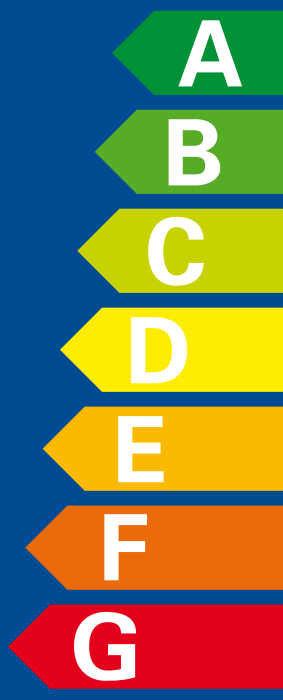
Energy labelling for domestic appliances

in Central and Eastern Europe – overview of enforcement and promotion activities



Prepared as a part of the "CEECAP – Implementing EU Appliance Policy in Central and Eastern Europe" project.

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The CEECAP project is coordinated by SEVEn, The Energy Efficiency Center, Czech Republic

Project partners:
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Czech Republic: State energy inspectorate, Czech trade inspection, CECED Czech Republic
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Poland: Ministry of Economy, The Office of Competition and Consumer Protection, The Trade Inspectorate, Consumer Federation, Association of Polish Consumers, CECEDPolska – member of European Committee of manufacturers of Domestic Equipment
Slovakia: CESys s.r.o., Erasmus s.r.o., CECED Slovakia

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Energy labelling for domestic appliances in Central and Eastern Europe – overview of enforcement and promotion activities

June 2008

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Content

1. Introduction of the energy labelling issue and importance

Still growing energy demand

Despite numerous successful measures and activities on both the national and the EU levels to reduce energy consumption by households, their electricity demand is still growing. Focusing on the period 1992 to 2002 in Europe, we see an annual increase of approximately 2%, resulting in an additional 20% for this decade.

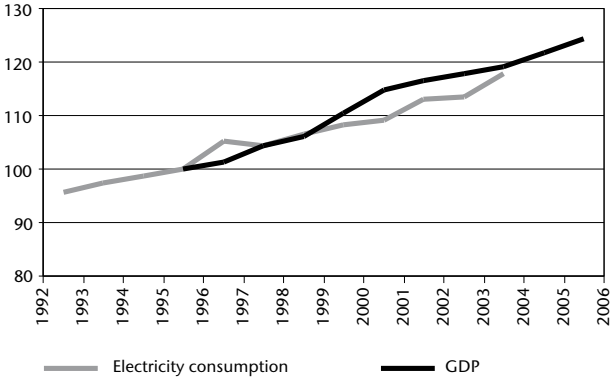


Figure 1: Electricity consumption by households (EU 25), index 1995 = 100; Source: Eurostat (2006)

The energy efficiency of household appliances has long been a key issue in the energy conservation policy of the European Union. The extended legislation in this area has resulted in considerable reduction in energy use throughout Europe, and significant energy cost savings for European households.

Impact of Energy Labelling

As a basic principle, energy efficiency compulsory standards shift the distribution of energy-efficient models of products sold in the market upward by eliminating inefficient models and establishing a baseline for programmes that provide incentives for "beating the standard." On the contrary, energy labels shift the distribution of energy-efficient models upward by providing information to consumers that allows them to make rational decisions and by stimulating manufacturers to design products that achieve higher ratings than the minimum standard.

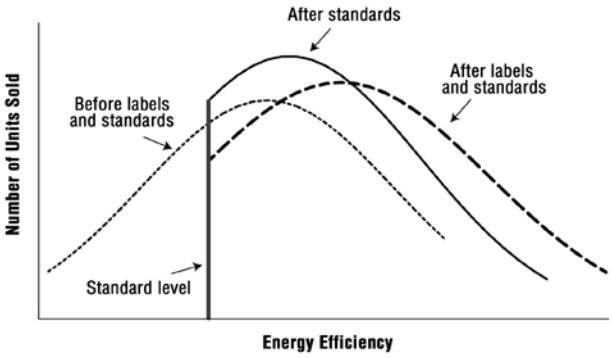


Figure 2: The impact of energy-efficiency labels and standards on the distribution of products in the marketplace: The Concept; Source: CLASP (2005)

Benefit of Labelling: Success story for appliance market transformation in the EU

A number of recent studies confirm that the energy labelling directive has significantly contributed to market transformation towards more energy-efficient appliances. An evaluation of the impact of labels and standards in the EU-15 countries shows a dramatic upward shift in the energy efficiency of models offered for sale after the labels and standards were implemented. The sales weighted average energy efficiency of refrigeration appliances improved by 26% between 1992 and late 1999, with over one-third of the impact attributable to labelling. Beyond that, it has been estimated that the labelling scheme on cold appliances, dish washers and washing machines could contribute to saving some 700 TWh in the period of 1996-2020.

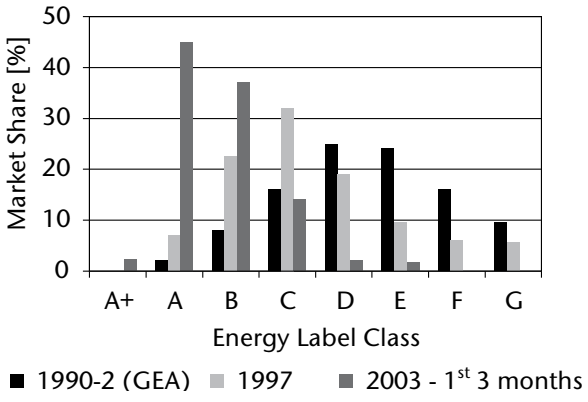


Figure 3: The impact of energy-efficiency standards and labels on the distribution of products in the marketplace: refrigerators in the EU; Source: CLASP (2005)

The main reasons for the success of the European Energy Label can be summarised as follows. The label:

- is mandatory in the EU market for all appliances covered by an implementing measure;
- indicates to the consumer, in a simple, easy-to-understand way, how energy efficient a product may be in use;
- allows manufacturers and retailers to compete on product efficiency based on multiple efficiency classes;
- opens the way for product development and market transformation; and
- facilitates the organisation of national/regional/local government action on rebate schemes without distorting the internal market.

2. Introduction to the CEECAP project – its goals and content

The CEECAP (Implementing EU Appliance Policy in Central and Eastern Europe) project was developed with the aim of supporting Central and Eastern European countries in creating suitable conditions for implementing appliance labelling and efficiency policies in accordance with EU appliance efficiency legislation and programmes.

The project started in early 2006 and ends in June 2008. It is building upon the previous CEECAP, ELAR and other projects that had the involvement of international organisations, such as the IEA and the European Commission.

CEECAP aims to increase expertise and experience in verification and enforcement (V&E), and market introduction aspects; strengthen relationships among stakeholders; and start up national actions to improve energy efficiency.

CEECAP is concentrating on identifying and training national experts and decision-makers; designing and preparing national appliance labelling and efficiency actions; and setting up a national multi-disciplinary committee as a forum for discussion about best practices, cooperation opportunities and knowledge transfer. Individual consultations, workshops, seminars and conferences, public dissemination materials, expert information brochures and other tools is bringing this issue to the attention of the project target groups.

The aims of the project include an improved policy infrastructure for appliance labelling and efficiency, and future EU policies; a verification infrastructure for product and retailer compliance; collaborative activities to increase consumer response to labels; and the establishment of a platform for information exchange and transfer.

Highlights of CEECAP's work have included:

- Preparation and distribution of a training manual for government officials, and another for retailers and manufacturers. These materials contain the most up-to-date and comprehensive guidelines on how the domestic appliances should be labelled, what is the role of state officials in controlling the labels, and why and how manufacturers and retailers should apply labels within their sales activities. These materials were distributed widely to the target groups of the CEECAP project.
- Preparation of the summary of national compliance and government activities, the National Verification and Enforcement Plan, and the National Market Introduction Plan. These materials (available in English for all participating Central European countries) represent a detailed and unique description of the state of labelling within the participating countries. They have already been widely quoted by other researchers. In addition to the planned deliverables, a detailed guideline with templates for national plans was prepared.
- Organisation of national contact groups, development of the project website, organisation of workshops and individual consultations, presentation of CEECAP ideas and achievements at seminars and conferences, and preparation and distribution of the first promotion materials. These all contributed to a significant increase in knowledge and awareness by the public and private sector experts and decision-makers, including the public's knowledge of why and how the energy labels should be used properly.
- Within individual countries, CEECAP materials and information have represented a significant contribution to the national versions of the National Action Plans towards Energy Efficiency, developed under the Energy Services n. 32/2006 Directive. Within this, the dissemination impact of the project activities has been significantly enlarged.
- Conferences and public events. Many of the project tools have been presented at national and international events, workshops and conferences. This has brought the message of the importance of labelling and an overview of the potential tools usable for its promotion to a wide group of national and international experts, in some cases even beyond the region of the European Union.
- Publication materials. A set of educational materials has been published in English and the project national languages. These materials have been targeted to both the labelling experts and government officials, and the general public. These materials have been used to share a depth of knowledge and to give inspiration on how to implement and promo-

te appliance labelling on both the state enforcement level and the distribution and marketing level.

• Individual work with the target groups' representatives. The main result of the project, bringing lasting (though indirect) effect, is the individual work with the target groups' representatives (government departments, energy agencies, state inspectorates, manufacturers and importers of appliances, retailer organisations, consumer organisations, and the media) toward inspiring and motivating them to organise their own long-term regular and conceptual activities to promote energy labelling within their own field of responsibility.

Detailed direct outcomes of the project have been:

1. Increased knowledge and experience of government, energy agency and/or state inspectorate professionals of V&E requirements and international (best) practices;
2. Increased knowledge and experience of government, energy agency and/or consumer agency professionals of market introduction principles and international (best) practices;
3. Well-functioning national and regional coordination of national government and energy agency experts with stakeholders (appliance manufacturers or importers, retailers and their organisations, consumer organisations, non-government organizations (NGOs), and /or inspectorates);
4. Development of national V&E programmes (including international cooperation among governments / government agencies) and allocation of national responsibilities, facilities and budgets to these programmes - this has included the start of V&E activities in Central European countries;
5. Development of new national market information programmes, in collaboration with stakeholders, including the allocation of responsibilities plus government and private sector resources to the planned activities – this also has included the start of these programmes in Central European countries; and
6. Ability to react quickly to new appliance regulations, focusing on new appliances or modifying the energy classes on national levels with input from all stakeholders, from the government adoption, through manufacturer and retailer usage to consumer understanding.

The formal structure of the project is as follows:

1. Verification and Enforcement Capacity Building includes the training and information exchange activities for state officials related to the legislation, and verification and enforcement aspects of appliance labelling and energy efficiency policy, as well as general aspects of the EU regulations and policies. This work package directly relates to:

- Knowledge and understanding of the relevant EU acquis and the national transposition and implementation process; and
- Knowledge and understanding of the relevant EU and individual EU member states' policies (negotiated agreements, action plans, programmes, etc.).

2. Market Introduction Capacity Building includes the training and information exchange activities for retailers and manufacturers related to the market introduction and consumer and retailer education aspects of appliance labelling and energy efficiency policy, as well as general aspects of the EU regulations and policies. This work package directly relates to:

- Knowledge and understanding of the relevant EU and national policy and legislation; and
- Knowledge and understanding of typical national energy conservation policies for appliances and equipment, including financing and marketing options for energy-efficient appliances.

3. Stakeholder Collaborations Capacity Building focuses on the project participants and includes policy compliance verification and best practice information, as well as on-the-job-training for (1) setting up action-oriented stakeholder consultation platforms, (2) verification and enforcement actions and (3) market introduction actions. This work package creates conditions for:

- Specified national action plans for a compliance verification and enforcement policy for the (transposed) EU acquis; and
- Specified national action plans for the development of an appliance and equipment energy conservation programme, by informing and involving market parties, especially ma-

nufacturers / importers, retailers and consumers.

4. National Verification and Enforcement Plans and Actions includes the development and implementation of national verification and enforcement action plans for state officials, and the start of the planned actions in the countries. This work package directly relates to:

- Specified national action plans for a compliance verification and enforcement policy for the (transposed) EU acquis; and
- Organisation of activities to enforce energy labelling in practice.

5. National Market Introduction Plans and Actions includes the development of national market introduction action plans for retailers and manufacturers, and the start of the planned actions in the countries. This work package directly relates to:

- Specified national action plans for an appliance and equipment energy labelling programme, by informing and involving market parties, especially manufacturers / importers, retailers and consumers.

6. Dissemination of CEECAP Results specifically deals with the dissemination of interim and final results of the project plus involving other partners in active support of energy labelling. This work package supports the overall success of the project and relates to the general objective of maximising the impact of the European policies for appliance energy efficiency.

3. Summary overview of appliance regulations

The EU policy framework primarily is based on these types of measures

- Directives – binding as to the result to be achieved but leaving the national administrations to decide on the method of achieving that result.
- Regulations – binding and directly applicable in all member states from the date of their coming into force.
- Negotiated Agreements – based on negotiations between the European Commission and appliance manufacturers or their associations, who agree to increase the energy efficiency of their products in return for not adopting mandatory legislation.

Directives

- **In the Field of Energy Labelling:**

The framework directive (92/75/EEC) provides a legal basis for the energy labelling of household appliances, requiring manufacturers and retailers to attach an energy performance indicating label to appliances when displayed for sale. Its implementing directives stipulate a description of what the indication should be for a specific appliance (household lamps, air-conditioners, electric ovens, etc.), given an energy consumption measured according to a European test standard.

Directive 92/75/EEC requires energy labelling for the following appliances and implementing measures:

– Refrigerators, freezers and combinations
– Washing machines
– Tumble driers
– Combined washer-driers
– Dishwashers
– Lamps
– Ovens
– Domestic air-conditioners

In the first quarter of 2008, the European Commission started a stakeholder consultation in the context of the revision procedure for the energy labelling framework directive, setting a basis for further evolvement of the scheme reflecting the overall technical improvements.

- **In the Field of Efficiency Standards:**

Directives in this area prohibit sales of appliances that fail to meet certain energy performance limits. Such directives have been issued for refrigerators, freezers and their combinations (96/57/EC), boilers (92/42/EC) as well as ballasts for fluorescent lighting (2000/55/EC).

The Directive 96/57/EC regulates that only refrigerators and freezers can be placed on the market with energy consumption that meets or falls below the specified limits of energy efficiency requirements.

- **Ongoing Process: Eco-design of Energy-Using Products**

In 2005, a directive (2005/32/EC) establishing a framework for the setting of ecodesign requirements for energy-using products was published. The directive does not introduce directly binding requirements for specific products, but does define conditions and criteria for setting requirements regarding environmentally relevant product characteristics (such as energy consumption) and allows them to be improved quickly and efficiently. The directive will be followed by implementing measures that will establish the eco-design requirements. In principle, the directive applies to all energy-using products (except vehicles for transport) and covers all energy sources.

The products currently covered by the eco-design directive are: boilers and combi-boilers; personal computers (desktops and laptops) and computer monitors; imaging equipment: copiers, faxes, printers, scanners, multifunctional devices; consumer electronics: televisions, standby and off-mode losses of energy-using products; battery chargers and external power supplies; street lighting; residential room conditioning appliances with electric motors of 1-150 kW, water pumps (commercial buildings, drinking water, food, agriculture), circulators in buildings, ventilation fans (non-residential); commercial refrigerators and freezers, including

chillers, display cabinets and vending machines; domestic dishwashers and washing machines, solid fuel small combustion installations, laundry dryers, vacuum cleaners, complex set top boxes, domestic lighting.

Regulations

In the area of appliance energy efficiency, this refers to Regulation No. 106/2008 (superseding No. 2422/2001) of the European Parliament and the Council on a Community Energy Efficiency Labelling Programme for Office Equipment (Energy Star Programme).

Negotiated Agreements

As a third element of EU policy in the area of appliance energy efficiency, the European Commission has concluded negotiated agreements covering washing machines, dishwashers, domestic electric storage water heaters (DESWHs), TV and VCR reduction of standby power consumption, electric motors, household refrigerators and freezers (and their combinations), digital TV service systems, and external power supplies.

4. Summary of the issues involved: market introduction / compliance checking / stakeholder involvement

The general objective of the CEECAP project is to facilitate and organise effective and efficient national and regional activities to improve the implementation of European appliance energy efficiency policy (principally energy labels, minimum energy performance standards, and negotiated agreements) in the Czech Republic, the Slovak Republic, Poland, Bulgaria, Romania and Lithuania.

A fast and adequate implementation of appliance policy, built around the EU policies, would enable a well-functioning, integrated market between old (EU-15) and new EU members. With the recent and the planned enlargement of the EU, and appliance manufacturing gradually moving to Central and Eastern European countries, a common ground in policies and the infrastructure to support these are needed more than ever. More and more, this involves not only knowledge transfer from Western Europe to the other countries, but also from more experienced Central European countries to less experienced ones.

An analysis of the status quo of the introduction of energy labels in the EU new member states, prepared for the CTI „Energy-Efficient Appliances Early Adoption Project" (one of the predecessors of this Intelligent Energy – Europe project), identified six key issues across three major areas.

Policy issues, including:
- European Union policy design and the preceding market and product analyses
- Designing national policy supporting the implementation of energy efficiency legislation

Market issues, including:
- Retailer and market party information
- Consumer information and education activities

Legal issues, including:
- Transposing the EU acquis and implementing national policy frameworks
- Assigning responsibilities to organisations

These issues, and the wider issue of involving stakeholders in the policy process, are addressed in this project. The following table provides an overview of the steps in the implementation process for energy efficiency standards and labels. The table differentiates between topics that are a responsibility of the EU as a whole, and those of individual member states. This project has focused on the latter topics.

Step	EU Responsibility	National Responsibility	Status Quo
1. Deciding appropriate products, priorities, timing	The EU decided on labelling and standards for appliances via an established procedure. National actions are in principal not allowed.	Participation in EU decision-making process	New member countries didn't participate in the formal decision-making before accession. **Participation in the preparation of legislation needs to be developed.**
2. Developing a testing capability	Setting standards and deciding on test requirements.	Developing a national test capacity is a great advantage for verification and enforcement. However, there's no formal responsibility. (Governments need to be able to perform verification tests, but these can take place in another country.)	Some laboratories exist that could perform verification tests. **Organisational procedures need to be established, and laboratories need to get acquainted with EU practices / codes of conduct for testing.**

Step	EU Responsibility	National Responsibility	Status Quo
3. Designing and implementing a labelling programme	Designing and deciding on the basics of the labelling (label design, categories etc.).	Designing a national implementation programme to introduce the label in the marketplace, and secure retail sector and consumer support.	Labels have been introduced (formally) via the transposition of the EU regulations. **Market introduction is emerging, but needs much more attention, especially regarding involving market parties in the programme.**
4. Analyzing and setting standards	The EU decided on labelling and standards for appliances via an established procedure. National actions are in principal not allowed.	Participation in EU decision-making process.	New member countries didn't participate in the formal decision-making before accession. **Participation in the preparation of legislation needs to be developed.**
5. Involving all stakeholders	Involving major stakeholders (principally manufacturers and consumer organisations) in the policy design and decision process.	Involving all stakeholders (manufacturers, the retail sector, NGOs, and consumer organisations) in national label (and/or standards) implementation and endorsement programmes.	Stakeholder involvement is relatively low. Large market parties (international manufacturers and large retailers) are interested in involvement. **This needs to be accommodated and coordinated with government initiatives. Smaller stakeholders need encouragement and accommodation to get involved.**
6. Maintaining and enforcing compliance	Designing V&E rules as part of standards and labels regulations and European test standards.	Establishing legal and organisational responsibilities and mandates for V&E; organizing and initiating a V&E program; securing retailer and manufacturer compliance with labels and standards.	Minimal action. Establishing legal and organisational responsibilities has started. **V&E programmes need to be developed and initiated.**
7. Evaluating the programme	Evaluating the impact of European standards and labels and European market developments; updating the program when necessary.	Evaluating the impact of national implementation strategies and market developments.	None.

Further, the project has taken account of, and provided support for, a lack of institutional experience in the introduction of energy labelling and standards. Relevant factors include:

- Little to medium experience with market introduction activities and joint activities with private sector parties. New member states have had significantly less experience with this than the EU-15 countries. Instead of going through the full learning curve, this process is sped up via expert-to-expert exchange of best practices.
- Little to no experience with verification and enforcement action. The preparatory work shows that none of the new member countries has significant experience with verifying product compliance, and only some have started verifying retailer compliance. All had an underdeveloped infrastructure for verification and enforcement (e.g., no enforcement procedure in place), and understanding of product test issues is limited with the relevant bodies. This aspect is also targeted via expert-to-expert knowledge exchange of issues and best practices, supported by the CEECAP guideline.
- Limited consumer and retailer knowledge of appliance energy efficiency issues, and limited purchasing power. Both these barriers were identified during the preparatory work. Improving consumer and retailer knowledge is the focus of the market introduction work of this project, and includes public and private sector involvement. Identifying options for financing energy-efficient products is included in the development of national action plans, which this project supports.

5. Common features offered by the project: draft national VE and MI plans

The CEECAP project's results include an improved policy infrastructure for appliance labelling and efficiency, and future EU policies; a verification infrastructure for product and retailer compliance; collaborative activities to increase consumer response to labels; and the establishment of a platform for information exchange and transfer.

Within the context of the European Union policy for appliance energy standards and labels, it is the responsibility of member states to check compliance with the regulations of the products on the market and the retailer selling these. Member states are responsible for:

- Adopting (transposing) all aspects of the European regulations into national laws, including test standards associated with standards and labels.
- Arranging for sufficient institutional capacities for compliance checking and a proper mandate for enforcing regulations for the institutions tasked with the verification of products and retailers.
- Having a verification and enforcement system operational: European legislation doesn't specify exactly how much compliance checking a member state should do. It is considered good practice, however, to regularly check the correct placement of labels in stores and to do regular spot checks on the energy declaration (and other performance characteristics) indicated on energy labels for one or two product types each year.

The supplier (manufacturer or retailer) that puts products on the market in a country is responsible for providing an accurate energy label, including a declaration of the product's energy performance and other performance characteristics; providing (on request) technical documentation about the performance of the product; and respecting minimum energy performance standards. The relevant party, in the European system, is the first company that sells the product in a country. For imported products, this is usually the importer, and for products manufactured in the country, the manufacturer.

The dealer (retailer) that sells products to the consumer is responsible for properly attaching energy labels on appliances, or providing consumers in another way with the energy performance information as shown on the label in case the consumer cannot reasonably see the product before purchase (e.g., Internet or mail order sales). This also includes that the label is a proper combination of the background and the data strip, and that it is in the correct place (usually on the outside front or top of the product).

Topics for the Preparation of a National Action Plan

It is recommended that the following topics and issues be addressed during the preparation of a national action plan:

Responsible authority

Which government unit is responsible for checking that energy performance declarations and other energy label information of products are correct?

1. Has this unit already started compliance checking activities?
2. Is the unit aware of the requirements of product compliance checking?
3. Is it familiar with product energy testing?
4. Does it have sufficient human and financial capacities to do compliance checking?
5. Does it have the mandate to take legal action against non-complying products?
6. What legal options are available against non-complying products?

Which government unit is responsible for checking that retailers display energy labels correctly?

1. Has this unit already started compliance checking activities?
2. Is the unit aware of the requirements of compliance checking in shops?
3. Is it familiar with shop visit procedures?
4. Does it have sufficient human and financial capacities to do compliance checking?

5. Does it have the mandate to take legal action against non-complying products?
6. What legal options are available against non-complying retailers?

Therefore, each participating country has prepared a national Verification and Enforcement Plan and a Market Introduction Plan, which list the main issues related to the energy labelling of appliances from the state institution's and selling organisation's points of view. The plans discuss the main issues at stake and propose solutions to the problems that are observed. The plans attempt to introduce possible solutions, practical advice and best practice experience related to these problems, and provide assistance on behalf of the CEECAP project to all involved partners with the goal of promoting energy labelling and more energy-efficient appliances.

The following table summarises the problems, and activities suggested by the CEECAP project organisers to handle these problems within the system of energy labelling:

Target activity or target group	Goals (of CEECAP and in general towards labeling promotion)	Proposed activity
Shop visits	Monitor and increase the number, provide feedback	Support increased number of visits, enlarge capacity and increase motivation of control organisations
Appliance tests	Monitor and increase the number, exchange information	Support undertaking tests, exchange information on current tests
New legislation	Support early adoption and effective implementation	Support early adoption, interaction of activities of all target groups
Promotion campaigns	Monitor existing and support new ones	Initiate further public promotion, provide with best practice examples
Manufacturers	Monitor activities and support higher promotion involvement	Support proper labelling and increase involvement in promotion of labels
Retailers	Monitor compliance and support proper promotion	Inform about proper usage of labels and higher involvement in promotion towards customers
Consumer groups and NGOs	Support involvement in the system by testing, promotion or shop visits	Increase number of independent tests, cooperate on promotion activities and controlling the proper system of labelling

Based on the activities detailed in the above mentioned plans, concrete activities have been organized in individual countries. These are described in more detail in the next chapter.

6. Summaries of national activities: what was done, who was involved, results and concrete impacts

Czech Republic

The list of activities undertaken as part of the CE-ECAP project in the Czech Republic covers the whole portfolio of actions needed to foster the improved usage of appliance labels, from the overview of the legislation through the detailed discussions and regular cooperation with the target group representatives to the practical activities aimed at ensuring the presence of labels in shops and increasing consumer understanding.

The main activities included: a revision and summary of the national legislation, including its deviations from the EU labelling framework directive; establishing contact with groups representing government institutions, appliance manufacturers and retailers, consumer groups, the media, etc.; organisation of regular individual discussions, group negotiations and presentations at public conferences; description of the main problems within the state enforcement, and market implementation areas; and organisation of concrete individual activities targeted at raising the level of general understanding of energy labelling as an important tool to increase household energy efficiency. Examples of activities are as follows:

- Undertaking an independent review of the presence of energy labels in appliance shops. This was also undertaken in previous years and therefore the development of the situation follows the period 2002 – 2004 – 2007. In total, 158 shops have been visited and some 3,922 appliances have been checked. In general, over 85% of the appliances seem to be properly labelled within the „traditional" product categories of cooling, washing and dishwashing appliances. Other appliance types show a much lower degree of label display compliance, despite a gradual improvement. The reported EU average is 20% – 30% unlabelled appliances. A report from these visits has been widely shared and discussed among the government organisations and appliance manufacturers and retailers.
- A special guide on how to inform consumers visiting Internet shops has been prepared and distributed to all major Internet retailers in the Czech Republic. This guide summarised the legal information requirements as well as the marketing advantages for retailers of properly promoting information from the energy label. Due to the increasing share of Internet sales of appliances, this is an important distribution channel, which does not enable consumers to see labels directly before purchasing.
- In cooperation with the Czech office of CECED (The European Committee of Domestic Equipment Manufacturers), a special retailer training presentation has been produced and printed as a brochure, poster, and CD-Rom. Based on a common workshop of manufacturer appliance training professionals, this training material (informing retailers of the importance and advantages of using the energy labels) has been consequently used during their own retailer trainings all around the Czech Republic.
- In order to underline the importance of appliance labelling and its potential contribution to household energy efficiency, this topic has been included in the proposals discussed by Czech government representatives within the national energy efficiency action plan, prepared under the European directive on energy end-use efficiency and energy services.
- A series of activities has been also organized with the Prague energy utility. One of the most visible ones has been the distribution of consumer leaflets to over half a million household clients within the city of Prague. This leaflet provided the basic orientation on how to choose new appliances by their energy class and further parameters. Further activities include a consumer magazine, information on a website, information provided by the utility's information center, etc.
- One of the resulting activities has been the motivation of many journalists to cover the topic of energy-efficient appliances and to bring the information on how to use energy labels for making intelligent purchasing decisions to their readers. Though not a direct part of the project, this has contributed to bringing higher visibility and importance to this issue.

All in all, the main goal was to initiate sustainable activities, lasting even after the termination

of the project, and ensure that energy labels would continue to be used as an efficient tool to increase the energy efficiency of appliances offered on the market.

Bulgaria

The goal of the main activities implemented as part of the CEECAP project in Bulgaria was to increase the awareness of the various stakeholder groups regarding the benefits of energy efficiency labelling, thus fostering the actual implementation of the EU standards and labelling regulations. Activities included: establishing contact with stakeholder groups representing government institutions responsible for the development and implementation of the standards and labelling national policy, and other market players including appliance manufacturers, importers, retailers, NGOs, etc.; organisation of regular discussions regarding existing problems with the implementation of EU labelling directives and possible solutions; organisation of concrete activities targeting consumer awareness to raise the level of general understanding of energy labelling as an important tool to increase household energy efficiency. Examples of activities are as follows:

Cooperation with government institutions
A very good relationship has been established with the Ministry of Economy and Energy, Energy Efficiency Agency and Commission for Consumer Protection. Copies of training programmes for national government officials and experts and for market players were translated into the Bulgarian language and delivered to these institutions for further dissemination. The national V&E and ME plans were discussed in detail with representatives from government institutions, and their comments and proposals are included in the final versions produced. Information was collected and presented to the Commission for Consumer Protection regarding the existing testing and verification capacity within the country. In addition, detailed information was presented by EnEffect to the Bulgarian Market Control Department for the Commission regarding existing experience within EU countries on appliance testing, including detailed discussions of the Danish procedure (described in the Training Programme for National Government Officials and Experts, CEECAP Guideline) and the Swedish experience (Ten Years of Energy Labelling of Domestic Appliances 1995–2005, Swedish Energy Agency, ER 2006:18).

Promotion material
4.000 copies of national promotional materials were printed. The brochure - with the promo slogan of "Do we know what we buy?" - provides information about the requirements of the legislation regarding energy labelling of household appliances, information available on the label, the reasons to choose higher energy efficiency when buying household appliances, as well as helpful tips and tricks to save energy using domestic appliances. The brochures were disseminated through different channels and to variety of target groups – national and regional energy and energy efficiency policy conferences and workshops targeted at national and regional authorities, small and medium enterprises (SMEs) and local NGOs, with municipal energy efficiency information desks in several Bulgarian municipalities providing information services to local citizens. An additional 2.000 copies were printed in cooperation with one of the leading retail chains, Technoloplis, and disseminated through their shops to the end consumers.

Shop visits
Independent shop visits were carried out to review the energy label's presence in appliances stores. The bigger shops of the largest retail chains in Sofia (the capital of the country) were visited. About 1.800 appliances were checked. The analysis of the general results shows over 66% properly labeled appliances, nearly 18% unlabelled and about 16% non-properly labeled. It is important to note that these are the results for the general sample. Significant differences were found in the different retail chains. More than 95% properly labeled appliances were seen in the shops of one retail chain while this percentage was less than 35% in the stores of another chain. About 70% of the products from the categories cold appliances, washing and dishwashing machines and ovens seems to be properly labeled. The share of the non-labeled and/or not properly labeled air-conditioners is still very

low - only about 25% of the surveyed units had been properly labeled. The summary report from the visits was disseminated and discussed with the responsible government organisations.

Joint activities with another project

The CEECAP project established a close relationship with the ongoing UNDP/GEF project, "Building local capacity for promoting energy efficiency in public and private buildings in Bulgaria," in the area of information dissemination. One of the outcomes of the GEF project is to establish at least four municipal information and consultation desks within the municipal administrations. The information desks provide information to private households on how to save energy in their buildings, the possibilities for implementing energy efficiency measures regarding the building envelope, the energy efficiency of appliances, financial sources, etc. CEECAP deliverables such as the national promotional material as well as other relevant energy efficiency standards and labelling information are being disseminated through the municipal desks.

Project presentations

The project, its goals and current results were presented at six regional energy and energy efficiency policy workshops around the country. Promotional materials were also distributed among workshop participants - regional authorities, SMEs and local NGOs.

Lithuania

The main objective of Lithuania's participation in the CEECAP project was to create suitable conditions for implementing appliance labelling and efficiency policies in accordance with EU appliance efficiency acquis and programmes. The goal was to increase expertise and experience in verification and enforcement, and market introduction aspects; strengthen relationships among stakeholders; and start up national actions to improve energy efficiency in Lithuania's household sector.

The main activities included: establishing contact with government institutions, appliance manufacturers, and the main retailer and consumer groups; evaluating and revising the existing national legislation, including its deviations from the EU labelling framework directives; organising regular individual meetings and discussions regarding appliance energy labelling's main problems; raising the level of manufacturer' and retailers' general understanding of energy labelling as a very important tool to increase energy efficiency in Lithuania's household sector; presenting the CEECAP project and its results at national public conferences; and preparing and distributing promotional materials to increase consumers' general understanding of appliance energy labelling.

Specific examples of the activities are as follows:

- Established close relationships with the main governmental organisations responsible for the implementation of appliance energy labelling policy in Lithuania: the Ministry of Economy, Ministry of Environment, National Energy Agency, State Non Food Inspectorate, Energy Inspectorate, State Consumer Rights Protection, etc.

Established contact with appliance manufacturer SC "Snaige" (in Lithuania there exists only one appliance manufacturer, producing refrigerators, freezers and its combination), identified and established contacts with the main retailers – JSC "Ogmina", JSC "Auksetas", JSC "Elektromarkt", JSC "Maksima LT", JSC "Senukų prekybos centras", JSC "Topo centras" and others; and established contact with the following consumer groups that are involved in energy labelling activities – Lithuanian Association of Consumers, Lithuanian Union of Consumers, National Confederation of Consumers, etc.

- National legislation, including its deviation from the EU labelling framework directive, was evaluated. The inaccuracy in the Lithuanian version of the Technical Regulation for Lighting Sources was fixed. The Technical Regulation was corrected and confirmed on 14 February 2008 by the order of the Minister of the Ministry of Economy No. 4-60.
- Regular, independent reviews regarding the presence of energy labels in appliance shops in the Kaunas district were carried out together with the State Non Food Inspectorate. The results of shops visits were presented to responsible authorities in the Ministry of Economy, National Energy Agen-

cy, State Non Food Inspectorate, and Energy Inspectorate. The results were presented at a special workshop for appliance manufacturers and the main retailers.

- A report with selected procedures concerning shops inspections was prepared for the State Non Food Inspectorate.
- A national promotional leaflet was prepared. 1.000 copies of printed leaflets were distributed among government institutions, main retailers, consumer groups, etc.
- A national workshop was organized for experts, state officials, manufacturers, importers, dealers, and consumers groups. The workshop was targeted at evaluating the existing situation of appliance energy labelling, presenting requirements for energy labelling, increasing information exchange between government organisations and experts, manufacturers, importers and retailers, and consumer groups.

The workshop took place in the Lithuanian Energy Institute.

- A direct outcome of the workshop was the increase in local knowledge of, experience with, and evaluation of issues concerning energy labelling.
- The CEECAP project's goals and achieved results were presented at a national conference, "Science and Industry, Energy and Technologies", on 31 January – 01 February, 2008, Kaunas, Lithuania. Kaunas Technical University organized the conference.

The activities and achieved project results are stimulating the energy labelling process in Lithuania and will prove to be very useful for increasing the energy efficiency of appliances offered on the Lithuanian market.

Poland

KAPE organised, in cooperation with CECED, a seminar on "Energy labelling of domestic appliances – rules, obligations and enforcement" on 13 and 14 December 2006 in Warsaw. Over 13 representatives of national government, consumer and environmental organisations attended and over 14 representatives of manufacturers, distributors, wholesalers and retailers of domestic appliances also took part.

Participants were very interested in the energy labelling system. Some of them passed the information with workshops in their institutions. The representatives of the Polish Consumer Federation and Association of Polish Consumers as well as the Ministry of Environment were the most interested in promoting labelling. All of the representatives of manufacturers were in high-level positions responsible for energy labelling or energy efficiency appliance standards in their firms.

Participants received the CEECAP brochures, "Training Program for National Government Officials and Experts on Energy Labelling for Domestic Appliances" and "Training Program for Domestic Appliances Manufacturers, Dealers and Retailers on Energy Labelling: How To Use It for your Benefit?", in Polish and in English. Additionally 200 copies of the brochure for manufacturers were printed in Polish and co-financed by CECED Polska.

Whirlpool prepared a presentation on refrigerators. There were two refrigerators exhibited for participants: the old one, class C from 1996, and the new one, class A+ from 2006. The refrigerators were provided with devices showing the energy consumption of both appliances. Participants had a great chance to see the difference in the energy use of the old and new refrigerators.

Shop survey

In November and December 2007, KAPE conducted a shop survey verifying obligatory energy labels on domestic appliances displayed for selling. There were 20 large hypermarkets offering controlled appliances in Warsaw.

Appliances verified were: refrigerators, refrigerator-freezer combinations, freezers, washing machines, washing machine-tumble drier combinations, tumble driers, dishwashers, ovens, and air conditioners. Accepted as a correct label were the colour background and data strip and not accepted as a correct label were no label or only the data strip.

At the same time KAPE conducted an Internet shop survey verifying obligatory energy labels on domestic appliances offered in Internet shops. There were 13 Internet shops offering controlled appliances in Poland. The same group of appliances was verified. If information about the energy

class was provided, it was counted as a correct label and if no information was given on the website it was not counted as correct.

The report from the shop survey was provided to:

- The Trade Inspectorate
- The Consumer Federation (The report is published on CF's website at http://www.federacja-konsumentow.org.pl.)
- Association of Polish Consumers
- CECED Poland

Cooperation with media

KAPE cooperated with the media and participated as energy experts in TV and radio programmes.

Brochures

The brochures were part of the Ministry of Economy's information campaign. KAPE authored these brochures using CEECAP information and materials, and aimed them at producers, distributors and retailers.

Two brochures were printed and distributed: „Intelligent energy – guidebook for users" (5.000 copies) and „Intelligent energy – guidebook for appliances producers, distributors and retailers" (5.000 copies).

The brochures were sent in December 2007 to ministries and authorities, educational authorities, energy agencies, NGOs, appliance producers and their associations, shops and distributors, energy and environmental associations, and schools.

Information leaflet

In 2007, KAPE printed 1.000 copies of an information leaflet about the labelling system. It was distributed by CF in 20 Polish cities.

Romania

- **Workshops** with state officials, manufacturers, importers, dealers, institutes, etc. of electric household appliances, and energy utility companies.

The workshops were targeted at increasing information exchange activities between (1) manufacturers, importers and retailers related to market introduction, and (2) state officials related to the legislation, verification and enforcement aspects of appliance labelling and energy efficiency policy, as well as general aspects of the EU regulations transposed into Romanian legislation and also aspects of monitoring and implementation.
The workshops took place in the ARCE central office in Bucharest and in the offices of ARCE territorial branches. Announcing the workshops on ARCE's website increased the audience.

The program included: the presentation of the CEECAP project – "Implementing EU Appliance Policy in Central and Eastern Europe"; the presentation of the national labelling manuals; training for participants; examples of the implementation of the EU appliance policy in France; and information on ARCE market survey activity regarding labelling of electric household appliances.

Results included a large participation by stakeholders and a good exchange of information among them. The opportunity to discuss the energy labelling scheme was appreciated and participants were interested in sustaining the promotion of information related to market introduction requirements.
A direct outcome of the meetings included an increase in local knowledge of and experience with market introduction principles and international practices related to the market introduction aspects of appliance labelling and appliance energy efficiency performance, as well as the general aspects of the EU regulations.

- **Local seminars**

CEECAP's mission has been further presented at conferences dealing with eco-labelling, and a conference with an exhibition with the results of projects developed by the UNDP GEF Program. One of these projects was "Capacity-Building Program for the Removal of Barriers to the Cost-Effective Development and Implementation of Energy Efficiency Standards and Labelling in EU Candidate Countries." The mission was also presented at a seminar on "The Main Actors in the Promotion of Energy Efficiency." ARCE presented the "National Action Plan on Energy Efficiency - Strategic Document on Promoting Energy Efficiency." The Romanian National Action Plan on Energy Efficiency includes references to the CEECAP project related to measuring the reduction of energy consumption in the residential sector by using energy-efficient appliances and lamps.

- **MI Plan and VE Plan**

– Draft a national MI Plan and VE Plan to sustain the improvement of energy efficiency appliances policy with the consultation of national groups.
The distribution of 100 copies of the MI Romanian Plan and 50 copies of the VE Romanian Plan is being done by representatives of the ARCE territorial branches to representatives of national groups and others involved in the process of the introduction on the market of household appliances and the labelling system.

– Ongoing monitoring of retailers/importers' activities related to the implementation of the labelling system plus increasing the number of shop visits by ARCE and ANPC (The National Authority for Consumer Protection).
A supportive goal was to draft new legislation to support the replacement of refrigerators, washing machines and air conditioners with funds from the national budget, and to sustain the improvement of energy efficiency appliance policy.

- **National promotional leaflet**

ARCE printed 12.000 copies of a leaflet as part of the CEECAP project and in collaboration with importers and dealers (Candy, Gorenje, Indesit/ Ariston, Whirlpool, and Domo). The distribution of the promotional materials will be fulfilled by ARCE representatives through their territorial branches, at the national level, and in shops.

A direct outcome was an educational campaign promoting the energy label to customers that displayed the leaflets printed in shops, the info points inside the municipalities, and the ARCE territorial offices.

By using the approach developed as part of the CEECAP project, ARCE was able to increase its actions related to improving energy efficiency appliances policy and also to create a forum for discussion about best practices, cooperation opportunities and knowledge transfer.

Slovakia

In short, the project partners in Slovakia, after holding in-depth discussions with government officials, producers, distributors and consumers, have identified the reserves in the labelling process, information availability, and communication activities. Suggestions for improvement have been offered in each of these areas. Energy labelling has been promoted as a method to distinguish the quality of retailer sales service, an option to improve marketing presentation and a way to increase the awareness of customers. After all, financial profits can also increase due to higher sales of efficient electric appliances, higher consumer satisfaction and a more positive attitude to environmental issues.

One of the main targets was state monitoring and information access in the area of labelling. The project partners took advantage of opportunities to explain the European legislation in the area of energy labelling and its impact, including the importance of labeling, to producers, distributors, as well as consumers. The partners offered support to state institutions regarding program implementation.

Individual meetings took place with representatives of the Ministry of Economy, the Slovak Energy and Information Agency, the State Inspection of Energy, Ministry of Environment, and Slovak Trade Inspection.

The partners also researched the opinions of the respective representatives related to the negatives of the energy labelling process in Slovakia.

Producers and Distributors of Electric Household Appliances

After the first contact and then the signing of support letters from the Ministry of Economy of Slovak Republic and Ministry of Environment of Slovak Republic, the project partners contacted the distributors of household electric appliances in Slovakia and held individual consultations.

To build on personal contacts and discussions, the partners decided to create a special questionnaire to research and evaluate the situation and gather opinions, remarks and suggestions regarding electric appliances labelling. A large number of relevant distributors and retailers that should obtain the questionnaire was identified. The questionnaire was used to find out about opinions among all the relevant appliance distributors.

By analyzing discussions' and questionnaire's results on the levels of producers, distributors,

dealers and consumers, the following conclusion has been reached:
Retailers that took part in special training focused on labelling had a higher level of understanding of the intention and purpose of energy labelling and were more helpful in dealing with consumers. Their current problems are technical in nature – for example, formal documents that are not translated into the Slovak language, incorrect placement of labels, some of the producers don't mention noise levels, etc.

The situation is different in the case of retailers who didn't take part in the training. Level of knowledge about this issue is much lower and in some cases even critical. This is the case in mainly small companies. The most limited knowledge of all participants is regarding the issue of the impact of high energy usage on the environment.

During the discussions, retailers mentioned that customers often don't understand labels' impact on household energy bills and their economic effect as well. Customers can't quantify the economic savings from labelling. Many of them learn about labelling for the first time when purchasing a new electric appliance.

There was another interesting outcome from the questionnaire - from the distributors' and retailers' point of view, the legislation in this area regulates duties and rights of distributors, dealers and producers. But, on the other hand, there is not enough awareness building and promotion of energy labelling among the general public initiated by the government organisations.

The aims and intentions of labelling were mostly understood by those interviewed, but the situation pertaining to the effect of energy labelling is somewhat different. According to interviews with distributors, some customers still do not understand the importance of energy labelling. This provides a good motivation to prepare future workshops.

The retailers have come to the conclusion, based on consumer requests, that consumers understand the labelling issue only partially, and they are not able to quantify the financial savings based on the energy labelling – the information on labels therefore offers an interesting source of information and advertising potential. The distributors and retailers believe that the legislation in this area takes care of their obligations and rights.

7. Best practice descriptions: examples of selected activities

In this chapter we bring you an overview of selected concrete activities that have been implemented in individual countries. These may serve as an inspiration for organizing similar activities in other countries or by other organisations.

Czech Republic

SEVEn prepared, together with the **Prague Energy Utility**, 560.000 leaflets that were distributed to all households in Prague along with the electric bill between August and December 2006. This leaflet gave a basic overview of individual appliance types, information available on the energy label and the arguments why to choose more energy-efficient appliances. With the cooperation of the regional energy utility, it was possible to distribute this information to over half a million households in the capital of the Czech Republic in a very effective manner.

A good relationship with the Czech office of **CECED** (The European Committee of Domestic Equipment Manufacturers) has resulted in the preparation of an educational presentation for appliance retailers. CECED member manufacturers have received a brochure, poster and CD-Rom presentation that they have used throughout the Czech Republic during their own promotional activities towards retailers. This activity has enabled a large multiplication effect and has effectively reached a very important target group of the project. It started in June 2007 and is ongoing.

Bulgaria

Information dissemination channels – EnEffect used the opportunity to enlarge the possible information dissemination channels for promotion of CEECAP project results and deliverables. Based on the good relationship with an ongoing UNDP/GEF project, "Building local capacity for promoting energy efficiency in public and private buildings in Bulgaria," specialized municipal energy efficiency information desks/centers that had been established under this project are being used as very important local points to promote energy efficiency appliance labeling. The main tasks and activities of the info centers are to provide broad information and consultation services to the local citizens and SMEs related to energy efficiency. CEECAP national promotional material as well as other relevant energy efficiency standards and labelling information are distributed among local citizens and households. By June 2008, a specialized energy efficiency info desk/center was officially established in the Dobrich municipality. At least three more info desks are expected to be opened by the end of 2008. CEECAP promotional material has been disseminated also via traditional municipal centers providing information services to local citizens in the Varna and Smolyan municipalities.

EnEffect initiated a joint information and promotional campaign with one of the leading retail chains, Technoloplis. An additional 2.000 copies of the national promotional material was printed with the support of the owners. Energy Efficiency Labeling Day was organized by Technoloplis. National promotional material was disseminated to shop's visitors by specially trained and dressed (energy efficiency labeling branded printed t-shirts and hats) promotional assistants.

Lithuania

LEI has established close relationships with the government, national experts, and state institutions responsible for the formation and implementation of policy on energy efficiency in appliances in Lithuania. Roundtable discussions among those institutions were arranged. Representatives from the Ministry of Economy, Ministry of Environment, National Energy Agency, State Non Food Products Inspectorate, Energy Inspectorate, National Consumers Rights Protection Board and other institutions fruitfully participated in the discussions. They have presented and assessed national legislation as

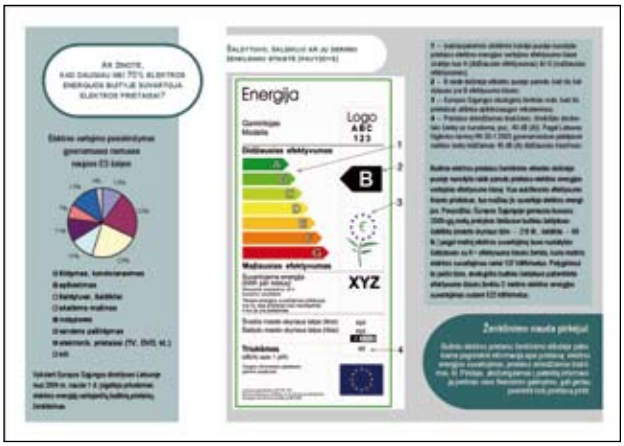
Czech Republic: Leaflet with the Prague Energy Utility

Czech Republic: Leaflet with CECED

Bulgaria: CEECAP leaflets

Bulgaria: Information dissemination channels

Poland: CEECAP leaflet



Lithuania: Energy label and its explanation

well as the current situation and existing problems in energy labelling for household appliances.

The main problems identified were lack of information for promotion; clear obligations for retailers; lack of training for dealers, retailers and sales people; current huge deficit of sales people in the stores; lack of knowledge on energy labelling for appliances among sales people; lack of motivation for retailers as well as non-efficient control system in the stores, etc.

There were also some good achievements through joint activities, such as the assessment and revision of existing national legislation, and identification of deviations from EU labelling directives. Inaccuracies in the technical regulations for lighting were also identified and revised.

With the benefit of the CEECAP partners' experience, and by using the commonly developed training program for national government officials and experts, the monitoring methodology for inspection of new stores was elaborated and later tested during joint visits to selected trade centres.

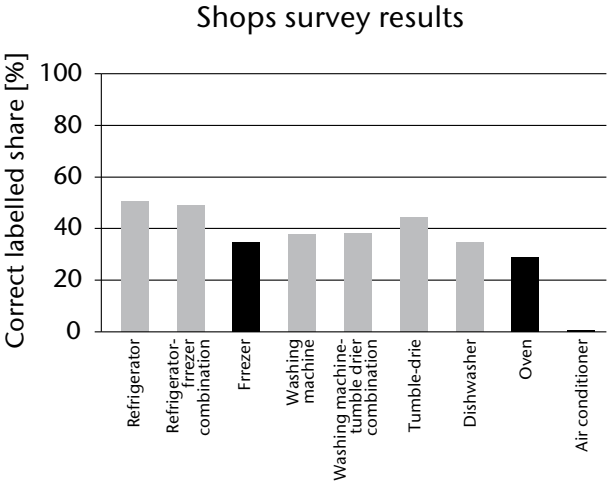
Close collaboration and contacts among responsible institutions yield efficient decision making, an increase in expertise and experience, and finally efficient national actions to improve the energy efficiency of household appliances.

Poland

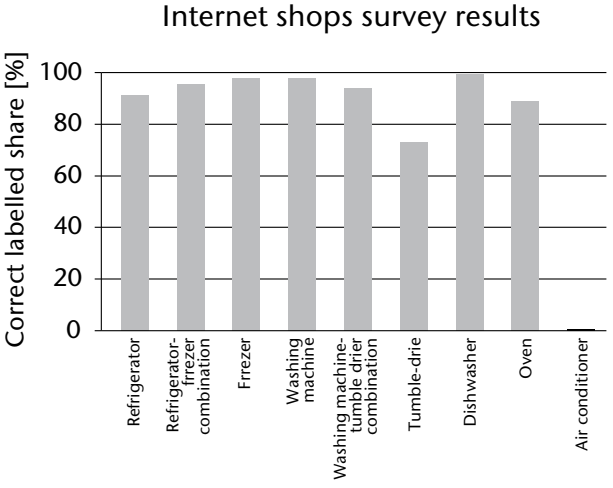
Shops survey

In November/December 2007, KAPE conducted shop surveys verifying obligatory energy labels on domestic appliances displayed for selling. There were 20 large hypermarkets offering controlled appliances in Warsaw.

Appliances verified were refrigerators, refrigerator-freezer combinations, freezers, washing machines, washing machine-tumble drier combinations, tumble driers, dishwashers, ovens and air conditioners. A correct label included the accepted colour background and data strip, and no label or only the data strip was not correct. The best result was in the case of refrigerators (54%), which was still not satisfactory, and worst case was air conditioners (0%), then ovens (33%) and freezers (39%).



At the same time KAPE conducted a survey verifying obligatory energy labels on domestic appliances offered in Internet shops. There were 13 Internet shops offering controlled appliances in Poland. The same group of appliances was verified. If the accepted information about energy class was provided it was counted as a correct label and if no information was given on the website it was counted as a not correct label. In most cases, the result was satisfactory (90-98%). Worst result was in the case of air conditioners (0%).



The report from shop survey was sent to:

- The Trade Inspectorate, which controls labels and checks the accuracy of information on the labels. Furthermore, a letter with the conclusions of the report and suggestions for providing shop controls was signed by KAPE and sent to the Trade Inspectorate.
- The Consumer Federation (CF), which initiates pro-consumer changes in legislation, joins

standardization and certification commissions, and lobbies to promote consumers' interests. After sending the report, KAPE received a response from the president of CF in which it announced its cooperation in promoting energy-efficient appliances and informing consumers about energy labels. The report is published at http://www.federacja-konsumentow.org.pl.

- The Association of Polish Consumers (APC), which is an expert group with no mass membership. The Association tests products and services, publishes the results of the tests, takes part in standardization work, and develops and promotes consumer education projects. In January 2008, KAPE met with APC to discuss the necessity of promoting energy labels. APC decided to join KAPE promotional and information projects.
- CECED Poland, which is a member of the European Committee of Manufacturers of Domestic Equipment that cooperated in the stakeholders' meeting in April 2008.

The report made the institutions aware of the necessity of controlling and promoting the labelling system.

Romania

An important impact of increasing the market introduction of energy-efficient appliances is the activities concerning the monitoring of retailers and importers of appliances related to the implementation of the label system, including support to increase the number of shop visits. The Romanian legislation, valid since 2001, sets the main requirements in terms of labelling and standardization of energy efficiency, including the appliance labelling shop controls.

The authorities in charge of implementing the legislation regarding labelling and standard product information (labels in the shops, (product) fiche, technical documentation, accuracy of information, any tests of the appliances, etc.) are ARCE and ANPC.

ARCE and ANPC have their own legislation that establishes the rules for the control objective; location of the control actions; staff of the control team; personal attributions; and documents: mandate, thematic, report, address notification, registry of findings, etc.

By an annual thematic program begun in 2002, control actions in shops at the level of retailers, importers and manufacturers have been undertaken.

In the last five years, the results of the control activities show that the amount of compliance with the requirements of the labelling energy legislation increased, and informing consumers about the performance of appliances when they buy one is a criteria for achievement for all electric household appliances.

8. Conclusions (experience with national implementation) and recommendations (for individual countries in and outside EU and for Europe)

Conclusions

The main aims of this project have been to:

- Increase expertise and experience regarding verification and enforcement, and market introduction aspects in the participating countries;
- Strengthen relationships among all involved (national and international) stakeholders and create mechanisms for collaborative verification and consumer / retailer education activities; and
- Start up national actions to improve energy efficiency policy implementation and advance appliance energy efficiency, in collaboration with stakeholders – primarily related to verification and enforcement issues, and informing the market about energy labels, minimum energy efficiency standards and negotiated agreements.

It can be observed that the situation in the participating countries (Bulgaria, the Czech Republic, Lithuania, Poland, Romania, and the Slovak Republic) for each of these objectives has changed as follows:

Increased expertise and experience regarding verification and enforcement, and market introduction aspects in the participating countries

All participating countries have established productive contacts with the main government and market stakeholders. Throughout the project duration, a number of workshops and meetings were organised to increase local knowledge and understanding about verification and enforcement, the principles and best international practices of introducing standards and labels to the market, as well as general aspects of the EU directives. The overall outcome of these efforts will only be observed and assessed in the years after completion of the project; however, some concrete examples of positive impacts that are already taking place can be observed, including:

- Appliance labelling and its potential contribution to residential energy efficiency have been included in proposals discussed by the Czech, Lithuanian and Romanian governments in the framework of their National Energy Efficiency Action Plans, as prepared in response to the European directive on energy end-use efficiency and energy services.
- An evaluation of the national legislation in Lithuania, performed for this project, revealed deviations from the EU labelling framework directive and some inaccuracies in the Lithuanian legislation were fixed. In addition the project supported the development of a verification procedure for retailers, which was later tested during joint visits with inspectors from the state non-food inspectorate.

It can be concluded that this project has resulted in a substantial increase in the understanding of government and market parties about the requirements and also the benefits of EU energy standards and labels for appliances.

Strengthened relationships among all involved (national and international) stakeholders and created mechanisms for collaborative verification and consumer / retailer education activities

Project partners in all countries have initiated a number of discussions with institutional and market stakeholders with the aim of establishing sustainable mechanisms for continuous consumer / retailer education about the benefits of appliance labelling. Some of these efforts have resulted in successful illustrations of possible collaborative actions:

- A training programme for retailers was developed in the Czech Republic, in cooperation with the local office of the CECED (the appliance manufacturers‘ trade association). Presentation materials, including a brochure, poster and CD-ROM, were produced to inform retailers about the importance and advantages of using energy labels. These materials have consequently been used during

retailer trainings all around the country. Further, a specific guide on how to inform consumers visiting Internet shops was prepared and distributed to all major Internet retailers in the Czech Republic. This summarised the legal information requirements as well as the marketing advantages for retailers of correctly including energy label information.

- Cooperative activities were planned in Bulgaria, with the ongoing UNDP/GEF project "Building local capacity for promoting energy efficiency in public and private buildings in Bulgaria." The municipal energy efficiency information desks, which were established under this project, are being used as important local points to promote appliance energy efficiency labelling. CEECAP national promotional materials as well as other relevant energy-efficiency standards and labels information are being distributed to local citizens and households via those information points.

Relations among stakeholders have been strengthened and appliance energy efficiency is now on the agenda in day-to-day business operations in some countries. Collaborative mechanisms for consumer and retailer education have been established in a few countries, and the lack of ongoing verification activities remains a concern for most of the countries.

Started up national actions to improve energy efficiency policy implementation and advance appliance energy efficiency, in collaboration with stakeholders, and primarily related to verification and enforcement issues, and inform the market about energy labels, minimum energy efficiency standards and negotiated agreements.

Following the preparation of the national verification and market introduction plans, a number of activities took place in all participating countries including checks on label presence in retail outlets, printing and dissemination of promotional materials for consumers, and presentations at workshops, seminars and conferences. Results of the retailer checks were discussed in all countries with the government institutions responsible for verification and enforcement, and corrective actions were planned where necessary. An increasing interest in energy-efficient appliances has been observed in the media in Poland and the Czech Republic, and the project has established a good relationship with journalists, providing them regularly with information on appliance standards and labels topics. The main achievements are:

- In the Czech Republic, the project collaborated with the Prague energy utility for the distribution of consumer leaflets to over half a million of its residential clients within the City of Prague. Information about energy-efficiency labels was included on the website of the utility and appliance efficiency information was provided by the utility's information centre.
- The retailer compliance checking procedure developed in this project was implemented by Romanian authorities, and also shops were controlled within the project in the Czech Republic and Poland. The results in Romania indicated a significant decrease in shops not complying with energy label requirements: from 64% non-compliance in 2004, to 39% in 2006 and further decreasing to 18% in 2007.

Activities to inform the market about labels and standards were started up in all countries, and seem to have found a home with stakeholders in some. Appliance energy efficiency, via EU standards and labels, has also found its way into national policy in some countries. A structured verification programme was established in only one country for retailer compliance checks, and no country has implemented a verification programme for checking energy performance declarations or classifications.

Recommendations for countries aiming to improve the implementation of energy labels

The results of this project clearly demonstrate that it is possible in every country to establish successful mechanisms for the promotion of energy-efficient appliances using EU standards and labels. The joint promotion of efficient appliances with utilities and the education of retailers jointly with manufacturers have proven to be a formula for success. The project has also demonstrated that countries can, within just a few years, improve compliance with energy labelling requirements in shops if they design and implement a programme for this. Verification of energy performance decla-

rations or label classes remains a point of concern though – no country in this project has yet developed a functioning approach for that.

Countries aiming to improve the implementation of energy labels should pay attention to:

- Providing more information about energy labelling of appliances to the public and to market parties;
- Contacting and helping the retailers to make sure that they are sufficiently aware of their obligations to put labels on appliances;
- Providing training for shop owners and sales assistants, and repeating this over time; and
- Preparing promotional materials for the general public, in collaboration with utilities and manufacturers of products.

Recommendations for the EU to improve compliance checking of appliance energy standards and labels

During this project, it became clear that there are systemic weaknesses in the EU framework for checking compliance of the energy performance of products. These were explored in a joint paper with the EnR Working Group on Energy Labelling and Ecodesign (*Experiences with verification and enforcement of the EU Energy Label*, F. Klinckenberg and H.P. Siderius, April 2008). The paper identifies possible improvements in the verification system:

- Improved availability and quality of test facilities: Countries should secure access to qualified test laboratories, in their own countries or abroad;
- Information about the basis for energy performance declarations: Suppliers should provide information about the basis for the claimed energy performance of products;
- Reduced complexity of verification procedure and allowed tolerances: the verification procedure should be simplified and allowed tolerances reduced as test procedures and test laboratories improve; and
- More testing and sharing information among enforcement authorities: More countries, ideally all EU member states, should perform check tests.

The paper concludes that changes are needed in the verification system for EU labels and standards, to make it more effective and efficient. It is apparent, however, that individual member states have the largest accountability, and should take up their responsibility to check compliance and enforce if needed.

9. References and a list of deliverables

The following project outputs are free for download from the project website:
http://www.ceecap.org/cntnt/ceecap/results

Deliverable name	Downloadable language versions	Target group	Description
Training program for national government officials and experts	Bulgarian, Czech, English, Polish, Romanian, Slovak	Government officials	Introductory publication regarding the proper implementation of energy labelling of appliances for state officials
Training program for retailers and manufacturers	Bulgarian, English, Polish	Retailers and manufacturers	Introductory publication regarding the proper usage and promotion of energy labels for appliance retailers and manufacturers
Verification and enforcement workshop or individual consultations	Bulgarian, Czech, Lithuanian, Polish, Romanian	Decision-makers on the legislation and its control	List of seminars and notes from individual consultations held with target group representatives to foster the importance of appliance labelling within state enforcement activities
Market introduction workshop or individual consultations for manufacturers and/ or retailers of each labelled appliance type	Bulgarian, Czech, English, Lithuanian, Polish, Romanian	Decision-makers among manufacturers and retailers	List of seminars and notes from individual consultations held with target group representatives to foster the importance of appliance labelling within the distribution channels
Summary of national compliance and government activities	Bulgarian, Czech, Lithuanian, Polish, Romanian, Slovak	Decision-makers – state officials, European Commission	Review of the national legislation related to appliance labelling and a description of the main issues at stake
National verification and enforcement plan	Bulgarian, Czech, English, Lithuanian, Polish, Romanian	State officials	A set of national plans listing the most needed activities for the proper enforcement of appliance labels
Implementation of national verification and enforcement plan	English	State officials	Summary of activities implemented on the national level with state officials and government institutions
National market introduction plan	Bulgarian, Czech, English, Lithuanian, Polish, Romanian	Retailers and manufacturers	A set of national plans listing the most needed activities for the proper usage and promotion of appliance labels
Implementation of national market introduction plan	English	Retailers and manufacturers	Summary of activities implemented on the national level with appliance retailers and manufacturers
National promotion material	Bulgarian, Czech, Lithuanian, Polish, Romanian	Consumer public	Public dissemination materials distributed to households

Conference and seminar presentation

– Presentations related to the project activities and appliance labelling in Central and Eastern Europe made publicly at national and international conferences and events.

1. **EEDAL Conference, 21–23 June 2006, London, UK**, English (England)

2. **CEECAP seminar Valbonne, France, 14 September 2006**, English (France)

3. **Energy in Buildings – EU Energy Efficiency Action Plan, Prague, Czech Republic, 14. February 2007**, Czech

4. **ECO-Labelling – Ministry of Envinronment and Water Management, Bucuresti, Romania, 18. September 2006**, Romanian

5. **IEA Proposal for new Implementing Agreement: Deployment of Efficient Electrical End-Use Equipment and Appliances, Paris, France, 9. March 2007**, English (France)

6. **„Intelligent Energy – Europe" Programme Infoday conference, Warsaw, Poland, 9. May 2007**, Polish

7. **National Action Plan On Energy Efficiency – stretegic document on promotion energy efficiency, Chamber of Commerce and Industry of Bucharest Municipality Bucharest, Romania, September 27, 2007**, English (Romania)

8. **4th Energy Power System Operators and Energy and Fuel Customers Forum – Energy Efficiency Measures Implementation in Warsaw, Warsaw, Poland, 16. October 2007**, Polish

9. **Twinning Energy Efficiency Projects, Ankara, Turkey, 6-7 November 2007**, English (Turkey)

10. **Experience of Implementing the EU Legislation on Energy Efficiency Requirements of Households Electrical Refrigerators – Kiev, Ukraine, October 2007**, English (Ukraine)

11. **Impact of energy labeling of household appliances on energy saving in residential sector – National conference „ Science and Industry ‚Energy and Technologies, Kaunas, Lithuania, February 1, 2008**, Lithuanian

12. **Awareness rising for rational use of energy in SMEs. National policy, programmes and projects - regional seminars of the Ministry of Economy and Energy of Bulgaria, 23–30 November 2008**, Bulgarian

13. **Experiences with verification and enforcement of the EU Energy Label, International Energy Agency, Paris, 28 February 2008**, English

14. **Energy label – its impact, problems and solutions, ENKO 2008, Bratislava, 3.May 2008, Slovakia**, Slovak

Overview of partners involved

SEVEn, Středisko pro efektivní využívání energie, o.p.s. – The Energy Efficiency Center

Juraj Krivošík, Americka 17, 120 00 Praha 2, **Czech Republic**, Tel.: +420 224 252 115, juraj.krivosik@svn.cz

SEVEn — The Energy Efficiency Centre was established in 1990 as a not-for-profit consultancy company. SEVEn concentrates on advisory services for business development and economically efficient energy use. Through its work it tries to overcome barriers that prevent the adequate use of economically effective energy savings in everyday life, household situations, industry, and commercial and public spheres. Its mission is to protect the environment and support economic development by encouraging the more efficient use of energy.

KAPE, Krajowa Agencja Poszanowania Energii S.A

Marta Mazurkiewicz, ul. Mokotowska 35, 00-560 Warsaw, **Poland,** Tel.: +48 22 696 8956, mmazurkiewicz@kape.gov.pl

The Polish National Energy Conservation Agency was established in 1994. Its main activities, in the area of sustainable energy policy, are geared toward energy management rationalization and at the same time following the rules of environmental protection. KAPE initiates undertakings related to energy production, transfer and consumption rationalization. It carries out educational, consultancy, expert and training activities. KAPE is involved in a number of international programmes, mainly of European Union origin (i.e., "Intelligent Energy – Europe," 7th Framework R&D Programme), and bilateral projects arising from international agreements signed by Poland (i.e., Poland – Japan Energy Conservation Technology Centre Project).

ARCE, Romanian Agency for Energy Conservation

Cristiana Călugăr, 16, Blvd. Nikolae Balcescu, sector 1, RO-010052 Bucharest 37, **Romania,** Tel.: +4021 314 5929, calugar@arceonline.ro

The Romanian Agency for Energy Conservation is the specialized body at the national level in the field of energy efficiency, with legal personality, and operational, organisational and financial autonomy, in subordination of the Ministry of Economy and Commerce, with funding from its own income and subsidies granted from the state budget. The Romanian Agency for Energy Conservation was established by means of a governmental resolution in 1990.

Center for Energy Efficiency EnEffect

Peter Todorov, 1, Hristo Smirnensky Blvd., Floor 3, 1164 Sofia, **Bulgaria,** Tel: (+359 2) 963 1714; 963 0723; Fax: (+359 2) 963 2574, ptodorov@eneffect.bg

Center for Energy Efficiency EnEffect was established in 1992 in Bulgaria as a non-governmental, non-for-profit organisation to support the efforts of central, regional and local authorities in the sustainable development of the country through the more effective use of energy. The major expertise and activities are related to the support of energy policy reform (development of energy efficiency programmes and studies on overcoming legal and financial barriers to energy efficiency projects); support of energy efficiency investments (energy audits, business planning, and investment proposals and projects); and capacity building (targeted training, networking, and dissemination of information). See more at www.eneffect.bg.

LEI, Lithuanian Energy Institute

Romualdas Skema, 3 Breslaujos str., LT-44403 Kaunas, **Lithuania**, Tel.: +370 37 401 802, skema@mail.let.lt

Lithuanian Energy Institute (LEI) is the main research and consultancy organisation in Lithuania. The institute started its activities in 1956. At the end of 2007, the Lithuanian Energy Institute had a permanent staff of 300, including 91 with doctorate degrees. In 2003, the government of Lithuania approved the main research programmes for the next five years in the energy efficiency field, in close relation to the needs of the energy sector and environment protection. The programmes included formation of energy efficiency policy that is sensitive to the Lithuanian economy, the environmental impacts of the energy sector, etc. LEI has been working for years on a large number of international projects (PHARE, SAVE, ALTERNER, COOPENER, 5-th Framework Programme, 6-th Framework Programme, Intelligent Energy – Europe Programme and others). The institute is the national contact member of Motor Challenge, Green Light and other programmes, and works in close cooperation with the European Commission DG JRC (Institute for Environment and Sustainability, Renewable Energies, Ispra, Italy) on energy efficiency programmes in the new EU member states.

ADEME – Agence de l'Environnement et de la Maîtrise de l'Energie

Robert Angioletti, Centre de Sophia Antipolis, 500 route des Lucioles, 80560 Valbonne, **France,** Tel.: +33 4 9395 7931, robert.angioletti@ademe.fr

Ademe is an industrial and commercial public agency under the joint supervision of the French Ministries for Ecology, Sustainable Development and Spatial Planning (MEDAD) and for Higher Education and Research. Its mission is encouraging, supervising, coordinating, facilitating and undertaking operations with the aim of protecting the environment and managing energy.

Austrian Energy Agency, Österreichische Energieagentur

Thomas Bogner, Otto-Bauer-Gasse 6, A-1060 Vienna, **Austria**, Tel.: +43 1 586 152460, thomas.bogner@energyagency.at

The Austrian Energy Agency is the principal partner of the federal government in its effort to attain its energy policy objectives, which mainly include the macro-economically efficient production and rational use of energy, including stimulating renewable energy sources and innovative technologies. The Austrian Energy Agency acts, for all of its members, as a clearinghouse and coordination platform for all associated national and international activities. The overall mandate of the Austrian Energy Agency is to make „energy savings" an energy source that can successfully compete with conventional sources of energy, and to advocate boundary conditions under which market forces can act in favour of renewables and improved energy efficiency.

Klinckenberg Consultants

Frank Klinckenberg, Humcoverstraat 100, NL-6231 JR Meerssen, **The Netherlands**, Tel.: +31 43 3656300, Klinckenberg@Klinckenberg.net

Klinckenberg Consultants specialises in providing targeted policy advice to governments and businesses. The company's professional expertise encompasses creation and evaluation of strategies and policies related to technology development and consumer products, with a special focus on economic processes and sustainable development. A key element of the Klinckenberg Consultants' philosophy is that policy advice can only be interactive. Effective strategies and projects are created in a dialogue between a customer and an advisor, between government and private sector stakeholders, as well as between end-users and technology suppliers. This dialogue is substantiated through Klinckenberg Consultants' own approach that is founded on modelling and maintaining a creative interaction with all parties involved in the policy design cycle, from problem definition through defining conditions and solutions to policy advice. This enables an engaged process with all parties working towards a tangible action with measurable results.

Energy

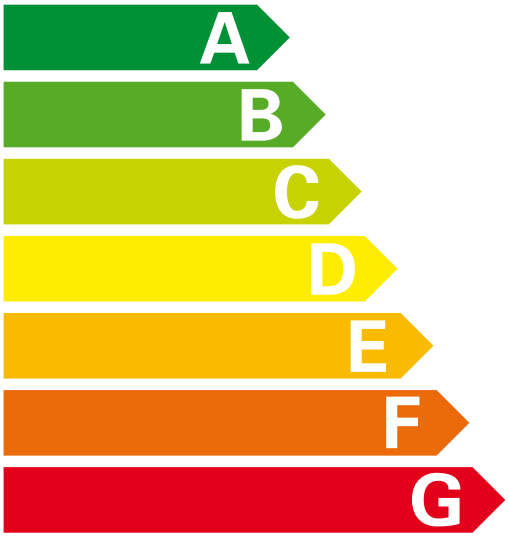
Dishwasher

Manufacturer

Model

LOGO
ABC
123

More efficient



Less efficient

B

Energy Consumtion kWh/cycle

(based on tehe test result for manufacturer's standard cycle using cold fill)

X.YZ

Actual consumtion will depend on how the appliance is used

Cleaning Performance
A: higher G: lower

A B **C** D E F G

Drying Performance
A: higher G: lower

A B C **D** E F G

Standard Place Settings YZ

Water Consumtion l/cycle YX

Noise XY

(dB(A) re 1 pW)

Further information is contained in product brochures

Norm EN 50242
Dishwasher label Directive 97/17/CE

Overview of partners involved

SEVEn
The Energy Efficiency Center

Czech Republic
www.svn.cz

KAPE
Krajowa Agencja
Poszanowania Energii S.A

Poland
www.kape.gov.pl

ARCE
Romanian Agency for Energy Conservation

Romania
www.arceonline.ro

Center for Energy Efficiency
EnEffect

Bulgaria
www.eneffect.bg

LEI
Lithuanian Energy Institute

Lithuania
www.let.lt

Austrian Energy Agency,
Österreichische Energieagentur

Austria
www.energyagency.at

ADEME
– Agence de l'Environnement et de la Maîtrise de l'Energie

France
www.ademe.fr

Klinckenberg Consultants

The Netherlands

The CEECAP project is coordinated by:
SEVEn, The Energy Efficiency Center, Czech Republic