive in various countries of Europe.

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Address	Total floor area (m <sup>2</sup> )	Annual consump. (GJ/y)	Savings attained (GJ/y)	2006 (CZK/y)	Average saving
Most, Ke Koupališti 1180	6,229	3371	543	193,587	13 %
Most, Barvířské 495	13,315	11469	5152	1,836,979	29 %
Most, Komořanská 818	6,026	2083	34	12,199	1 %
Most, Albrechtická 1074	3,940	3123	1053	375,544	25 %
Most, Dvořákova 2166	2,806	1372	168	60,044	9 %

## SEVEN holds an ISO 14 001 certificate



The mission of the company SEVEN, o.p.s. is environmental protection and support for economic development by means of more efficient energy use. Within improvement of its activities, since 2003 SEVEN has been the

holder of an ISO 9001 certificate. In 2006 the company also received an ISO 14 001 certificate. ISO 14 001 is an environmental management standard with the aim to help organisations minimise the negative impact of their operations on the environment.

In accordance with this system, SEVEN staff also strive, among other things, for identification of their activities in relation to the environment within individual projects they draw up. Our endeavour is to pursue results and recommendations that will have positive environmental impacts.

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## Echoes of EEBW: Energy Efficiency Business Week 2006

*In November 2006 the jubilee 10th edition of the EEBW: Energy Efficiency Business Week conference took place in Prague. We would like to take this opportunity to share with you some interesting and groundbreaking ideas voiced at the international conference.*



As usual, the conference was divided into the introductory, rather strategically oriented panel discussion and various thematically focused sections.

Among those participating in the panel discussion were Martin Bursík and Petr Jan Kalaš, the current Minister of the Environment and his predecessor; Zdeněk Hrubý, the Chairperson of the Supervisory Board of the energy utility ČEZ; Hans Eike von Scholz, adviser to the European Commission; and Leon Wijshoff, as a representative of the Government of the Netherlands and the Dutch energy agency SenterNovem.

Individual contributions confirmed the correctness of the strategic priorities pursued by the European Commission over the long term, i.e. diversification of sources, preference for energy savings and renewable energy sources as opposed to fossil fuels, as well as the necessity and possibility of enforcing the set political objectives in practice through other than merely legislative means. An example cited was so-called voluntary agreements successfully used in the Netherlands.

As regards the thematically conceived sections, the greatest attention was drawn by an early-evening series of speeches pertaining to the future of emissions trading, dealing in detail with the prepared emissions trading system in the period of the Kyoto Protocol's operation between 2008 and 2012.

The commercial attaché of the Embassy of the Kingdom of the Netherlands in the Czech

Republic informed that in the near future representatives of the two countries will sign a Memorandum of Understanding concerning possible trading of part of the surplus of Kyoto Assigned Amount Unit (AAU) emission allowances the Czech Republic will have at its disposal through the GIS scheme.

Trading in AAU through their "greening", which should be ensured by the GIS system, is an extremely topical theme in all Central and Eastern European countries with respect to the significant amount of "hot air" they will have at their disposal in the period of the Kyoto Protocol's validity. Besides the Netherlands, Japan too is actively interested in purchasing part of the Czech block of free AAU.

Other interesting information was provided by Martin Cmrál from the energy utility ČEZ. Meeting the European Union's long-term objectives as regards reduction of greenhouse gas emissions will most probably not be possible without significant reduction of the emissions intensity of electricity generation. Hence, it can be expected that after 2020 construction of new thermal power plants combusting coal will not be allowed unless they are equipped with a system capturing carbon dioxide emissions.

However, as was documented by Andrew Minchener from Great Britain's IEA Coal Research Ltd, the path to attaining this will be arduous. For the time being, the carbon capture and storage (CCS) technologies are still in the phase of early development, at best pilot tests in semi-operating conditions. Their feasible commercial use can only be expected in the distant future. However, the fact that it has already

become a topical theme is documented by a recent news item in the press that ČEZ and Moravské naftové doly (Moravian Oil Mines) have launched cooperation on the preparation of a project aimed at capture and storage of CO<sub>2</sub> (produced by the Hodonín power plant) in worked-out underground crude oil and natural gas deposits in South Moravia.

Yet transition to the so-called low-carbon economy will require root-and-branch structural changes in final consumption sectors too. This necessity was pointed to by speakers from Germany and Sweden.

For example, roughly one-third of the total greenhouse gas emissions directly and indirectly created by households is connected with purchase and consumption of goods (food, clothes, long-term consumption items). The second third is accounted for by provision of energy needs (electricity and heat) and the last by transport, dominated by personal cars.

Hence, reduction of specific emissions per capita within the time frame of 30 to 50 years by 50% and more requires the taking of radical measures in all the mentioned areas. This trend has been confirmed by the European Commission's latest initiatives pertaining to the transportation sector. Advanced countries should reduce their specific emissions per capita to the level of approximately 5 tonnes – for comparison, the Czech Republic currently emits some 14 tonnes.

The EEBW conference also dealt with other interesting and highly topical themes – energy services, low-energy construction, as well as operational programmes planning to make use of EU funds earmarked for the Economic and Social Cohesion Policy aimed at stimulating energy savings and use of renewable sources.

For more information about the conference and its complete programme, visit [www.eebw.cz](http://www.eebw.cz).

The next, 11th, edition of the EEBW: Energy Efficiency Business Week conference is scheduled to take place in the autumn of 2008.

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## Conversion of a steam boiler plant to biomass combustion

*An honourable mention for the best exhibit at the Aquatherm 2006 trade fair and the main prize of the 5th edition of the national Energy Project competition was won by the "Project for increased energy efficiency, conversion of a steam boiler plant to biomass combustion and use of waste heat from technological processes" which SEVEN works on in the company CNM textil a.s. Oskava. The project will result in primary energy savings of 16,242 GJ a year, CO<sub>2</sub> emissions reduction by 1,176 tonnes a year (down 20%) and annual operating cost savings of 5.5 million crowns.*

It concerns a boiler plant of the textiles company equipped with two steam boilers using heavy fuel oil built in 1985. The two boilers with the parameters of 8 tonnes/hour, 1.37 MPa, 201° C have a joint output of 10.94 MW, i.e. 16 tonnes, per hour. They are equipped with burners using natural gas/HFO, or only heavy oil. The boilers are manually desludged and delimed and have a device for permanent supervision. Emergency signalling is optical and acoustic. Economisers are not planted behind the boilers, whose nominal operating efficiency is estimated at approximately 72%.

**New solution:** Within the boiler plant's reconstruction, a set of technical and organisational measures are planned to be taken. The main novelty is the change of the fuel basis. It entails conversion from heavy fuel oil to biomass.



*Illustration picture*

A new steam biomass-combusting boiler with the capacity of 5 tonnes per hour will be built, while a natural gas-combusting boiler with the capacity of 4 tonnes an hour will serve for peak output. At the present time, a five-year

contract on biomass take-off is being prepared.

Another technological measure concerns the use of waste heat, which will accumulate and serve for pre-heating of flushing water. The third measure presumes replacement of the electric motors on stretching frames and fixing frequency changers on the electric motors.

Other measures entail introduction of an energy management system, replacement of a transformer from the 1970s with a new one, and installation of a device controlling take-off from the electricity supply network.

Twenty-two per cent of the project is financed by the textiles company's own means, approximately 40% of the costs will be covered by a bank loan, while a subsidy allocated from the funds of the Operational Programme Industry and Enterprise will pay ... *cont. on page 6*



## Information brochure on energy services

In 2006 an information brochure about application of energy services with a guarantee was published on the basis of cooperation between SEVEN and Československá obchodní banka (Czechoslovak Commercial Bank). It originated with the assistance of virtually all the major energy services companies (ESCOs) operating on the Czech market.

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The publication's introduction characterises the EPC method as energy services provided with a guarantee. Individual chapters describe the advantages of using this method compared with the common contracting method and the steps customers take during the preparation of projects resolved through EPC. A very important chapter is the description of the procedure during tenders for provision of energy services with a guarantee. The introductory part concludes in a chapter about financing, containing a brief overview of financial sources.

The brochure also contains a summary of eight projects implemented in the form of energy services with a guarantee provided by eight leading energy services companies. They are:

- AB Facility, a.s.
- DALKIA Česká republika, a.s.
- ENESA, a.s.
- EVČ, s.r.o.
- Honeywell, spol. s r.o.
- MVV Energie CZ, s.r.o.
- Siemens, s.r.o.
- Středisko pro úspory energie, s.r.o.

All the presented projects have been implemented in the public sector: in health-care facilities, school buildings and railway facilities. The owners of the facilities in which the projects were carried out were the state, a regional authority



or a town; in the case of state property, through the Ministry of Health or Czech Railways. The first significant project applying the EPC method at the regional level was materialised by the Pardubice region. The presented municipal projects were implemented in the towns of Varnsdorf, Trutnov and Most.

The brochure is available from SEVEN's office and at events devoted to energy services with a guarantee that SEVEN organises or its representatives participate in.

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## Join the "We are seeking class A drivers" campaign

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stated by manufacturers. Accordingly, a "mere" change of driving habits can result in significant reduction of energy consumption irrespective of the current condition of the vehicle fleet.

Class A drivers will be sought and tested within economical driving courses, which will be held in 2007 and 2008 during various regional events devoted to motoring (exhibitions, conferences, etc.). During these courses, drivers will be able to test their abilities free of charge and, with the assistance of qualified instructors, assume some useful habits for economical driving.

The campaign will also comprise a long-term competition which all drivers will be able to join (on the basis of registration on [www.uspornajizda.cz](http://www.uspornajizda.cz)). Its substance will be long-term monitoring of the average fuel consumption of one's car using the application of an electronic book of drives, which will be set up on the mentioned website. Drivers will record their fuel consumption and driven kilometres themselves (through

forms on the internet, as well as short text messages).

So as to be included in the final evaluation, a driver will have to drive the minimum number of kilometres (5,000) within the specified period of time. The drivers who owing to their average fuel consumption will get to (energy) class A will be rewarded with valuable prizes from the campaign's partners. The drivers with the best real versus standard consumption ratio will be invited to the competition's final round, in which the best driver will be chosen.

The campaign will be officially launched within the AUTO PRAHA 2007 trade fair, whose visitors will be able to test their driving skills under the supervision of training managers. Similar economical driving courses will be held during the year at other events, whose complete list will be published and continuously updated on [www.uspornajizda.cz](http://www.uspornajizda.cz).

In the second half of the year, similar courses are also planned for professional bus and truck drivers.

## Support for energy labelling in electrical equipment shops

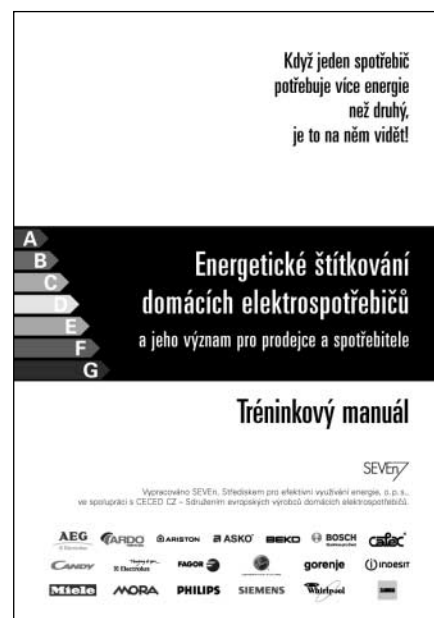
The growth of electric energy consumption in households is one of the main drivers behind the generally increasing energy consumption both in the Czech Republic and abroad. Therefore, it is worthwhile to organise educational activities drawing attention to the energy saving potential when using energy-efficient appliances.

SEVEN has drawn up a training manual providing information about which appliances on sale have to have energy labels, how the labels are distributed, what an energy label contains, and how this information can be useful when making a decision on purchase of a new appliance.

The manual has been prepared in cooperation with CECEC CZ (the European Committee of Domestic Equipment Manufacturers) and is intended for retailers and shop assistants of all stores selling electrical appliances in the Czech Republic.

Juraj Krivošík

[http://www.ceecap.org/limg\\_assets/File/Ceced-brozura.pdf](http://www.ceecap.org/limg_assets/File/Ceced-brozura.pdf)



An EcoDriven information campaign to support economical and safe driving is taking place in 2007 and 2008. The campaign is part of the pan-European [ecodrive.org](http://ecodrive.org) initiative supported by the European Commission within the IEE – Intelligent Energy Europe programme.

In the Czech Republic, a host of prestigious organisations from both the public and business sphere intend to engage in the campaign: the Ministry of Transport, the Ministry of the Environment, Škoda Auto, Shell Czech Republic, Autoklub Škoda, the City of Prague, Scania CR, Barum Continental and the Central Auto-Moto Club.

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## Rectification is much cheaper – Nicholas Stern on costs for reduction of greenhouse gas emissions

### EKONOM

What will happen when the global temperature has risen by 4 or 5 degrees? Let us first have a look back at what happened when the global temperature was 5 degrees lower – during the Ice Age. Such immense changes completely alter the world, warned Nicholas Stern, the former chief economist of the World Bank, when presenting his 600-page report on the economics of global climate changes (available at <http://hm-treasury.gov.uk>), commissioned by the British Government. In his report, Stern does not embark on natural science polemics and primarily takes his data from an authoritative British source, the Hadley Centre for Climate Change Research. Linking up to this data is a purely economic deliberation.

Even though concentrations of greenhouse gases are measured only in thousandths of per mille (ppm), annual increments of 2.5 ppm added to the current 430 ppm already represent a great risk. With the concentration of 450 ppm there is a merely 50% chance that the temperature will exceed the pre-industrial level by less than 2 degrees. However, if we do nothing, within 30-35 years we will be at 550 ppm, and at this juncture there is a 50:50 probability that the global temperature will rise by 3 degrees. By the

end of the century, this development would lead humankind to the situation where the temperature rises with the same probability by more than 5 degrees. The damage caused by this can be estimated within the range of a whopping 5 to 20 per cent of global annual consumption.

And what would it cost to eliminate such a threat? Estimated costs for countermeasures are much lower, amounting to one per cent of GDP a year, Nicholas Stern points out. It is equivalent to a small increase in average prices, when products with a high carbon burden would be more expensive and those with a low burden cheaper. That can be done, says Stern: we can grow and become green at the same time.

HE RECOMMENDS THREE PATHS of a purely economic nature. The first is setting a clear price for releasing carbon into the atmosphere, be it through taxation, emissions trading or regulation. The second is support for technologies, but with the condition that economic policies must provide investors with the certainty that it is a sector with a future. And then failure of the market must be tackled. This is the role of public procurements. To date, investors have been discouraged from the area of energy savings since investments in supplying the insatiable energy consumption are more profitable.

The carrot and stick of stimuli, so much loved by economists, must be supplemented by informedness, Stern emphasises, expressing his belief that greater understanding will eventually change the behaviour both of individuals and companies. However, we must not forget that it concerns an international problem and that actions must be multilateral and have to involve all the big players, including the USA, China and India. Emissions trading plays an important role. Also as a source for developing countries, which should be seen in the light of the fact that deforestation has an impact greater than that of transportation. When it comes to research carried out in the energy sector, since the beginning of the 1980s it has decreased by half, and that must be reversed.

*Zbyněk Fiala, Written for the weekly EKONOM  
Printed with the consent of the editorial staff.*

### A farewell to...

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primarily traditional bulbs. Some 2.1 billion incandescent lamps are sold in the EU (27 countries) a year, while annual sales worldwide amount to 12.5 billion. Thus, bulbs form a considerable part of total consumption of energy on light sources, yet, according to experts, they only generate 44% of the amount of light "produced".

That is one of the reasons why Australia has become the first country in the world to decide to advance lighting standards in such a manner that from 2010 purchase of traditional bulbs for household use will not be possible. Specialists estimate that owing to this measure alone from 2015 onwards Australia will reduce its CO<sub>2</sub> emissions by 15 million tonnes a year.

Enactment of a law forbidding sale of incandescent lamps is also being considered in New Zealand, Ontario and California. Another country moving away from traditional bulbs is Cuba, for which conversion to compact energy-saving fluorescent lamps is cheaper than construction of new power plants.

Within its EU presidency, in a letter to the European Commissioner for the Environment the German Environment Minister, Sigmar Gabriel, proposed a ban on sale of incandescent lamps too.

Replacement of bulbs by more energy-efficient light sources has also been welcomed by manufacturers of light sources. Philips, for example, appealed to "government representatives, non-governmental organisations, manufacturers of lighting technology and energy suppliers to take joint action with the aim to re-

place traditional bulbs with their energy-saving alternatives". Philips representatives announced their plan to launch this initiative in Europe. According to them, incandescent lamps should be replaced by environmentally-friendly alternatives within the time frame of ten years, pursuant to a new directive on energy-using products under preparation.

And what light sources should replace the traditional bulbs? Above all, compact energy-saving fluorescent lamps. Their sale has been increasing every year, they are available in a variety of shapes and inputs, and the service life of the best of them is fifteen years. Another promising developing alternative is LEDs, whose commercial accession is estimated within the time frame of between five and ten years. Also placed on the market have been halogen low-volt bulb-shaped lamps with the classical E27 or E14 socket which compared to incandescent lamps save 20 to 30% of electric power.

It would be difficult to find an example of an appliance as inefficient as traditional bulbs. Even though their purchase price is low, investment in an energy-saving fluorescent lamp can pay off within half a year (depending on the time of lighting). Therefore, it is to be welcomed that other modern light sources that will reduce our energy consumption while providing the same quality of lighting are finding their way to the market.

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**Data source and further information:**

*Conference of the International Energy Agency and the Enerlin project: "CFL Quality and Strategies to Phase Out Incandescent Lamps", Paris, 26.2.2007  
[http://www.iea.org/Textbase/work/workshopdetail.asp?WS\\_ID=287](http://www.iea.org/Textbase/work/workshopdetail.asp?WS_ID=287)*

### Educational programme on energy saving for primary and secondary schools

Energy saving is a frequent and popular topic of discussion at international conferences and even within the family. Yet who of us knows just how much energy is actually consumed in



**Active Learning**

our household or workplace? International experience has revealed that mere knowledge of this consumption, its development over time and the valid energy prices can result in energy savings of as much as 10%. And this is practically attained without any investment whatsoever, just thanks to careful use of appliances, heating control, etc.

"What you learn in youth you rediscover in old age." This Czech saying could have served as an inspiration for the European Active Learning project, launched in 2006. Its objective is to encourage primary and secondary school pupils to regularly monitor the energy consumption in their school building, evaluate the changes in this consumption and propose specific measures aimed at its reduction.

Job-sheets have been prepared for teachers and pupils joining the programme. They contain a specific draft of activities, a series of entertaining exercises and inspiration with the possibility of exchanging information between schools throughout the European Union.

In addition, the 10 schools which have drawn up the best report of their activities will each receive as a bonus 10 Osram energy-saving compact fluorescent lamps.

*For more information about the possibility of joining the Active Learning programme:*

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## The International Energy Agency predicts future growth of energy consumption and proposes suitable measures

In 2030 global energy consumption will be 53% higher than it was in 2006. Responsible for approximately 70% of this growth will be developing countries, mainly China and India. According to estimates of the International Energy Agency published in the annual World Energy Outlook 2006, the quantity of greenhouse gas emissions could rise 55% and by 2010 China is expected to overtake the USA as the world's largest producer. Yet, if the currently considered policies and measures were to be implemented in practice, the real energy consumption by 2010 could drop by as much as ten per cent. Which measures does the International Energy Agency consider suitable to attain energy savings?

Representatives of the International Energy Agency and the G8 countries have agreed upon the following areas and forms of support:

- supporting energy savings in buildings and transport;
- supporting the 1 Watt-Standby Power initiative;
- supporting international coordination of energy labelling, standards and tests of energy-efficient appliances;
- striving for international exchange of information and seeking specific examples of best practice worth following;
- re-assessing the existing standards of operation parameters of automobiles and seeking specific best practice examples.

One of the proposed measures is the 1 Watt-Standby Power initiative. The International Energy Agency has proposed that all its member countries adopt legislation stipulating an upper

limit of energy consumption of all electrical appliances in the standby regime (when they are connected to the grid but do not perform their function) of 1 watt. This measure would apply to consumer electronics, kitchen appliances and washing machines, computers and other electrical equipment used in households and offices.

Standby consumption accounts for 2 to 11 per cent of electric power consumption in households in the IEA member countries and also has a significant share in the operation of offices and industry. The 1 Watt-Standby Power initiative could result in reduction of total energy consumption of the mentioned electrical appliances by 50 to 70%, thus decreasing the total energy consumption of households by 1 to 6%.

-jk-

International Energy Agency: [www.iea.org](http://www.iea.org)

### Green electricity consumption in Prague expected to rise by more than 400% this year

In 2006, inhabitants of Prague used 2.2 GWh of electric power from renewable sources. To date, 520 Prague households, 46 businesses and one wholesale customer have chosen the special PREko tariff offered by Pražská energetika (PRE, Prague Energy Utility).



Approximately one per cent of the electricity annually consumed in the Czech capital is from renewable sources. According to PRE representatives, contracts for 2007 indicate

that the number of green electricity consumers will increase. Encouraging is the news that they will also include new wholesale customers. The consumption of renewable electricity could thus grow this year to 10 GWh, an increase of 455 per cent.

Customers pay for each kilowatt hour of green electricity ten hellers (CZK 0.1) more than for

ordinary electric power. Pražská energetika puts this money into a special account which serves to support the building up of more renewable sources.

As against 2005, last year the number of households with the PREko tariff increased by 79, the number of business subjects by 17. By the end of 2006 PRE had collected more than 250 thousand crowns in its special account. Those interested throughout the Czech Republic in building up a source generating electricity from sun, wind, water and biomass had until 15 March to register their projects in a competition for this financial subsidy.

Further information: <http://www.pre.cz/domacnosti/produkty-a-ceny/preko.html>

### Conversion of a steam...

... cont. from page 3

for 38% of the total costs. The implementation is scheduled for the spring of 2008.

SEVEN participates in the project by drawing up an energy audit, preparing the contracts with energy suppliers (electricity, natural gas, biomass), elaborating the feasibility study, the technical documentation for a selection procedure, the graphical documentation for the building permit, arranging the building

permit and carrying out the building owner's technical supervision.

The project of reconstructing a steam boiler plant in CNM textil a.s. Oskava won an honourable mention for the best exhibit at the Aquatherm 2006 trade fair (more at <http://www.tzb-info.cz/t.py?t=2&i=3701&h=132>) and the main prize of the 5th edition of the national Energy Project competition organised by the Ministry of Industry and Trade of the Czech Republic and the Architecture and Building Foundation (more at <http://www.energeticky-projekt.cz/2006/cz/aktuality.asp>).

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The Prague office of SEVEN is using electric energy produced solely by renewable energy sources.

### Digital set-top-boxes and their impact on energy consumption

Transition from the system of television signal broadcast to digital technology will also have global impacts on energy consumption.

According to estimates, in 2005 some 100 million set-top-boxes – devices intercepting digital broadcasting for TV sets – were sold worldwide. From 2005 to 2010 approximately half a billion are expected to be installed.

Back in 2005 more than 10 power plants with the output of 500 MW were needed to supply energy to these set-top-boxes. Over the service life of eight years, their electric energy consumption will exceed 370 TWh, 37 billion dollars in monetary terms.

The energy consumption of set-top-boxes during standby operation ranges from 2 to 20 watts. Given that in the Czech Republic there are approximately 4 million households possessing a TV set, they will eventually have to be equipped with this new appliance (if we do not count purchases of new TV sets directly adapted to intercepting digital broadcasts). The increase in energy consumption (the worst versus the best appliance on the market) can total 630,720 GWh/y.

Hence, international organisations and individual governments are preparing a number of measures that will recommend to manufacturers that they produce top-set-boxes with lower operating and standby energy consumption. When it comes to individual purchases, we encourage customers to ask about these values directly at retailers'.

Further information:

<http://www.apec-esis.org/settopbox/www/>



SEVEN is a holder of the ČSN EN ISO 9001:2001 and ČSN EN ISO 14001:2005 certificates approved by Lloyd's Register Quality Assurance.