

EL-EFF REGION

Regional action plan

prepared by:
Energy Centre České Budějovice

Short description of the region of South Bohemia

The Region of South Bohemia is one of the 14 regions in the Czech Republic. It covers an area of 10 057 km² (12.8% of the state). The population is about 630 thousand people. It is situated in the area which is not very rich in raw materials; there are almost no energy resources. The mining of gravel-sand, stone, brick clay, and ceramic clay, limestone and graphite prevails. The industrial production consists especially of food and drink processing. Other important industries are production of vehicles, machinery and appliances, and also the textile and clothing industries. The forests, which take up one third of the total area, form an important natural treasure. The agricultural sector is one of the most important ones. It focuses on plant production, mostly on growing cereals, oil plants and potatoes. In animal husbandry, the breeding of cattle and pigs prevails. Fishpond cultivation has a long tradition in South Bohemia. The entire business sector in the South Bohemian Region is comprised of 144 000 entities, where nearly three fourths of these entities are sole traders. The region participates in creating only 5.4% of the gross domestic product which, however, amounts to 87.8% of the national average when recalculated per 1 inhabitant. The South Bohemian Region is becoming an important tourist and recreational resort. The travel industry has been the fastest growing industry in the region in the last few years.

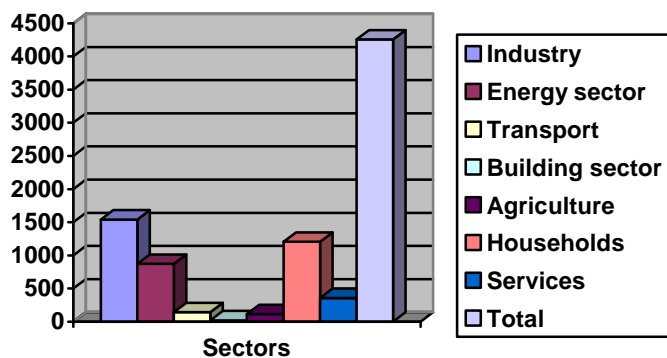
Electricity consumption in South Bohemia

Electric energy intensity of the Czech Republic is higher than the one of the former 15 EU countries. Average yearly reduction of the electric energy intensity was in the period of 2000-2004 about 1%, in the following years the reduction target was increased up to 1,4-2,4%. National programme of energy management and the use of renewable and secondary energy sources (Czech version of NEEAP) sets the **target 2,1 % of the electric energy intensity reduction in 2009**. In 2004, the electric energy intensity was 860 kWh/1000 EUR of GDP and the electricity consumption was 5 515 kWh/ 1 inhabitant.

As for the regional energy efficiency strategy, there exists the Regional energy concept, however this document contains very few mentions about the electricity efficiency. Either it is contained in general energy efficiency ideas or there is rather a strategy how to reduce the electricity costs of the buildings in the property of Region, but more likely in the way how to choose suitable tariff or circuit breaker. But there is a lack of comprehensive strategy focused on an electricity efficiency.

South Bohemia - share of various sectors in the electricity consumption in 2007 in GWh

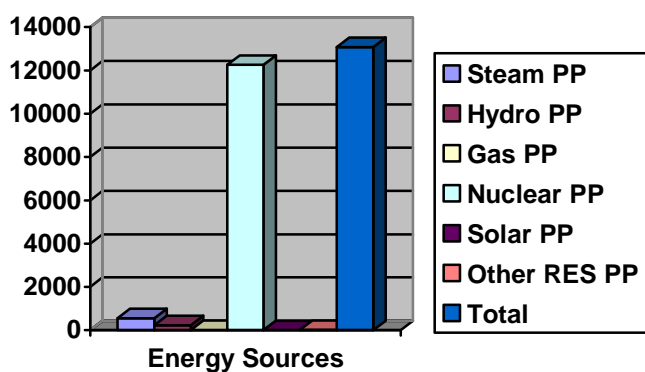
Industry	Energy Sector	Transport	Building s.	Agriculture	Households	Services	Total
1 540,1	871,7	143,5	20,3	115,0	1 205,7	357,9	4 254,2
36,2 %	20,49 %	3,37 %	0,48 %	2,7 %	28,34%	8,4 %	



Source: Energy Regulatory Office

South Bohemia - share of various energy sources in electricity production in 2007 in GWh

Steam	Hydro	Gas	Nuclear	Solar	Other RES	Total
554,1	244,5	6,6	12 264,9	0,9	13,1	13 084,1
4,2 %	1,87	0,05 %	93,7 %	0,007 %	0,1 %	



Source: Energy Regulatory Office

Electricity traders

At the moment, there are three main electricity traders in Czech Republic:

E.ON energie a.s

Pražská energetika a.s.

ČEZ Prodej s.r.o.

Each of these traders operates mainly in a particular area (region) with particular distribution low voltage networks.

Liberalization of electricity market was carried out in several steps under the Act Nr. 458/2000 Coll.

The electricity market was opened step by step (for consumers as well as for traders) in following phases under the law No. 458/2000 Coll.:

- 1) Since 1st January 2002 - for final customers, whose electricity consumption exceeded 40 GWh in 2000 and for licensed electricity suppliers/traders with installed electric power over 10 MW.
- 2) Since 1st January 2003 - for final customers, whose electricity consumption overtook 9 GWh in 2001 and for licensed electricity suppliers/traders.
- 3) Since 1st January 2004 – for final customers whose electricity take-off place is equipped with process measuring instrument of electricity consumption except for households.
- 4) Since 1st January 2005 for all final customers except for households.
- 5) Since 1st January 2006 for all final customers.

Since 1st January 2006 the electricity market is completely opened for all customers including households.

The final electricity supplier is obliged to supply the electricity for households and other small customers for fix prices, which are approved by the ERO (Energy Regulatory Office). These prices are fixed every year. Differences in the electricity prices for households are not significant.

There are rather unimportant differences in the electricity prices in the low tariff as well as in the high one between all suppliers. The electricity prices differences are partly compensated by the charge for circuit breaker electric input. One can choose the electricity supplier only once a year. Small consumers including households have a chance to choose the supplier with the best bid, however due to the unimportant price difference the costs will probably not change significantly.

Tariff system

Tariff system for the households.

There are five main tariff types for households.

1. ElectricityClassic is the tariff for households with usual appliances, where the water is not heated with electricity neither is there any electric heating. This tariff has two rates: D 01d for consumers with lower electricity consumption as e.g. small households, cottages, garages etc.

D 02d for usual households without water and space electricity heating.

The price is composed of the following components: permanent fee -1,85 EUR/month, electricity fee – 89,7 EUR/MWh, electricity tax – 1,09 EUR/MWh.

2. ElectricityAku is the two rate tariff for consumers where a significant share of the consumption is used for the storage space heating or water heating. Low rate is used for the consumption during the accumulation (8 hrs) and ordinary rate is for the rest of the usual consumption.

The price is composed of the following components: permanent fee -1,85 EUR/month, electricity high tariff fee – 111,2 EUR/MWh, electricity low tariff fee – 64,5 EUR/MWh, electricity tax – 1,09 EUR/MWh.

3. ElectricityCombi is the two rate tariff for consumers where a significant part of the consumption is used in the combined electric systems for space and water heating. Low rate is applied during the accumulation or direct electric heating (16 hrs daily). This tariff is suitable for a combination of accumulative and direct electric heating.

The price is composed of the following components: permanent fee -1,85 EUR/month, electricity high tariff fee – 122,8 EUR/MWh, electricity low tariff fee – 83,1 EUR/MWh, electricity tax – 1,09 EUR/MWh.

4. ElectricityDirect is the two rate tariff for consumers where a significant part of the consumption is used for direct heating or heat pumps. Low rate is applied during 20 - 22 hrs per day.

The price is composed of the following components: permanent fee -1,85 EUR/month, electricity high tariff fee – 112,9 EUR/MWh, electricity low tariff fee – 88,6 EUR/MWh, electricity tax – 1,09 EUR/MWh.

5. ElectricityWeekend is the two rate tariff for the consumers where the consumption occurs mainly during weekends. Low tariff is applied from Friday afternoon till Sunday evening.

The price is composed of the following components: permanent fee -1,85 EUR/month, electricity high tariff fee – 117,8 EUR/MWh, electricity low tariff fee – 76,8 EUR/MWh, electricity tax – 1,09 EUR/MWh.

NOTE: The prices have been valid from 1.1. 2009, the electricity companies have increased the prices for 2009 by approx. 15 % in comparison to 2008. The prices include VAT and the used exchange rate is 26 CZK/EUR (from December 2008).

Tariff system for bussines sector is quite similar to the tariff system of households, the prices are about 5 – 15 % higher.

Stakeholder and target groups

Electricity efficiency is such a vast notion, that it is possible to include all sectors into the target groups. However, from the point of view of certain measures and the effectiveness of action, some target groups can be pointed out as more relevant for the implementation of the Regional Action Plan and for the mutual cooperation.

Schools

Due to added value of educational impact, schools are very effective target group. The measures in schools can be on the level of education and information dissemination as well as concrete electricity efficiency measures in the school building, facilities and equipment.

Municipalities

Municipalities are significant target group as they have direct impact to inhabitants, households, administrative buildings, local offices, schools, sport centres, etc.

Business sector

Especially supermarkets and big shopping centres are very important target group, because the nonstop running of such centres is significantly contributing to the regional electricity consumption.

Households

Households are the second biggest electricity consuming sector in the region and it is necessary to aim at its consumption reduction in every possible way via media work, education, campaigns, other involved target groups or stakeholders (municipalities, schools, regional office) etc.

Stakeholders

Selected institutions and organizations have experience in the promotion and implementation of energy efficiency, they have participated in several energy efficient projects, including the **EL-EFF project**.

- High school of engineering, Tábor
- Calla, environmental NGO
- Regional chamber of agriculture
- office of State energy inspection
- Ekowatt, NGO
- Seven, Regional energy agency
- South Bohemian chamber of commerce
- Olešník village
- City council of Český Krumlov town
- South Bohemian regional authority, department of regional development
- Regional department of Czech chamber of authorized engineers and technicians
- E.ON
- High school of electrotechnics, Hluboká n/Vlt.
- Municipality of České Budějovice

- Regional broadcasting, České Budějovice
- Union of towns and municipalities of South Bohemia
- Regional Office- department of regional development
- Regional Development Agency
- Czechinvest agency
- Municipality of České Budějovice, regional capital
- South Bohemia Regional council
- Dřiten village
- Cityplan, consultancy company

Benefits and barriers

As for general barriers, the biggest problem is **the lack of financial resources** for the implementation of electricity efficiency measures.

Other barriers are e.g.:

- lack of knowledge
- low education and lack of interest among public and public indifference to the subject
- incorrect price policy and economic-political aspects as e.g. monopolization of energy production and distribution, no incentives
- non-existence of tax-allowances for efficient appliances or high costs of them, in general high investments into energy efficiency
- administrative barriers.

Benefits of electricity saving

The electricity today is very expensive issue and every sector, every individual is forced to save it. The benefits of electricity saving are many. Beside the **ethical values** of modest, balanced and attentive behaviour, one of the most important benefits is the **protection of the environment**, because the moderate use of electricity saves not only the energy sources and the emissions from the electricity production, but also all the appliances, machines etc.

There are also **social benefits** – opportunities for new businesses, prestige for the region, higher quality of life and higher engagement of the individuals into the common affairs (e.g. the environment quality concerns all inhabitants).

And there are still the **economic and energy benefits** – saving electricity means saving money (although the electricity price continuously increases and will increase and even if the modern efficient appliances are more expensive than the older ones)), saving electricity means saving the primary energy sources which can be used in other area, a company that saves the electricity follows the modern trends and can be attractive for customers.

Activities and measures

Title: *Promotion of the Decree n. 148/2007 of the Act n. 458*

Content: Campaign targeting the public buildings, promotion and recommendation of the Decree implementation, Decree defines the evaluation of the electricity consumption – lighting, air-condition etc. It applies only for public sector so far.

Target group: public sector

Main barriers: lack of awareness

Responsible stakeholder: Regional Authority.

Costs: 5000 EUR, funding by RA

Cooperation with: ECČB, municipalities

Supporting measures: the Decree n. 148/2007 of the Act n. 458

Evaluation and monitoring: monitoring by public sector institutions and evaluation by RA

Title: *Solar heat instead of electric heat*

Content: Incentive of towns to replace the electric water and space heating with the solar thermal system in the family houses, 10 installations selected by a lot will be rewarded in the form of 20-30% subsidy.

Target group: family houses

Main barriers: lack of financial resources

Responsible stakeholder: Regional authority, municipalities and NGOs (ECCB).

Costs: 24000 EUR., funding by municipalities and State gov.

Supporting measures: State subsidy programme Green light for energy saving

Evaluation and monitoring: evaluation by municipalities, monitoring by applicants and NGOs

Title: *Solar league*

Content: Engagement of towns and villages into the Solar League, to install as many solar thermal system and PV systems as possible.

Target group: municipalities

Main barriers: lack of financial resources, lack of interest

Responsible stakeholder: municipalities.

Costs: 1800 EUR. Funding by municipalities and State gov.

Cooperation with: NGOs

Supporting measures: Operational Programme Environment

Evaluation and monitoring: by municipalities and Ministry of Environment

Title: *New Decree*

Content: Campaign for approval of new Decree that will give preference to the space heating and water heating from other sources than electricity.

Target group: State government and State Parliament

Main barriers: other political priorities

Responsible stakeholder: State government

Cooperation with: Campaign implemented by various stakeholders

Title: *Stand-by switched off*

Content: Articles in newspapers, press release, interviews in radios. Raise of public awareness on this topic.

Target group: general public

Main barriers: lack of interest

Responsible stakeholder: Implementation by NGOs (ECCB).
Costs: 1500 EUR. Funding by NGOs and subsidies.

Title: Efficient light for schools

Content: Measuring of the school light systems and advice about modernization of the systems.

Target group: regional schools

Main barriers: none

Responsible stakeholder: Implementation by NGOs (ECCB).

Costs: 10 000 EUR. Funding by NGOs and subsidies.

Cooperation with: schools

Supporting measures: the Decree n. 148/2007 of the Act n. 458

Evaluation and monitoring: by schools

Title: School competition

Content: Competition for schools to measure their electricity consumption and to implement the electricity measures to reduce it, duration 1 year.

Target group: regional schools

Main barriers: none

Responsible stakeholder: Implementation by NGOs (ECCB).

Costs: 16000 EUR. Funding by NGOs and subsidies.

Cooperation with: schools

Supporting measures: the Decree n. 148/2007 of the Act n. 458, Regional Authority support

Evaluation and monitoring: by schools and NGOs

Title: Best practice example

Content: Best practise leaflet and information about replacement of old electric heating with renewable heating.

Target group: general public

Main barriers: none

Responsible stakeholder: Implementation by NGOs (ECCB).

Costs: 1800 EUR. Funding by NGOs and subsidies.

Title: EL-EFF broadcasting

Content: Programme about the electricity efficiency measures.

Target group: general public

Main barriers: none

Responsible stakeholder: Implementation by NGOs (ECCB) regional radio station

Costs: 1200 EUR. Funding by NGOs and subsidies.

Cooperation with: regional radio station

Title: EL-EFF seminars

Content: 5 seminars about el. efficiency measures and their implementation.

Target groups: households, municipalities, schools, farmers, business sector.

Main barriers: electricity prices increase

Responsible stakeholder: Implementation by NGOs (ECCB).

Costs: 5x12000 EUR. Funding by NGOs and subsidies.

Title: *Heat from cooling systems campaign*

Content: Campaign about the possibility of using the heat produced within the cooling process.

Target group: Companies, ice stadiums, milk producers, supermarkets.

Main barriers: lack of interest

Responsible stakeholder: Implementation by NGOs (ECCB).

Costs: 5000 EUR. Funding by NGOs and subsidies.

Targets

- Implementation of the Decree in the public buildings – till 2010
- National programme of energy management and the use of renewable and secondary energy sources (Czech version of NEEAP) sets the target 2,1 % of the electric energy intensity reduction in 2009, which puts the good foundation for the long term target – 4 – 5 % of electricity intensity reduction till 2020
- Engagement of 10 municipalities in the Solar heat instead of electric heat incentive – till 2010, 50 municipalities till 2015
- Engagement of 30 municipalities in the Solar league – till 2012
- New Decree approval by the State government – till 2010
- To reach at least 30 % of the region population with the campaign of the Stand-by switched off - 2011
- 30 % of the region schools will implement the advice of light system modernization – till 2012, 100% - till 2020
- 20 % of the regional schools will be involved in the School competition – till 2011
- To print 1000 pcs of the Best practise leaflet and disseminate it on the seminars and via municipalities – till 2011
- To have at least 250 participants from various sectors at the seminars about el. efficiency measures and their implementation – till 2011
- To reach 100 % of the relevant companies with the Heat from cooling system campaign, 20 % of the companies will implement the efficient measures – till 2015

Implementation and monitoring

The implementation of the AP measures will take place almost exclusively on the regional level, where the organizational and cooperational issues are already well established. The support from the state level is important as the regional competences are quite limited and the regional budget is not high enough for significant decisions in the field of energy efficiency. Therefore the AP targets must correspond with the regional conditions and possibilities. For this reason, the AP targets were set rather in a modest way. The monitoring will focus on the results of individual actions.

This Regional Action Plan was made within the framework of the EL-EFF project (Boosting efficiency in the electricity use in 8 European regions) and was co-financed from the European Union.

More information about the EL-EFF project: <http://www.efficient-electricity.info>

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Annex I.
Overview of the proposed measures

No	Measure	Direct target group	Implemented by	Funding body	Estimated costs	Description of the measure	Targeted / expected impact
1	Promotion of the Decree n. 148/2007 of the Act n. 458	Public sector	Regional authority	Regional authority	5 000 EUR	Campaign targeting the public buildings, promotion and recommendation of the Decree implementation, Decree defines the evaluation of the electricity consumption – lighting, air-condition etc. It applies only for public sector so far.	Implementation of the Decree in the public buildings
2	Solar heat instead of electric heat	Family houses	Municipalities , towns	Municipalities, towns and/or State government	24 000 EUR	Incentive of towns to replace the electric water and space heating with the solar thermal system in the family houses, 10 installations selected by a lot will be rewarded in the form of 20-30% subsidy	Reduction of electricity use for the space heating and water heating
3	Solar league	Municipalities, towns	Municipalities , towns	Municipalities, towns and/or State	1 800 eur	Engagement of towns and villages into the Solar League, to install as many solar thermal system and PV systems as possible	Reduction of electricity use for the space heating and water heating, participation of 20 municipalities

				governme nt			
4	New Decree	all	State government	State governme nt	3 200 EUR	Campaign for approval of new Decree that to prefer the space heating and water heating from other sources then electricity	Reduction of electricity use for the space heating and water heating
5	Stand-by switched off	Househol ds	ECCB	ECCB, grants	1 500 EUR	Articles in newspapers, press release, interviews in radios	Raise of public awareness on this topic
6	Efficient light for schools	Schools in South Bohemia	ECCB and other NGOs	ECCB and other NGOs, grants	10 000 EUR	Measuring of the school light systems and advice about modernization of the systems	30 % of the school light systems measured, modernization of the light system in schools
7	School competition	schools	ECCB	ECCB, grants	16 000 EUR	Competition for schools to measure their electricity consumption and to implement the electricity measures to reduce it, duration 1 year,	More efficient electricity use in 10 % of South Bohemian schools
8	Best practise example	Municipali ties, schools	ECCB	ECCB	1 800 EUR	Best practise leaflet and information about replacement of old electric heating with renewable heating	Raise of awareness, impuls to implementation of similar action
9	EL-EFF broadcasting	Wide public	ECCB, Regional Broadcaster	ECCB	1 200 EUR	Programme about the electricity efficiency measures	Raise of public awareness
10	EL-EFF seminars	househol ds	ECCB	ECCB, grants	12 000 EUR	Seminars about el. efficiency measures and their implementation	Raise of awareness, impuls to implementation

11	EL-EFF seminars	Farmers	ECCB	ECCB, grants	12 000 EUR	Seminars about el. efficiency measures and their implementation	Raise of awareness, impuls to implementation
12	EL-EFF seminars	municipalities	ECCB	ECCB, grants	12 000 EUR	Seminars about el. efficiency measures and their implementation	Raise of awareness, impuls to implementation
13	EL-EFF seminars	schools	ECCB	ECCB, grants	12 000 EUR	Seminars about el. efficiency measures and their implementation	Raise of awareness, impuls to implementation
14	EL-EFF seminars	Companies	ECCB	ECCB, grants	12 000 EUR	Seminars about el. efficiency measures and their implementation	Raise of awareness, impuls to implementation
15	Heat from cooling systems campaign	Companies, ice stadiums, milk producers, supermarkets	ECCB	ECCB	5 000 EUR	Campaign about the possibility of using the heat produced within the cooling process	Reduction of electricity use for the heating and water heating

Annex II.

Index of stakeholder representatives

Ing. Marcel Gause – director of High school of engineering, Tábor
Ing. Edvard Sequens – director of Calla, environmental NGO
Ing. Hana Hricová – directress of Regional chamber of agriculture
Ing. Vladimír Štěpka – director of regional office of State energy inspection
Ing. Karel Srdečný – energy consultant, Ekowatt, NGO
Ing. Jiří Neuwirth – Seven, Regional energy agency
Ing. Jiří Stráský – director of South Bohemian chamber of commerce
Jana Píchová – mayor of Olešník village
Ing. Jan Vondrouš – member of city council of Český Krumlov town
Ing. Luboš Průcha – South Bohemian regional authority, department of regional development
Ing. Jiří Schandl – regional department of Czech chamber of authorized engineers and technicians
Tomáš Kubín - E.ON
Ing. Jan Staněk – director of High school of electrotechnics, Hluboká n/Vlt.
Ing. Josef Vlček – Municipality of České Budějovice
Dan Moravec – Regional broadcasting, České Budějovice
Vondrys Pavel Ing. - Union of towns and municipalities of SB
Zíma Ludvík Ing. Bc. - Chief of department of regional development
Vlach Jiří Ing. - Regional Development Agency
Vaňatová Monika – Czechinvest
Thoma Juraj Mgr. – mayor of České Budějovice, regional capital
Štangl František Ing. - South Bohemia Regional council member
Průša Luboš JUDr. - Director of South Bohemian Reg. Authority
Lukáš Karel - Mayor of Dřiten village
Beneš Ivan Ing. – Cityplan, consultancy company