

CEFIC Workshop on Energy Efficiency

“The Benefits of CARE+ in Bulgaria”

Brussels, 08 February 2011

Bulgarian Chamber of Chemical Industry

Energy Efficient Systems Ltd.



National team for CARE+



- **BCCI – Bulgarian Chamber of the Chemical Industry**
- **EES - Energy Efficient Systems Ltd.**
- **AGRIA and KAUMET – pilot companies**
- **30 chemical SME realising self audits by help of EES**

Why Care+ in Bulgaria

Energy intensity of the Bulgarian economy

- In comparison to the EU 27, the national Bulgarian economy is 5,6 times more energy-intensive, *with regards to gross domestic energy consumption* and over 4 times more energy-intensive *with regards to final energy consumption*.
- The correlation between the final energy consumption and the gross domestic energy consumption for Bulgaria and the EU-27 is respectively 48.7% and 64.4% (data for 2005).
- Industry has the highest share of final energy consumption in Bulgaria (36%), mainly due to three energy intensive sub-sectors: chemicals and petrochemicals, non-metallic minerals and iron/steel. These three branches account for almost 63% of the industrial energy consumption and 23 % of the industrial GDP.
- Law for Energy Efficiency (LEE) (end of 2008)
This law regulates the implementation of the government policy for energy efficiency at the final consumption of energy. It is aimed at increasing the **competitiveness** of the Bulgarian economy.

Why Care+ in Bulgaria



Bulgarian LEE was followed from Strategy and National plans

- **National action plans related to energy efficiency are elaborated on the basis of the national strategy. They consist of intermediate indicative and individual goals for energy savings, as well as stipulated activities and measures for raising the energy efficiency.**
- **The national indicative goals for energy savings are defined as a percentage of the final energy consumption by end users according to a specific Ordinance. The national indicative goals have been distributed as individual goals for energy savings between industrial installations .**
- **Published in the mid 2010 now every industrial installation in Bulgaria has fixt indicative goals for saving energy**

Why Care+ in Bulgaria

Obligatory energy efficiency audits

- **Obligatory measures to improve the energy performance of public buildings and optimizing the energy consumption of large energy consumers (enterprises producing goods and services with an annual energy consumption greater than 3000 MWh) are included in the Bulgarian legislation since 2010. In order to facilitate the implementation of legislation, installations to be audited have been identified and human and technical resources necessary for the audit and certification of buildings and industrial installations have been provided.**
- **The audit needs to be performed at least every three years. The owner of the installation is obliged to start implementing the measures suggested by the energy audit within two years.**

Why Care+ in Bulgaria



Real help to Bulgarian Industry to become more competitive

- **Self auditing on energy efficiency to help obligatory audits and reaching indicative goals**
- **Identify and demonstrate to SME energy efficiency reserves and cost-effectiveness of improved practices and technologies.**
- **Disseminate information for energy efficiency technologies and practises**
- **Presenting use of Energy management and training for increasing energy efficiency.**

What has been done on main WP : WP6 CARE+

Energy Efficiency & Responsible Care

National Seminar for Training of the participants in roll out campaign

The Seminar was on 9 February 2010. The agenda included:

- Introduction of CARE+ project
- Presentation of Survey results
- Presentation and training for use of “Self audit guide”
- Training on use of Work book for data collection and analyze. Discussing of consultation scheme
- Agreement and Accepting of schedule for visits to the companies of BCCI and EES representatives
- Agreement and accepting of schedule of realization of Energy audits of 36 companies
- Presentation and training of use on “Best practice manual”
- Information for use of Bulgarian funds for financing the implementation of measures on EE improvement
- Information from 3 companies, suppliers of energy saving equipment

What has been done main WP : WP6



National Seminar for Training of the participants in roll out campaign

- **On the National seminar participated 32 companies - 42 energy managers. The interest and discussions were on good level. The decision was made that the Energy managers will explain to their CEOs the project and will ask them for signing the Agreement for participation.**
- **Two more meetings for initial trainings on 10 March and 18 March, 2010 were realized and we succeed to train 8 more companies.**

What has been done main WP : WP6

Time schedule (2010) for visits in the 34 companies from BCCI and EES

April 15-30	May 1-30	June	July 1-15	July 15-30	September	October 1-15	October 15-30
SIZAS	SET	TUKAI	ZLATNA PANEGA	GAMA	POLYCHIM	PANCHIM	MEGA – GROUP
VERIPLAST BALKAN	MEGACHIM	LAVENA	KOSTENETS – HHI	BALKAN-PHARMA TROYAN	BUOVET	PLAST-MASOVI IZDELIA	HAYAT CHEMICALS
INDUSTRIAL CHEMISTRY	EKON 91	PROLINE	PLASTIMO	KDN	ALEN MAK	POLIM-MET	POLIMERI
ZEBRA	SVILOCEL	PLASTHIM	VETPROM	BALKAN-PHARMA RAZGRAD	KALCIT		START
			TECHCERAMIC		KAUCHUK		
					ASENOVA KREPOST		

Supported by

What has been done main WP : WP6

Self-Audit of Energy Efficiency Activities	Weeks No												
	1	2	3	4	5	6	7	8	9	10	11	12	
1. Studying of Energy efficiency guides and work tables	■	■											
2. Collecting energy data		■	■	■									
3. Data fulfilment in the Excel work books				■	■								
4. Discussion and consultation on the collected data with EES						■							
5. Selection and discussion of energy saving measures						■	■						
6. On-site visits from EES and BCCI								■					
7. Correction of the collected data								■	■				
8. Sending the Work books to EES										■			
9. Analyzing and discussing the results from the audit										■			
10. Preparation of the audit Report and Company's EE program											■		
11. Comments and support by EES for preparation of the final Report											■	■	
12. Finalization of the Report and Company's EE program												■	

What has been done main WP : WP6



On-site visits

Adaptive management approach has been applied – to move forward site visits

30 site visits conducted by the end of January 2011 (1-2 days)

Size of the visited companies:

Micro – 2

Small – 4

Medium – 24

Performed activities:

Additional training based on the specific conditions (about 9-10 new experts trained)

Walk-through surveys

Data checking

Checking (preparing in some cases) of the Excel sheets

Discussion of the proposed ECM

Result – 29 conducted energy audits based on the Excel Product.

Quality of the self-audits

- **Energy audits were conducted in a situation of deep financial and economy crisis in Bulgaria**
- Perfect – 5-6 (more than 95% of the required processed information). Others – normal (more than 80% of the required processed information).

Next steps / what will be done until the end of the project



- **National Conference “ Enhancement of Energy efficiency of the industry”, held in Sofia on 9 February, 2011 – big hall in BIA**
- **Organized and hosted from BCCI**
- **Invited mine,s and metallurgy's SMEs trough their sector associations and other industrial sectors trough Bulgarian Industrial Association. Expected 60-70 participants .**
- **Goal of the National Conference: sharing CARE + experience; Discussing needed governmental support to the companies to reach Energy saving goals at 2020.Joit proposal to national authorities for legislative changes.**

Program of National Conference “ Enhancement of Energy efficiency of the industry”, Sofia on 9 February, 2011



TIME	Subject	speaker
10:00-10:45	Presenting CARE+ project- organizations, use, lessons learned	L.Dombalova-BCCI
10:45-11:20	Energy management –main instrument in effective use of energy	Dimitar Baev- EES Ltd
11:20-11:40	Presenting Training package and instruments of CARE+	
11:40-12:00	Results of self audits done and design of Energy efficiency programs	
12:30-13:00	Best practice of Self audit in the company “MEGACHIM”	Energy manager Of ‘MEGACHIM”
13:00-13:30	Best practice of Self audit in the company “AGRIA”	Energy manager of “AGRIA”
13:30-14:00	Best practice of Self audit in the company “PANACHIM”	Energy manager of “PANCHIM”
14:00-14:30	Certification of the companies and energy managers of SMEs	President of BCCI
14:30-15:00	Presenting of new National Strategy for increasing of EE	D.Oreshkov – President of AEE
15:00-15:30	Proposals of business for legislative changes to increase of EE	K.Kolev-President of BIA

Feedback from participating SMEs



- **Positive**
- **Attractive**
- **Useful**
- **Intelligent**
- **Improving image**
- **Sustainable**
- **Helpful for business**
- **Helpful for implementing EN 16001**

Technical measures and interventions with highest potential in EE for Chemical SMEs



- a) Energy management programs**
- a) Energy monitoring systems**
- b) Effective electric drives**
- c) Heat utilization**
- a) Efficient lighting**

Improvement areas



- **Increase interest for responsible use of energy in the sector**
- **Increase importance of Bulgarian Chemical Association**
- **Increase dialog and identifying needs for training in other sectors – attempts for similar(as CARE +) projects**
- **Increase communication with Governmental AEE for advisable change of national legislation to help reaching National goals to 2020**

Recommendations how to further develop CARE+



- **CARE+ should continue**
- **Two possibilities for further development → next project CARE+2, financed by “Intelligent Energy Europe”**
 - 1) Training for development and fulfillment of Energy Management programs (how to design; finding financial sources; finding partners and suppliers for energy saving equipment; bring into use the European Standard for Energy management EN 16001). Methodology can be E-learning or similar as CARE+**
 - 2) Benchmarking of CARE+ SMEs performance indicators for EE (by chemical industry different sub sectors and different countries to reach excellence).**