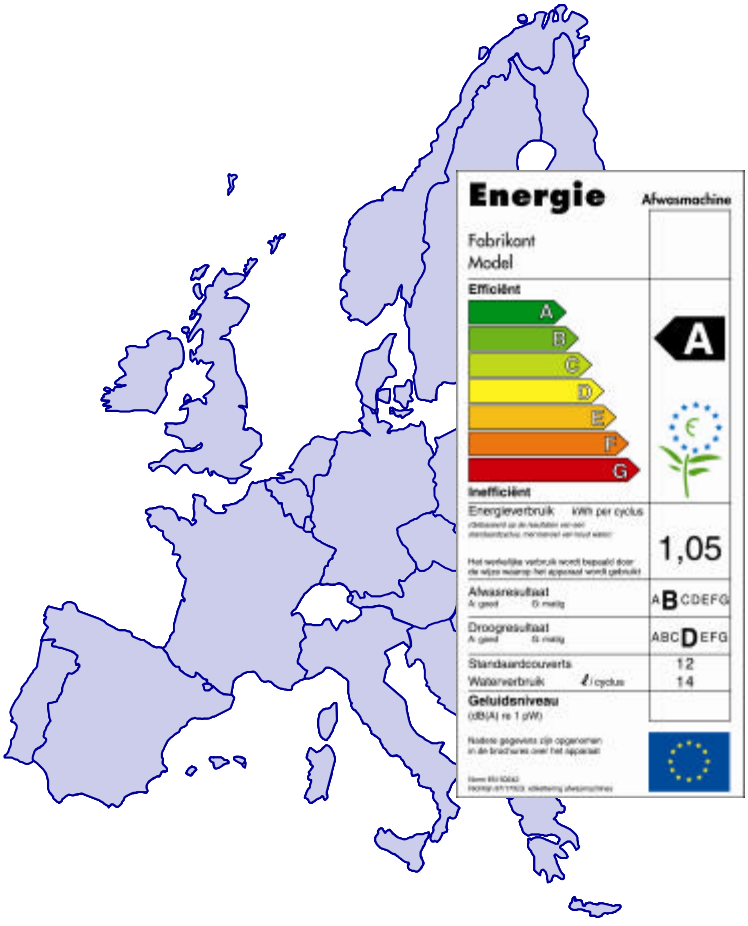
CLIMATE TECHNOLOGY INITIATIVE

Energy Efficient Appliances Early Adoption Project



Report on Implementing EU Appliance Energy Efficiency Policy in Central and Eastern European Countries

November 2002

Energy Efficient Appliances Early Adoption Project

Acknowledgements

This report has been made possible thanks to the valuable input of the following organisations:

- Center for Energy Efficiency EnEffect (Bulgaria),
- Energy Institute Hrvoje Požar (Croatia),
- Lithuanian Energy Institute (Lithuania),
- Polish National Energy Conservation Agency (Poland),
- Romanian Energy Policy Association (Romania) and
- Slovak Energy Agency (Slovak Republic).

The CTI Secretariat wishes also to acknowledge the support of the German Energy Agency (dena) and International Energy Agency (IEA) and involvement of the Netherlands Agency for Energy and the Environment.

The CTI Secretariat thanks Klinckenberg Consultants for their work and advice throughout the project.

Foreword

The Climate Technology Initiative (CTI) helps strengthen the capacity of developing countries and economies in transition to employ environmentally - sound technologies and practices. CTI accomplishes this primarily by acting as a facilitator between governments, industry, NGOs and other stakeholders. CTI was launched at the First Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) in March 1995. Twenty-three OECD countries and the European Commission created it to help meet their commitment to technology transfer under Article 4.5 of the Convention.

The CTI's core values are to assist developing countries and economies in transition to accelerate the diffusion of climate-friendly technologies and practices, concentrate on activities where CTI can make positive and lasting change in patterns of technology diffusion and collaborate closely with developing and transition countries.

The CTI has identified appliance standards and labels to be an effective low-cost policy tool for reducing household energy demand and CO_2 emissions. To follow-up with needs identified through a dedicated questionnaire, the CTI Secretariat along with other stakeholders has worked closely with a consortium of European experts and other partners to initiate the current project.

Appliance and equipment energy efficiency is a key action in the European Kyoto-policy and subject to many directives, plans and programmes.

Implementation of the Acquis Communautaire and other policy and participation in the plans and programmes will create a foundation for energy conservation in Central and Eastern European countries, resulting in reduced CO_2 emissions.

Furthermore, once the relevant policies are in place in the countries concerned, this will prevent in the future the transfer of outdated technologies and will lead to the desired upgrade of equipment.

The project constitutes capacity building activities as called for in Article 4.5 of the UN Framework Convention on Climate Change and later reinforced by signatories to the Kyoto Protocol.

Summary

This report gives a summary overview of the status quo in Appliance Energy Efficiency Policy in six Central and Eastern European Countries (CEEC): Lithuania, Poland, Slovakia, Croatia, Bulgaria and Romania. Additionally, this report gives a short overview of historical and recent developments in EU appliance energy efficiency policy, as a basis for assessing the progress made in CEEC.

EU appliance energy efficiency policy has a history of approximately 25 years, originating from the EU trade harmonisation objectives. In the late 1980s, some EU member states wished to introduce mandatory appliance labelling. This led to a mandatory EU policy, laid down in the 1992 Energy Labelling Framework Directive (92/75/EEC).

Appliance energy efficiency policy in Central and Eastern European Countries (CEEC) has started to take off some years ago, and a lot of progress has been made in recent years. The background for this project is that all countries participating in the CTI Appliance Energy Efficiency – Early Adoption Project, except Croatia, are EU candidate countries who need to comply with EU Acquis upon EU accession. All countries, however, would benefit from early adoption of the EU energy efficiency regulation through reduced energy consumption, lowered energy bills and less CO_2emissions.

In a condensed form, the status quo in national appliance energy efficiency policy is characterised by the following issues:

- All involved countries have created a suitable policy framework for the implementation of appliance energy efficiency policy, all in their own way. A large number of organisations is involved in the implementation of energy labelling.
- Appliance labelling is sometimes picking up, but the share of labelled appliances and the retailer and consumer interest in purchasing efficient appliances doesn't seem to be at the desired level yet. Especially insufficient consumer awareness, low incomes and inadequate testing and enforcement infrastructures are reported as barriers to a well functioning appliance labelling.
- Household possession of appliances varies significantly between countries, particularly with regard to relatively new appliances such as dish washers and ICT equipment.
- Most countries have transposed the pre-2002 EU energy labelling directives or are planning to do so shortly. Two new energy labelling directives, issued in 2002, have not been transposed yet, but two countries have planned to transpose these shortly as well.
- Many countries have some experience with EU energy efficiency programmes, especially SAVE and Phare. Only a few countries have some (limited) experience with the EU policy making process.

National priorities are the basis for any action related to the introduction of a new policy and further to the implementation efforts. These national priorities are very diversified, though most countries indicate priorities for policies regarding white goods, with energy labelling and minimum energy performance standards and public and retail information campaigns being the preferred policy options.

A comparison of policy implementation in CEEC with lessons learned from the previous implementation in EU member states shows that:

- All countries seem to have passed or are in the process of passing legislation to transpose EU energy efficiency legislation. Complete transposition of the EU Energy Labelling Acquis may require a closer look though: The Acquis specify in a great detail what countries should do and shouldn't do in the implementation of energy labelling. Some research indicates that transposition and implementation may be incomplete on some details.
- Assigning responsibilities for compliance monitoring and enforcement, and the actual pursuit of these actions, seems to be in an initial state. It remains unclear if appropriate responsibilities for compliance monitoring and enforcement have been assigned to the appropriate government services or agencies.
- Consumer and retailer information campaigns need to start in most countries. It is yet unclear if specific retailer information is included in the campaigns that have started now or are planned to do so soon.

Based on the information compiled in this report, a proposal for action would need to target legal issues, market issues and policy issues, with specific activities in each of these groups.

Introduction

This report gives a summary overview of the status quo in Appliance Energy Efficiency Policy in six Central and Eastern European Countries (CEEC): Lithuania, Poland, Slovakia, Croatia, Bulgaria and Romania. The information presented is taken from country questionnaires, which were completed by country representatives (government and/or national energy agency) during the summer of 2002. Full reports of the completed questionnaire are annexed to this report.

Additionally, this report gives a short overview of historical and recent developments in EU appliance energy efficiency policy, as a basis for assessing the progress made in CEEC. This overview is compiled as a quick introduction in the relevant EU policy, and isn't a complete overview. The reader is advised to broaden his or her perspective by further reading on this matter, as suggested in the section 'additional information'.

This report is prepared as documentation for the CTI Central & Eastern European Country Workshop on the Appliance Energy Efficiency – Early Adoption Project on 15 - 16 November in Berlin.

EU Policy Overview

EU appliance energy efficiency policy has a history of approximately 25 years, originating from the EU trade harmonisation objectives. The EU involvement with appliance energy efficiency stemmed from member state initiatives to introduce voluntary appliance labelling in the mid-1970s. At that point, it was concluded that a harmonised approach was preferable to minimise barriers to trade while maximising the impact of the policy. This procedure was repeated in the late 1980s, when some EU member states wished to let this policy evolve into mandatory appliance labelling. This led to a mandatory EU policy, laid down in the 1992 Energy Labelling Framework Directive (92/75/EEC).

History of EU Appliance Energy Efficiency Policy

This section is an extract from the IEA-book: Energy Labels & Standards

Information Labels

Though appliance labels were used in several European countries as early as the mid-1970s, widespread use began only in the 1990s with the implementation of the European Union programme.

France enacted a law allowing the government to develop mandatory labelling of energy consumption information on every “energy consuming apparatus” in 1974, and introduced compulsory labelling of energy consumption for all heating units, boilers, refrigerators, washing machines, televisions, ranges and ventilation equipment in 1976.The legislation obliged the manufacturers to provide the label but did not require retailers to display it, so the label was generally only seen when the consumer opened the appliance packaging after the purchase. (Waide, 1995) Moreover, there were no rigorous efforts to enforce the regulations. (Wilson, 1989)

West Germany held discussions on a system of product information to promote energy efficiency and assist consumer purchasing decisions in the 1970s, and formed the German Society of Product Improvement (DGPI) to design and implement a suitable system of energy efficiency labelling in 1978. (Waide, 1995) In 1980, manufacturers agreed to an informal voluntary agreement to label refrigerators, dishwashers, and electric and gas ovens (Wilson, 1989). The labelling scheme, which applied only to products manufactured domestically, not to imports, was supplemented by the testing and

This section starts with a text from the IEA-book Energy Labels & Standards (OECD / IEA, 2000), which gives a good overview of the history of and the reasons for EU appliance energy efficiency policy. The second paragraph describes recent developments in EU appliance energy efficiency policy, and lists the relevant directives. The third section gives a brief overview of policy making in the EU regarding appliance energy efficiency, followed by a fourth paragraph describing lessons learned in the implementation of EU energy labelling. This section is concluded by a listing of documents for further reading.

reporting of appliance efficiency data by an independent foundation, Stiftung Warentest (IEA, 1989).

Denmark passed the "Indication by Labelling of Energy Conservation Act" in 1982, but by 1989 had only adopted labels for ovens.

Interest in appliance labels at the European Union (EU) level began in May 1976, when the Council of Ministers issued a recommendation to Member States to introduce energy efficiency labelling schemes, following a single EU-wide approach, for certain electrical household appliances (GWA, 1991). Soon afterwards, the EU's Rational Use of Energy Programme initiated studies on appliance energy labelling, and CENELEC was charged with the development of testing methods. These efforts led to the 1979 Directive 79/530/EEC on the "indication by labelling of the energy consumption of household appliances," a framework directive setting out the general requirements for appliance energy labelling within Member States. The specific labelling requirements for each type of appliance were to be laid out in separate, forthcoming, implementing directives. However, only one such implementing directive — 79/531/EEC, for electric ovens — was ever issued. That more implementation directives were never forthcoming appears to have been caused by a mixture of apathy, technical disagreements, and opposition from individual countries (Waide, 1995).

The 1979 framework directive gave Member States the option of issuing their own compulsory labelling schemes, but required national schemes to follow the format prescribed in any of the associated implementing directives. It rendered existing national schemes, such as the French one, potentially illegal because they did not conform to the specifications of the framework directive. It also discouraged the drafting of new national schemes because they might contravene future implementation directives.

Denmark's decision to implement a mandatory energy labelling scheme for household appliances in 1990 broke the deadlock of inaction between the European Commission and the Member States. When, as required by law, Denmark notified the Commission of its intention to implement its scheme, the Commission was obligated to decide whether the scheme was consistent with EU rules. Such a decision involves investigating whether the proposed scheme presents an obstacle to free trade between Member States and also whether implementation on a EU-wide scale make sense. Accordingly, the Commission requested that Denmark defer its legislation for a year during which time the Commission proposed to issue a draft Directive for a harmonised Community-wide mandatory labelling scheme. The revised framework directive (92/75/EEC) for mandatory energy labelling of household appliances was agreed in 1992. The new directive cancelled the 1979 framework directive (79/530/EEC), and took into its own purview the existing implementing directive (79/531/EEC) on electric ovens. To date, six implementing directives have been issued under the 1992 framework. The labelling requirements only become mandatory in Member States when the governments have transposed the directives into national law.

It is the responsibility of each individual Member State to translate directives into law, take all necessary measures to ensure that all suppliers and dealers in their territory fulfil their obligations and ensure that the labelling scheme is accompanied by educational and promotional information campaigns aimed at encouraging more responsible use of energy by private customers. Initial indications are that there are great differences in the degree to which Member States enforce and support the labelling programme.

Standards

Appliance efficiency standards have been discussed in several individual Member States, but never actually implemented. EU standards for domestic gas- or oil-fired hot-water boilers were adopted in 1992 and become effective 1 January 1998. Consideration of additional standards was prompted, as in the case of labels, by a proposed unilateral action by a Member State. In January 1992, the Netherlands notified the Commission of its intention to introduce domestic minimum efficiency standards for refrigerators. The Commission reviewed the Dutch proposal and blocked it on the grounds that unilateral standards would contravene the free-trade terms of the single European market (Waide, 1997). To help develop its required counter proposal, the Commission hired a consortium of national energy and environmental agencies, later known as the Group for Efficient Appliances (GEA), to conduct an analysis and make recommendations on appropriate standards levels. Based on this analysis, the Commission issued a proposed directive on refrigerator efficiency standards in November 1994.The proposed directive was debated and revised by the European Parliament and the Council of Ministers, and Directive 96/57/EC on

regulatory standards for refrigerators was approved on 3 September 1996, and took effect 3 September 1999.The standards exclude the majority of D, E, F and G class refrigerators from sale.

In June 1999, the Commission sent to the Parliament and Council a proposal for mandatory energy efficiency standards for fluorescent lighting ballasts. There have been studies and technical proposals for EU standards on other products, namely clothes washers and dryers, but none have been enacted.

Unlike the labelling situation, there is no framework legislation giving the Commission or other competent body the authority to introduce or revise efficiency standards on an on-going basis. Instead, for mandatory minimum energy efficiency standards to be passed it is necessary to seek separate approval on an appliance-by- appliance basis from the Council and the Parliament. In the future, the Commission intends to focus on negotiating voluntary agreements before developing additional regulatory standards (IEA 1994) (Waide, 1997).

Negotiated Agreements

There have also been attempts to improve appliance efficiencies in a non-regulatory manner. In January 1980, the German Federal Ministry of Economic Affairs reached an agreement with appliance manufacturers to improve the efficiency of specific energy-intensive products by up to 20 per cent by 1985 (IEA, 1989). The appliance efficiency goals were twice increased voluntarily by the appliance industry, in order to pre-empt government regulation.

In August 1994, Denmark notified the European Commission that it intended to establish domestic standards for energy efficiency standards of clothes washers and dishwashers (Turiel, 1995). The Commission rejected the proposal on some technical points, the principal one being that the standards were defined in terms of an outdated energy test protocol (Waide, 1997).The Commission had already contracted members of the GEA to conduct analysis of wet appliances (Waide, 1997). The GEA study was completed in June 1995, and the Commission used the results to pursue voluntary agreements with the European Federation of Domestic Appliance Manufacturers (CECED) to improve the energy efficiency of washing machines and dishwashers.

The CECED voluntary agreement on clothes washers, announced in October 1997, seeks to improve the European average consumption of new models by 20 per cent (in relation to the new models of 1994) by the end of 2000. It allows for sales of higher consumption machines in Southern countries to be offset by the marketing of more efficient appliances in the Northern countries. The first stage phased out clothes washers in the label classes G, F, and E by the end of 1997; the second stage seeks to phase out machines in class D having spin speeds greater than 600 rpm or capacities greater than 3 Kg by the end of 2000. In addition, the agreement contains some “soft targets” relating to certain features that may only be appropriate for certain groups of customers or regions, or which present particular marketing problems (Bertoldi, 1997) (Meli, 1997).

The European Commission is pursuing energy efficiency improvements on other appliances as well. Agreements have also been negotiated with European Association of Consumer Electronics Manufacturers (EACEM) to cut the power consumption of televisions, videocassette recorders and audio equipment when they are in standby mode (EWWE, 17 Oct 97).The Commission is continuing to pursue negotiated agreements on dishwashers, domestic electric storage water heaters, electric motors, external power supplies and set top boxes (Bertoldi, 1999) (Meli, 1999).

Please refer to the full text of the IEA-book ‘Energy Labels & Standards’ for references

Recent developments in EU Appliance Energy Efficiency Policy

Since 1992, the EU has progressively introduced energy efficiency policy for appliances, as described in the preceding section. In 2002, two more implementing directives, on energy labelling of household air conditioners and of electric ovens, were added. Furthermore, the EU has reached a (yet unofficial) agreement on the update of the first EU energy label: cold appliances (refrigerators & freezers). Two extra classes will be added to the top-end of this label, indicated by the addition of a ‘+’ or ‘++’ to the A-arrow indicating that an appliance fulfils the requirements of the A-class of directive 94/2/EC. The formal directive is soon expected, with a transition period until end 2003.

The following overview lists the EU energy efficiency Acquis in force and in different stages of preparation or consideration.

Acquis in force

- Council Directive 92/75/EEC of 22 September 1992 on the indication by labelling and standard product information of the consumption of energy and other resources by household appliances ('Energy labelling framework directive') and related implementing directives:
  - Commission Directive 94/2/EC of 21 January 1994 implementing Council Directive 92/75/EEC with regard to energy labelling of household electric refrigerators, freezers and their combinations
  - Commission Directive 95/12/EC of 23 May 1995 implementing Council Directive 92/75/EEC with regard to energy labelling of household washing machines, amended by Commission Directive 96/89/EC of 17 December 1996
  - Commission Directive 95/13/EC of 23 May 1995 implementing Council Directive 92/75/EEC with regard to energy labelling of household electric tumble driers
  - Commission Directive 96/60/EC of 19 September 1996 implementing Council Directive 92/75/EEC with regard to energy labelling of household combined washer-driers
  - Commission Directive 97/17/EC of 16 April 1997 implementing Council Directive 92/75/EEC with regard to energy labelling of household dishwashers, amended by Commission Directive 1999/9/EC of 26 February 1999
  - Commission Directive 98/11/EC of 27 January 1998 implementing Council Directive 92/75/EEC with regard to energy labelling of household lamps
  - Commission Directive 2002/31/EC of 22 March 2002 implementing Council Directive 92/75/EEC with regard to energy labelling of household air-conditioners
  - Commission Directive 2002/40/EC of 8 May 2002 implementing Council Directive 92/75/EEC with regard to energy labelling of household electric ovens

The framework directive provides a legal structure for the energy labelling of domestic appliances, requiring manufacturers and retailers to attach a label, indicating the energy performance, to the appliance when displayed for sale. The implementing directives describe what the indication should be for a specific appliance, given an energy consumption measured following a specified European test standard. These directives require EU member states to transpose the legal text into national law and have no legally binding meaning for citizens or companies.

- Council Directive 93/76/EEC of 13 September 1993 To Limit Carbon Dioxide Emissions by Improving Energy Efficiency (SAVE) and the upcoming revised directive;

This directive obliges EU member states to take appropriate actions to limit CO2 emissions from building operation. The directive includes an obligation to take (unspecified) action regarding the energy certification of buildings, the billing of heating, air-conditioning and hot water costs on the basis of actual consumption, third-party financing for energy efficiency investments in the public sector, thermal insulation of new buildings, regular inspection of boilers, and energy audits of undertakings with high energy consumption, as well as an obligation to report on the progress of implementation to the European Commission.

- Directive 96/57/EC of the European Parliament and of the Council of 3 September 1996 on energy efficiency requirements for household electric refrigerators, freezers and combinations thereof.
- Directive 2000/55/EC of the European Parliament and of the Council of 18 September 2000 on energy efficiency requirements for ballasts for fluorescent lighting.

These directives prohibit the sales of household refrigerators and freezers and ballasts that fail to meet a certain energy efficiency performance. This directive directly affects manufacturers and importers of appliances in the European Union and does not require transposition into national law. Enforcement of the directive, however, is an obligation of the EU member states.

- Council Directive 92/42 of 21 May 1992 on efficiency requirements for new hot-water boilers fired with liquid or gaseous fuels

This directive prohibits the sale of hot-water

boilers up to 400 kW capacity below a certain efficiency threshold. It also describes a specific labelling system (also known as the 'star rating system') to indicate boiler efficiency. The efficiency threshold in this directive is generally considered to be rather modest; the star rating system was never implemented.

Acquis in preparation

There is currently no new appliance energy efficiency legislation in formal preparation (meaning that a Commission proposal has been submitted for decision by the Council and/or European Parliament). However, a number of proposals is under discussion by the Commission and the EU member states:

- Implementing directive on energy labelling of televisions;
- Implementing directive on energy labelling of water heaters;
- Update of the implementing directive 94/2 on energy labelling of household electric refrigerators, freezers and their combinations;
- Framework directive on energy efficiency requirements for appliances (domestic and otherwise);
- Update of the framework directive 92/75 on energy labelling.

Other relevant policy

- Regulation (EC) No 2422/2001 of the European Parliament and of the Council of 6 November 2001 on a Community energy efficiency labelling programme for office equipment
- Council Decision 2001/469/EC of 14 May 2001 concerning the conclusion on behalf of the European Community of the Agreement between the Government of the United States of America and the European Community on the coordination of energy-efficient labelling programs for office equipment

These decisions regulate the application of the Energy Star mark for office equipment in the European Union. The decisions directly affect companies operating in the European Union, but implementation of the Energy Star mark is a member state's obligation.

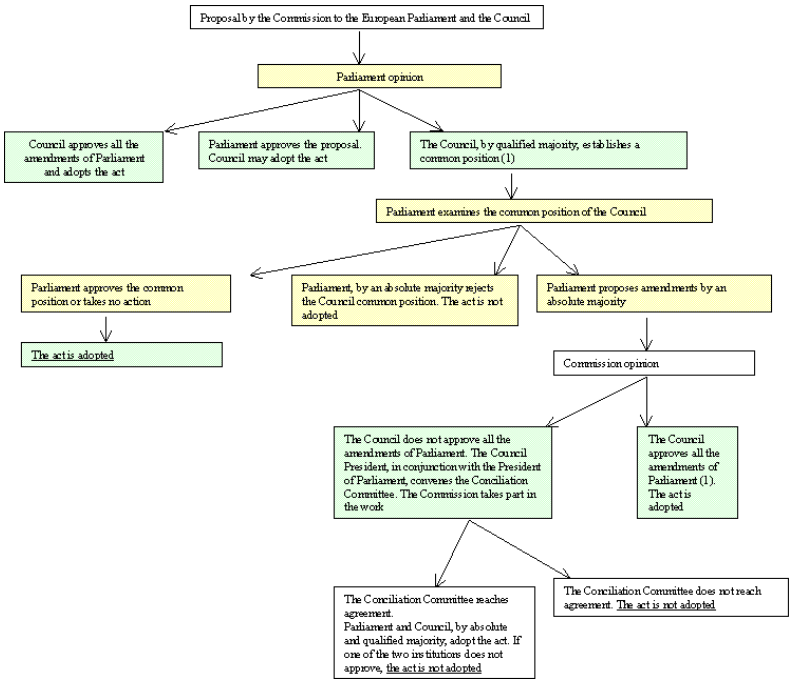
EU Policy Making for Appliance Energy Efficiency

The EU policy making process is subject to a formal procedure once a Commission proposal is finalised and submitted to the formal decision making bodies (in principle: the European Commission for energy labelling implementing directives, the European Council and Parliament for all other legislation).

This formal procedure includes:

For energy labelling implementing directives

- Presentation of a draft directive by the European Commission to a regulatory committee of member state representatives (the Energy Labelling Regulatory Committee - ELRC);
- A discussion of the directive in the ELRC and a formal vote by the member state representatives;
- If a majority of the member states in the ELRC supports the Commission proposal: decision by the European Commission to adopt the directive;
- If no majority of the member states in the ELRC supports the Commission proposal: Commission decision to withdraw the proposal or submit it for discussion in the Council and a formal vote by the member state representatives (the latter hasn't occurred, so far);



The EU Co-decision procedure (source: www.europa.eu.int)

For all other policy

- Presentation of the draft directive by the European Commission to the Council and the European parliament;
- Discussion of the directive in the European Parliament and a formal vote by the Parliament;
- Discussion of the directive in the Council and a formal vote by the member state representatives;
- The directive is adopted if both fora agree; otherwise, the process is repeated with an amended directive;

This process is formally known as co-decision. The graph provides a complete overview of the co-decision procedure.

Informal preparation of draft legislation

There is no formal procedure for the preparation of a draft directive. The European Commission has the responsibility to conduct this preparation as seen fit. There is, however, an informal practise for the preparation of appliance energy efficiency legislation. This includes the following steps:

- An analysis of the market situation in the European Union regarding a specific appliance, technical possibilities to improve energy efficiency and other relevant items. This analysis is usually prepared by a consortium of agencies and consultancies, and is funded under the SAVE programme (now Energy Framework Programme). Stakeholders (mostly industry stakeholders) may be involved in this analysis.
- The preparation of a first draft of a directive by the European Commission and the invitation of comments from: EU member states and industry, sometimes other groups like consumer organisations and test standard organisations.
- If required: the preparation of a mandate to CEN and/or CENELEC to prepare a (new or adapted) test standard.
- Sometimes: an invitation to industry associations to discuss a negotiated agreement to supplement legislation or to be agreed instead of legislation.
- The preparation by the European Commission of a (final) draft directive, which is the starting point of the formal procedure.

In practice, all important decisions regarding the design of the legislation are taken during the informal part of the procedure. Member states and industry stakeholders are frequently consulted and the European Commission secures their support before starting the formal procedure.

Lessons learned in implementing EU policy in EU member states

The implementation of EU energy efficiency policy by member states can be a complicated process, as is shown by the results of the implementation of the EU energy label for cold appliances (refrigerators & freezers, directive 94/2/EC). An evaluation, conducted by Oxford University's Environmental Change Unit (now: Environmental Change Institute) in 1997, concludes that many aspects of EU energy labelling would require more attention if the label is to work optimal. These aspects include some technical aspects of the label, member state compliance with the requirements of the directive, and retail and manufacturer compliance.

The conclusions from this evaluation regarding member state implementation are listed here. The reader is advised to consult the report for more information.

Cool labels, conclusions regarding member state energy label implementation

Implementation of the Directive by Member States:

- Under Community legislation, Member States are responsible for implementing Directive 94/2/EC in domestic legislation, for ensuring that dealers and suppliers comply with the legislation and for ensuring that the introduction of the Energy Label is accompanied by educational and informational campaigns.
- In all Member States, with the exception of Italy, domestic legislation is now in force, though only four Member States (Austria, Denmark, Greece and the UK) implemented the legislation, as required, on 1 January 1995. The most recent country to comply was Germany, where domestic legislation came into force on 1 January 1998. Because some of the more populous countries in the Community implemented late, by the end of 1995 only 55% of the population of the Community lived in a Member State where the labelling scheme was in force.
- All Member States which have implemented the legislation in law have

assigned responsibility to a Ministry and more than half have also delegated some enforcement authority to an agency.

Monitoring and enforcement action:

- Governments have a necessary (but not sufficient) role in supporting the Energy Label. Through the timely implementation of the Directive in domestic law, regular monitoring of compliance and taking enforcement action when necessary, governments send a clear signal to dealers and suppliers that the scheme is being taken seriously by the State.
- Nine Member States had undertaken some monitoring activity by summer 1997 and an additional three were planning to do so. In five Member States, the compliance of suppliers as well as of dealers had been monitored, but only Denmark, the Netherlands and Sweden reported having carried out laboratory testing of cold appliances. The lack of testing facilities and the cost of testing appliances makes such monitoring difficult and expensive. As appliances are marketed throughout Europe, it would be helpful if Member States which are actively checking the information could share information with others. There is some evidence this is already happening: Ireland relies on an informal European network to identify instances of non-conformity or false declaration of results. An alternative method would be to require manufacturers to deposit the technical information where it can be accessed by the public.
- No Member State reported having taken formal legal action (a prosecution) for non-compliance with cold appliances. The only prosecution identified related to mislabelling of a wet appliance in the UK.

Information campaigns:

- Information campaigns alert consumers to the existence of the Energy Label and confirm that it has official support. Eleven Member States undertook promotional campaigns to support the scheme: Belgium, Denmark, Finland, France, Greece, Ireland, Luxembourg, the Netherlands, Portugal, Sweden and the UK. A wide range of communication tools were reported to have been used, but newspaper and TV advertisement campaigns, and brochures at the point of sale were the most frequently reported. Retailer education programmes were also used by several Member States. Less frequently used tools include leaflets with the quarterly electricity bill and rebate schemes. Some innovative communication tools were reported, such as a wall-newspaper at railway stations in the Netherlands and a children's cartoon in Ireland.
- As the surveys for the present study were carried out at a single point in time, it is not possible to examine whether these information campaigns were successful in changing consumer attitudes.

Evaluation of Energy Labelling Ordinance in Germany

An evaluation, in 2000, of the introduction of energy labelling in Germany gives a detailed overview of the practical implications of the implementation of energy labelling. Two main conclusions from this study are:

- The study showed a very high degree of compliance among manufacturers. The degree of compliance in the retail trade varied widely between the individual distribution channels. The highest level of compliance was observed for large scale specialists, hypermarkets, and catalogue / internet offers, the lowest level for kitchen specialists and furniture stores. Overall, compliance with the regulation was poorer for built-in appliances than for free-standing ones;
- In order to improve the level of compliance and to further promote the sales of efficient appliances, information and motivation campaigns are especially recommended which address both the retailers and the consumers. At the Federal level, the new German Energy Agency could play an important part in the planning and realisation of such actions.

Further reading about appliance energy efficiency policy, energy labelling and the implementation of EU energy labels in member states is highly recommended.

Suggested sources are:

Energy Labels & Standards, International Energy Agency, OECD / IEA, 2000

Cool labels, the first three years of the European Energy Label, Environmental Change Unit, University of Oxford, 1998

Energy-Efficiency Labels and Standards, a guidebook for appliances, equipment and lighting, Collaborative Labelling and Appliance Standards Program (CLASP), Washington, 2001

Status Quo in National Appliance Energy Efficiency Policy

Appliance energy efficiency policy in Central and Eastern European Countries (CEEC) has started to take off some years ago, and a lot of progress has been made in recent years. This section looks into developments regarding the national policy framework for appliance energy efficiency, appliance market developments, progress in adopting EU energy labelling directives and involvement in EU policies and programmes.

The background for this project is that all countries participating in the CTI Appliance Energy Efficiency – Early Adoption Project, except Croatia, are EU candidate countries who need to comply with EU Acquis upon EU accession. All countries, however, would benefit from early adoption of the EU energy efficiency regulation through reduced energy consumption, lowered energy bills and less CO2emissions.

Full information regarding national status quo in appliance energy efficiency policy can be found in the annexes.

Context for Appliance Energy Efficiency Policy

Appliance energy efficiency policy is usually developed as a part of a wider energy efficiency policy or energy policy. All involved countries, as many EU member states, have created a policy framework for appliance energy efficiency. The exact form of this policy framework widely differs between CEEC, as is the case between EU member states. All frameworks[1], however, are developed to transpose EU energy label directives into national law, as it is required in the EU Energy Labelling Framework Directive (92/75/EEC).

[1] Some concerns exist concerning the full transposition of EU energy labelling framework in national legislation. Recent research on transposition in Poland suggests that there are some serious flaws in the overall policy that would effectively lead to non-compliance of the Polish law with the relevant EU Acquis. Specific issues are the (unspecified) responsibility for the accuracy of the label, the establishment (not mentioned) of technical documentation to support the label, the (unspecified) responsibility for the display of the label and the (unspecified) responsibility for attaching a label in the relevant language. (Source: Soehl, A. 2002. *Household appliance energy labels in Central and Eastern Europe: a policy analysis of their effectiveness in removing market barriers to energy efficiency* Master of Science thesis, Department of Environmental Sciences and Policy, Central European University, Budapest.). Similar issues in other participating CEEC are not reported, but a closer look on policy transposition may be required to check full compliance with the EU Acquis.

Table 1 gives an abbreviated overview of national policy plans and frameworks. The following text describes the organisations involved, market trends and barriers to good appliance energy efficiency policy.

Organisations involved in appliance energy efficiency policy

All countries participating in this project report the involvement of a Ministry (Ministry of Economy or Ministry of Energy) and an energy agency with central roles in appliance energy efficiency policy. All countries also report the involvement of other institutions, often standardisation offices and trade commissions. Apart from these, some countries report many other involved organisations, ranking from a total of four organisations to more than 15 involved parties. This diversity makes it difficult to compare the implementation process between countries. It does, however, raise the issue what number of involved parties is necessary and how many are sufficient for a good policy implementation.

Market trends

All countries report that markets are open to foreign and domestic (if applicable) production, that the number of appliances in households is increasing and that imports are the largest market share. Many countries report that imports from the EU usually are in compliance with EU legislation, but that there is also a large share of Non-EU imports. The latter are usually low priced products with low energy efficiencies. The introduction of energy labelling led in some countries to the elimination of the least efficient appliances from the market.

Barriers to good appliance policy

The most often reported barrier is the low consumer's purchasing power, sometimes in combination with a low consumer and market party awareness of appliance energy efficiency. Additionally, inadequate government organisation and activities are reported, including insufficient consumer information, lack of verification and enforcement infrastructure and activities and insufficient government incentives for efficient appliances.

Conclusions

The tables indicate that all involved countries have created a suitable policy framework for the implementation of appliance energy efficiency policy, all in their own way. It is also clear that a large number of organisations is involved in the implementation of energy labelling. In some countries, the number of organisations involved and the possible overlap in their responsibilities leads to concerns about the structuring of the implementation process. More attention for this issue seems to be required.

Table 1: Existing policy plans and frameworks

Lithuania	Lithuanian EU Accession Programme (former National EU Acquis implementation programme), since 1998; National Energy Efficiency Programme, since 1992 (revised in 1996 and 2000); Energy Law (2002).
Poland	Ordinance of the Minister of Economy on energy efficiency requirements
Slovakia	National Programme for Adoption of the Acquis Communautaire
Croatia	Energy law; sub-legislation: Energy labelling act; technical prescriptions for: refrigerators / freezers and washing machines (planned implementation early 2003)
Romania	Law concerning rational use of energy, including chapter energy efficiency standards. EU accession program chapter Energy still under discussion; Study on impact of EU directives for electrical appliances underway
Bulgaria	Consumers' Protection and Rules of Trade Act; Products Technical Requirements Act; One ordinance introduced Dir 96/57/EC; one ordinance drafted under CPRTA to introduce Dir 92/75 + implementing directives

All countries report an open market, sometimes with a (smaller) role for domestic production. Appliance labelling is sometimes picking up, but the share of labelled appliances and the retailer and consumer interest in purchasing efficient appliances doesn't seem to be at the desired level yet. Especially insufficient consumer awareness, low incomes and inadequate testing and enforcement infrastructures are reported as barriers to a well functioning appliance labelling.

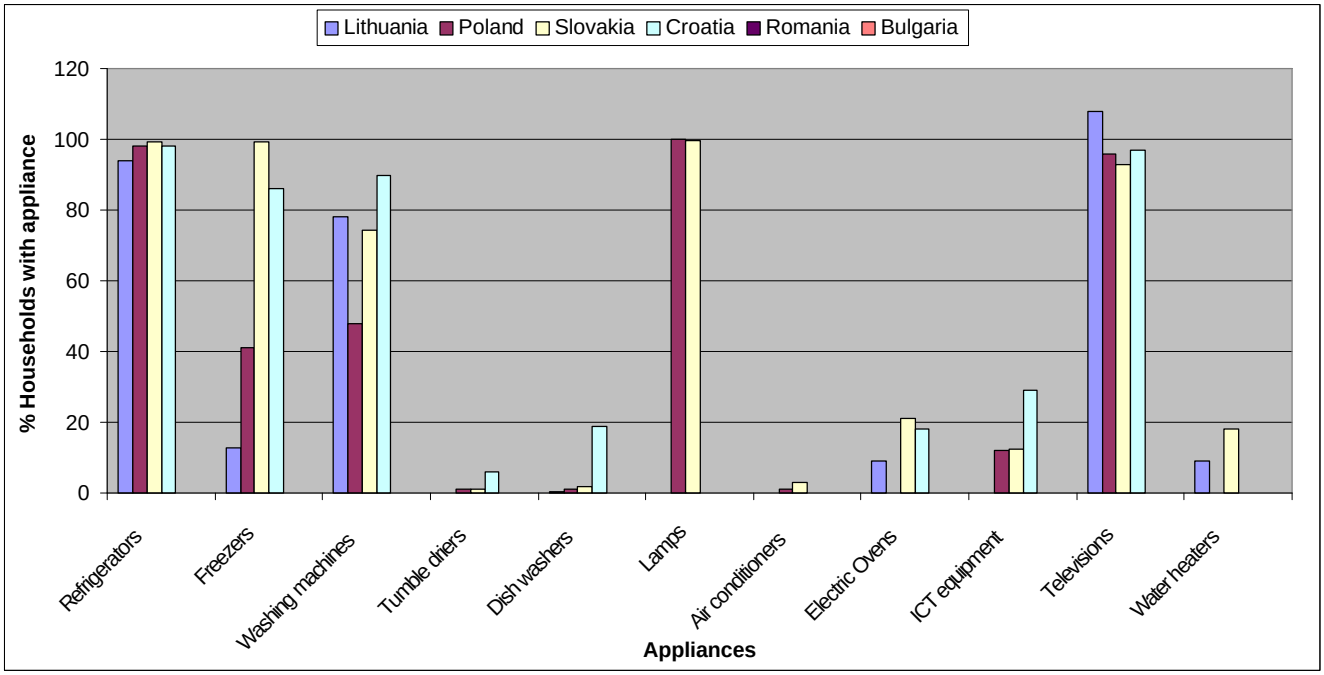
Appliance markets

Appliance markets are the environment in which energy efficiency policy such as labelling and standards needs to operate. In-depth knowledge of appliance markets (annual sales, product ranges, prices, product efficiencies etc) is usually very scarce, as is a good overview of appliance stocks. Policy makers therefore are used to building policies on the limited information available, and learning more details as they proceed with their policy planning.

Graph 1 provides an overview of the situation in appliance stock in the participating CEEC.

Other information regarding CEEC appliance markets (average efficiencies, annual sales) is very scarce and, regarding average efficiencies, possibly incorrect. Therefore, no further information is presented here.

Graph 1. Appliance Stock in CEE Countries



Conclusions

Household possession of appliances varies significantly between countries, particularly with regard to relatively new appliances such as dish washers and ICT equipment. These differences may result in varying national priorities in products to be targeted in an appliance energy efficiency policy. It can be expected that, as was the case in the European Union, appliance markets will converge over time as the effects of harmonisation and open markets show up.

The impression arises that some countries decided not to transpose directives for appliances that have a rather low penetration level. On the one hand, this is an understandable position considering that government and agency resources are limited; one should not forget, on the other hand, that a policy can be most effective if it is introduced before a market has fully developed and a lot of inefficient appliances have been sold.

Transposing EU Directives

Transposition of EU energy labelling directives is a cornerstone for the implementation of EU related energy efficiency policy. Energy labelling directives, and the measurement standards, classifications and regulations that are included in the directives, are often used as starting point for other policy (such as minimum efficiency standards and negotiated agreements). The progress in transposing EU energy labelling directives is presented in table 2.

Conclusions

Most countries have transposed the pre-2002 EU energy labelling directives or are planning to do so shortly. Two new energy labelling directives, issued in 2002, have not been transposed yet, but two countries have planned to transpose these shortly as well.

Table 2. Progress in transposing EU energy labelling directives

	94/2/EC (refrigerators / freezers)	95/12/EC (washing machines)	95/13/EC (tumble dryers)	96/60/EC (washer – dryers)	97/17/EC (dishwashers)	98/11/EC (lamps)	2002/31/EC (air conditioners)	2002/40/EC (electric ovens)
Lithuania	Y	Y	Y	Y	Y	Y	D	D
Poland	Y	Y	Y	Y	Y	Y	P	P
Slovakia	Y	Y	Y	Y	Y	Y	P	P
Croatia	P	P	n/a	P	P	n/a	n/a	n/a
Romania	Y	Y	n/a	Y	Y	Y	N	Y
Bulgaria	D	D	D	D	D	D	D	D

Index Y: yes, N: no, P: planned, D: draft

Supporting Policy Implementation

Supporting the implementation of appliance energy efficiency policy, via government programmes, financial arrangements, enforcement action or information campaigns, is essential for a well functioning appliance policy. The following table presents an overview of implementation supporting activities in the participating countries.

Table 3. Supporting policy implementation

Government sponsored programmes	Government sponsored programmes are scarcely represented in the participating CEEC. Romania reports a programme to establish a test laboratory and to perform an impact study and Croatia indicated plans for a government sponsored programme
Financial arrangements	Financial arrangements or incentives are near non-existent. Only Croatia reports subsidies for efficient appliances
Verification or enforcement action	Verification and/or enforcement actions have started in a few countries. Slovakia reports an energy efficiency compliance assessment (mandatory) and verification testing (voluntary - but standard procedure) of appliances before products are placed on the market. Romania reports some verification actions and Croatia reports that this is under discussion
Information campaigns	An awareness raising campaign is underway in Lithuania, and Croatia reports plans for this.

Involvement in EU Policies & Programmes

European Union energy efficiency policy is reflected in EU law (directives), but also in other EU activities such as action and subsidy programmes. Some CEEC have participated in these programmes to a large extend, while others have hardly gained experience. A similar situation exists for non-EU programmes.

The formal EU policy making process is only open to member states. The preparation of policy, however, also involves some informal steps where participation is open to all interested parties. In principle, CEEC could be regarded as interested parties and participate in the informal steps in the policy making process. The following overviews present the reported experience with EU and non-EU programmes and with the EU policy making process. The last overview also lists national priorities in dealing with the EU policy making process.

Conclusions

Many countries have some experience with EU energy efficiency programmes, especially SAVE and Phare. Only a few countries have some experience with the EU policy making process. Since new EU policy will affects CEEC and EU countries alike, it seems to be important that CEEC are introduced into the EU policy making process, including the important informal steps.

Table 4. Experience with EU and non-EU programmes

Experience with:	*EU Programmes*	*Non-EU Programmes*
Lithuania	---	---
Poland	SAVE, Altener, Synergy	Baltic Chain, BASREC, bilateral projects, CLASP
Slovakia	Synergy, FP5, Phare, SAVE, SAVE Agencies	Canadian Development Fund
Croatia	---	UN OPS
Romania	SAVE, Phare	---
Bulgaria	SAVE, Phare, SAVE Agencies, Green lights	---

Table 5. Experience with the EU policy making process

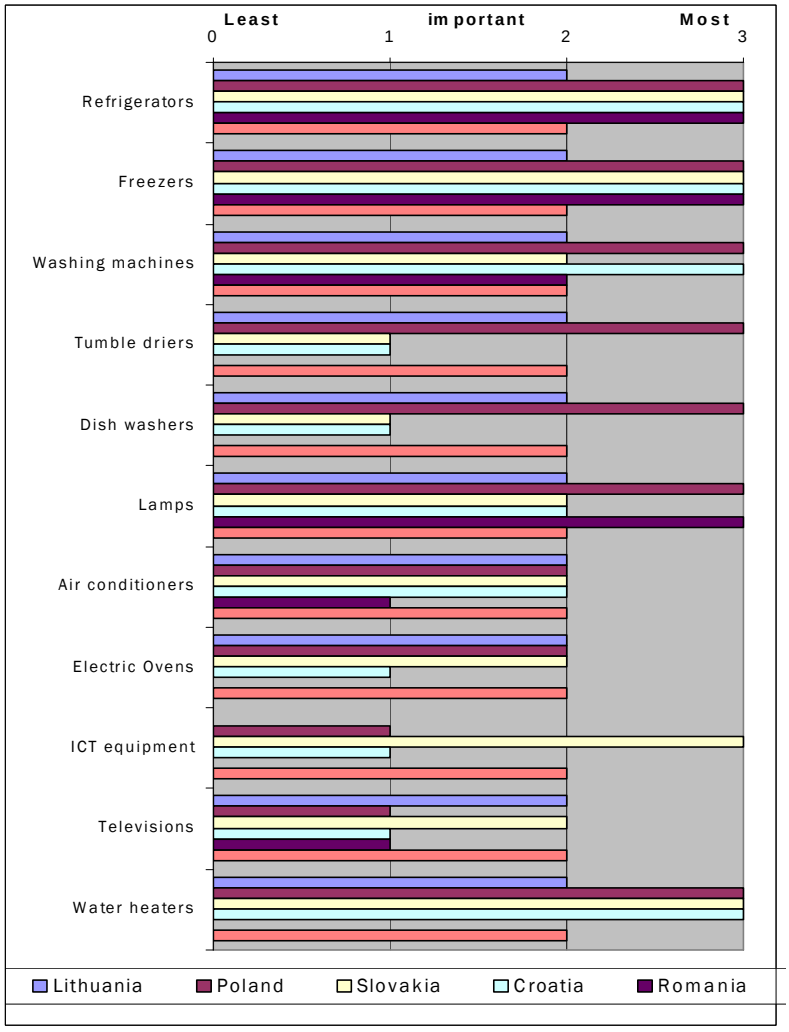
Formal consultations	Not reported
Informal consultations	Bulgaria reports participation in a DG TREN – CEEC meeting; no other activities reported
Other means	Bulgaria reports participation in conferences and workshops, Croatia reports contacts via the Croatia – EU Stabilisation and Association agreement and Slovakia reports indirect contacts with the EU policy making process via EURELECTRIC. Other countries report no activities.
Shortcomings & National priorities	Shortcomings in participations in the EU policy making process are hardly reported: only Slovakia reports the shortcoming that national representatives are not directly involved in the process. National priorities in the EU policy making process are often reported, but are very diverse. Some reported national priorities are: the implementation of EU Acquis / EU labels, sustainable development & security of supply, performing market studies and studies of relevant standards and methods, establishing legal and institutional frameworks and market parameters and supporting effective agency and administrative efforts to enhance energy efficiency

Towards an Action Plan

An action plan to stimulate the implementation of EU energy efficiency policy in CEEC should be based on a thorough understanding of EU policy and on a good overview of the status quo in the respective countries. Previous sections have provided this information and have pointed at some issues that need further work to strengthen appliance energy efficiency policy.

This section will start with an overview of national priorities for appliance energy efficiency policy, as indicated by the respective countries in the CTI questionnaire. It will then compare the status quo in energy efficiency with lessons learned from the implementation of energy efficiency policy in the EU member states. The section will conclude with a listing of the issues that require further action to step up implementation of appliance energy efficiency policy, and will suggest actions to be taken to tackle these issues.

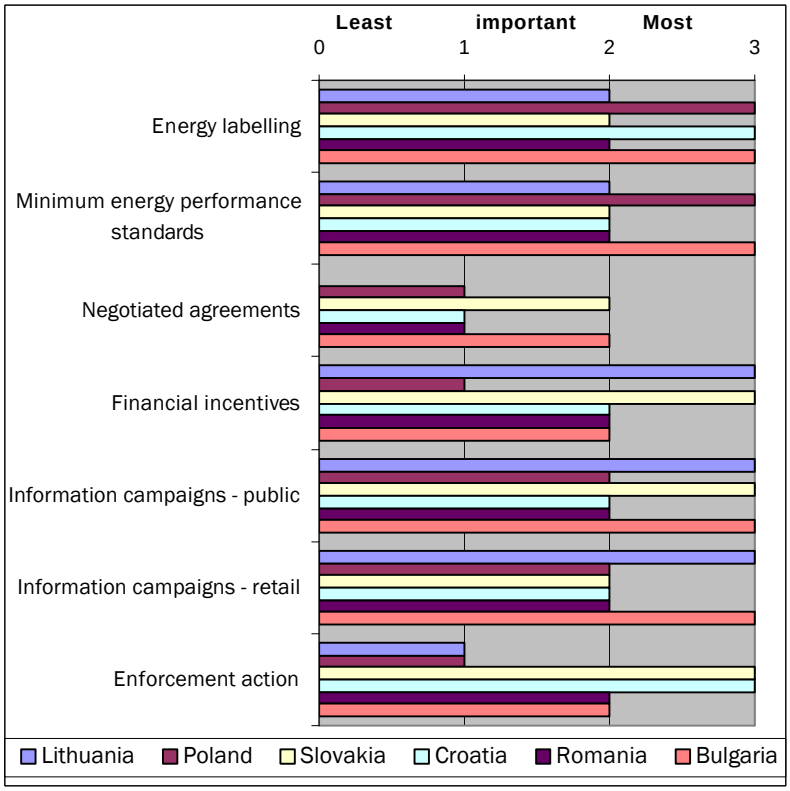
Graph 2. Priority appliances for energy efficiency policy



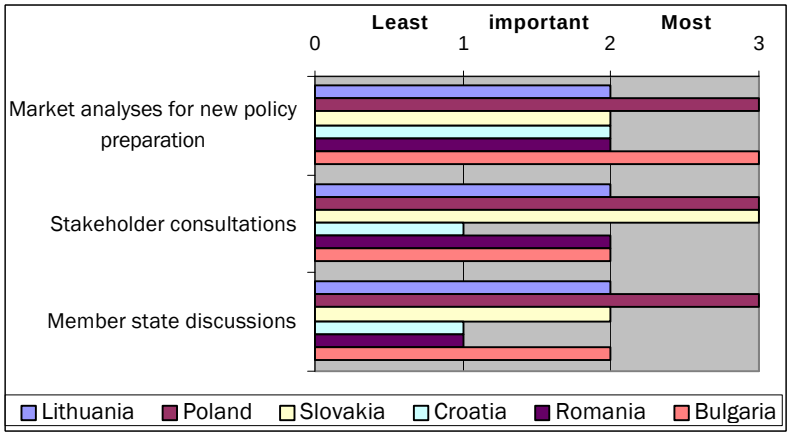
National Priorities in Appliance Energy Efficiency Policy

National priorities are the basis for any action related to the introduction of a new policy and further to the implementation efforts. In the questionnaire, the countries have listed their priorities regarding appliances that need to be included in an energy efficiency policy, preferred instruments to stimulate energy efficiency developments and aspects of the EU policy making process. The following graphs present these priorities.

Graph3. Priority instruments for appliance energy efficiency



Graph 4. Priority aspects in the EU policy making process



Apart from the appliances listed in graph 2, hot water boilers (2x), electric heaters and microwave ovens are indicated as a priority.

Overview: Status Quo vs. Implementation Lessons

A comparative overview of the status quo in CEEC can only be completed once a reference can be found for performing such a comparison. There is no official reference for the implementation of EU energy efficiency policy as determining the proper way to implement is a national responsibility. There are however valuable lessons learned in the implementation of appliance policy in selected EU countries. The *Cool labels* report, for instance, presented in the section on EU Policy Overview, gives an overview of essential steps in a good implementation of appliance energy labelling. The legal obligation items and the relevant practical steps are listed in table 6 while table 7 presents a comparison of the status quo in the participating CEEC against the practical implementation steps.

Essential steps in the implementation of energy labelling

Essential steps in the implementation of energy labels are listed in general terms in the EU energy labelling directives. Following the results of the evaluation of the introduction of appliance energy efficiency labelling in EU countries, these steps can be translated into practical actions.

Table 6. Essential steps in the implementation of energy labelling

Legal obligation	*Practical steps*
Translation into member state law	• Introduction of legal framework for appliance energy efficiency policy • Transposition of (implementing) directive under national legal framework • Assign responsibilities to appropriate services and/or agencies
Take all necessary measures to ensure that all suppliers and dealers established in their territory fulfil their obligations.	• Monitoring of supplier compliance (delivery of data strip; accuracy of information) • Monitoring of retailer compliance (display of labels) • Suppliers and/or retailer enforcement action (if necessary) • Support introduction of energy labelling with retailer information / education
Take all necessary measures to ensure that: if it is likely to mislead or confuse, the display of other labels, marks, symbols or inscriptions relating to energy consumption which do not comply with the requirements of this Directive and of the relevant implementing directives is prohibited. This prohibition shall not apply to Community or national environmental labelling schemes.	• Monitoring or retailer compliance (no display of potentially misleading labels) • If needed: cancellation of non-EU energy labels and/or marks
Take all necessary measures to ensure that the introduction of the system of labels and fiches concerning energy consumption is accompanied by educational and promotional information campaigns aimed at encouraging more responsible use of energy by private consumers.	• Support introduction of energy labelling with consumer information / education

Table 7. Comparison with the status quo in CEEC

Practical steps in implementing energy labels	*Status quo in participating CEEC*
Introduction of legal framework for appliance energy efficiency policy	All CEEC have introduced a legal framework for appliance energy efficiency (except Bulgaria: draft ordinance expected to be passed in the coming months)
Transposition of (implementing) directive under national legal framework	Lithuania, Poland and Slovakia have transposed all implementing directives before 2002. Poland and Slovakia plan to transpose two recent implementing directives, Lithuania has not expressed plans yet. Bulgaria plans to transpose all implementing directives (including recent ones) in one ordinance in coming months. Romania has transposed most implementing directives, except one older (tumble dryers) and two recent ones. Croatia is planning to transpose four implementing directives, but hasn't expressed plans to transpose two older ones (tumble dryers and lamps) and two recent ones.
Assign responsibilities to appropriate services and/or agencies	All countries have involved several services and agencies in appliance energy efficiency policy. It is unclear whether all tasks have been assigned appropriately. Several countries indicate that especially consumer and retail education and compliance monitoring as well as enforcement are areas that have not been properly assigned to the appropriate services.
Monitoring of supplier compliance (delivery of data strip; accuracy of information)	Only Slovakia reports regular verification of label accuracy (on a voluntary basis). Some others report an impossibility to perform test measurements due to the lack of facilities (test laboratories). Romania reported to be setting up a test laboratory for future compliance testing. Delivery of the data strip is not mentioned as a separate monitor issue. However, retailers can be expected to verify this and report missing data strips if needed.
Monitoring of retailer compliance (display of labels)	Monitoring of retailers compliance is reported only in Romania. It should be noted though that appliance labelling is not yet mandatory in a number of CEEC.
Suppliers and/or retailer enforcement action (if necessary)	Not reported (and not likely, given that compliance monitoring is scarce).
Support introduction of energy labelling with retailer information / education	Not reported (may be included in planned information campaigns in Lithuania and Croatia).
Monitoring or retailer compliance (no display of potentially misleading labels)	Not reported (may be included in retailer compliance monitoring in Romania).
If needed: cancellation of non-EU energy labels and/or marks	Only relevant if previous labels or marks were present. This seems to be the case in Poland, which has created national requirements for appliance labelling.
Support introduction of energy labelling with consumer information / education	Lithuania is currently running an awareness raising campaign. Croatia is planning an information campaign. Other countries have not reported consumer information activities.

Conclusions

All countries seem to have passed or are in the process of passing legislation to transpose EU energy efficiency legislation. Two countries (Romania and Croatia) have transposed most legislation (or are planning to do so), but seem to fail transposing some legislation. A special remark should be made about complete transposition of the EU Energy Labelling Acquis: These specify in a great detail what countries should do and shouldn't do in the implementation of energy labelling. It seems that transposition and implementation in Poland, while in general in compliance with the EU Acquis, may be incomplete on some details. Similar issues didn't shown up in other CEEC, but a closer look may be needed to check full compliance with the relevant EU directives.

Assigning responsibilities for compliance monitoring and enforcement, and the actual pursuit of these actions, seems to be in an initial state. Some countries perform (some) compliance monitoring – either retailer compliance or supplier compliance – but most of them have not set up appropriate schemes yet, sometimes because an adequate infrastructure is lacking. It remains unclear if appropriate responsibilities for compliance monitoring and enforcement have been assigned to the appropriate government services or agencies.

Consumer and retailer information campaigns need to start in most countries. Only one – Lithuania – is currently running an awareness raising campaign; One more country – Croatia – is planning to do so. It is yet unclear if specific retailer information is included in these campaigns.

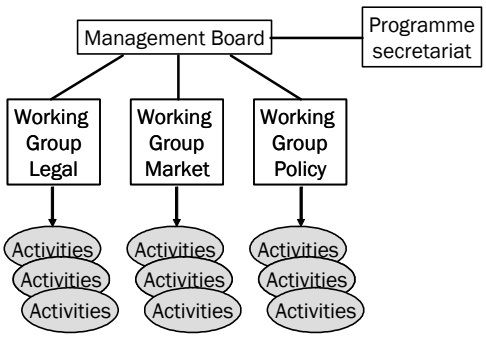
Proposed Action

The summary report indicates that the status quo regarding energy efficient appliances policy in the Central and Eastern European Countries participating in this project is very different. Still, there are many similarities as well. A logical way to organise an action plan would then be to design generic and country-specific activities, for each of the issues identified.

Based on the information compiled in this report, a proposal for action would need to target three distinct groups of activities:

- Legal issues, dealing with
  - transposing EU Acquis and implementing national policy frameworks, and
  - assigning responsibilities to organisations
- Market issues, dealing with
  - retailer and market party information, and
  - consumer information & education activities
- Policy issues, dealing with
  - European Union policy design and preceding market & product analyses, and
  - designing national policy supporting the implementation of energy efficiency legislation

Organisational structure for a follow-up programme



The organisational structure of a follow-up programme of duration of two to three years would ideally include:

- A management board (one member per country) to oversee whole programme.
- Chair and programme secretariat at a major EU energy agency.
- Three working groups to plan and prepare activities on the issues identified.

External funding from EU and other international bodies would be solicited, mainly for workshops, training activities and study tours. Each participant should cover most of its own work through national funding.

Outline of an Action Plan

A programme could include various work forms. However, it would seem logical that main elements of the programme would consist of multilateral workshops, training and capacity building, a knowledge network and ad-hoc bilateral support.

A specification of actions for each of the identified groups of activities is specified in the tables 8, 9 and 10.

Table 8. Legal issues for an action plan

	Legal details of transposition and assigning responsibilities	Verification and enforcement
Generic	Multilateral workshops Network between government services (CEEC and EU) Establishing of info-hotline for specific questions on urgent issues [Croatia]	Multilateral workshops Network between government services (CEEC and EU)
Country-specific	Bilateral support (expert advice from government experts) Comprehensive comparison of EU countries' specific national legislative with domestic [Croatia]	Bilateral support (training, expert advice from government experts) Seminars or workshops for specialists of State Energy Inspection and State Non-food Product Inspection [Lithuania]

Table 9. Market issues for an action plan

	Supplier and retailer information	Consumer education and information
Generic	Multilateral workshops "How to organize market transformation ?" [Lithuania] "Structure for information dissemination". [Lithuania] Study tour to EU countries [not applicable to all countries]	Multilateral workshops Study tour to EU countries [not applicable to all countries]
Country-specific	Bilateral support (expert advice from agency experts) Comprehensive market research [Croatia] Seminars for producers and retailers [Lithuania]	Bilateral support (expert advice from agency experts) Awareness raising campaign [Lithuania] Specific web site [Lithuania]

Table 10. Policy issues for an action plan

	EU policy development process	Designing national policy to support energy efficiency
Generic	Multilateral workshops Study tour to EU and EC meetings (administrator level) [not applicable to all countries]	Multilateral workshops Network between government services and agencies (CEEC and EU) Study of possible outcomes [Croatia]
Country-specific	Participation in EU policy analysis projects	Bilateral support (expert advice from government and agency experts) National network of government and other organisations [Croatia]

Annex:

Summary Information from the Questionnaires

Table 11. Existing policy plans and frameworks

Lithuania	Adoption of EU Acquis; state Energy Agency to carry out awareness raising campaign
Poland	Ordinance of the Minister of Economy on energy efficiency requirements
Slovakia	National Programme for Adoption of the Acquis Communautaire
Croatia	Energy law; sub-legislation: Energy labelling act; technical prescriptions for: refrigerators / freezers and washing machines (planned implementation early 2003)
Romania	Law concerning rational use of energy, including chapter energy efficiency standards. EU accession program chapter Energy still under discussion; Study on impact of EU directives for electrical appliances underway
Bulgaria	Consumers' Protection and Rules of Trade Act; Products Technical Requirements Act; One ordinance introduced Dir 96/57/EC; one ordinance drafted under CPRTA to introduce Dir 92/75 + implementing directives

Table 12. Organisations involved in appliance energy efficiency policy

Lithuania	main: Ministry on Economy, Lithuanian Energy Agency, State Energy Inspection, State Non-food Product Inspection.
Poland	main: Ministry of Economy; KAPE S.A.; approx 15 other organisations
Slovakia	Slovak Office of Standards; Metrology and Testing; Ministry of Economy; Technical and Testing Institute Piestany; Slovak Energy Agency; Slovenské elektrárne - Energy Consultancy House
Croatia	Ministry of Economy; State Inspectorat; State Office for Standardisation and Metrology; "Hrvoje Pozar" Energy Institute
Romania	ARCE - Romanian Agency for Energy Conservation; ANPC; ASRO; APER; INCDE Icemenerg; ICPE; ISPE
Bulgaria	Ministry of Energy and Energy Resources; Agency for Energy Efficiency; State Agency on Standardisation and Metrology; Commission on Trade and Protection of Consumers; Bulgarian Economic Association; NGOs (EnEffect etc)

Table 13. Market trends

Lithuania	Free market, no barriers for efficient or inefficient appliances
Poland	---
Slovakia	Growing electricity consumption, increasing number of appliances, recent increase in efficiency due to electricity price increase; approx 80% imported products, fast market development for ICT, air conditioners and electric ovens, EU energy labelling often present on appliances
Croatia	Energy efficiency labelling (following EU directives) is starting; labelled appliances widely available, but labelling isn't standard yet; main domestic producer is labelling its products
Romania	Introduction of labelling led to the elimination of least efficient appliances from the market
Bulgaria	Some domestic production; EU imports in compliance with EU requirements; large market share are cheaper imports

Table 14. Barriers to good appliance policy

Lithuania	Low consumer's purchasing power
Poland	Inadequate government organisation; low level of policy education; strong social lobby; low market party awareness, lack of economic incentives and government driven promotion and information; technical barriers; outdated equipment
Slovakia	Low consumer awareness on appliance life cycle cost; few enforcement actions
Croatia	Organising implementation; determining inspection bodies; determining enforcement measures; harmonisation with related EU directives
Romania	Lack of adequate test infrastructure; large second-hand appliance market; low affordability; lack of fiscal incentives; insufficient consumer information
Bulgaria	Lack of adequate legislation, lack of effective incentives, insufficient consumer information; low consumer's purchasing power

Table 15. Supportive measures for policy implementation

	Government sponsored programmes	*Financial arrangements*	*Verification or enforcement action*	*Information campaigns*
Lithuania	---	---	---	awareness raising campaign 2002 - 2005
Poland	n/a	n/a	n/a	n/a
Slovakia	---	---	Energy efficiency compliance assessment (mandatory) and verification test (voluntary - but standard procedure) of appliances before products are placed on the market	---
Croatia	(planned)	subsidies, (tax rebates under discussion)	(under discussion)	(planned)
Romania	establishing laboratory; study	---	label verification	---
Bulgaria	---	---	---	---

Table 16. Experience with EU and non-EU Programmes

Experience with:	*EU Programmes*	*Non-EU Programmes*
Lithuania	---	---
Poland	SAVE, Altener, Synergy	Baltic Chain, BASREC, bilateral projects, CLASP
Slovakia	Synergy, FP5, Phare, SAVE, SAVE Agencies	Canadian Development Fund
Croatia	---	UN OPS
Romania	SAVE, Phare	---
Bulgaria	SAVE, Phare, SAVE Agencies, Green lights	---

Table 17. Experience with the EU Policy Making Process

	Formal consultations	*Informal consultations*	*Other means*	*Shortcomings & National priorities*
Lithuania	---	---	---	---
Poland	---	---	---	National priorities: legal and institutional frameworks; symbiotic conditions for energy and environmental policies; exemplary government activities; organisational routines; developing least-cost methodologies; support effective agency and administrative efforts; clearing house for collaborative actions
Slovakia	---	---	Via EURELECTRIC	Shortcomings: National representatives not directly involved National priorities: Implementation of EU Acquis, Sustainable development and Security of energy supply
Croatia	---	---	Croatia - EU Stabilisation and Association agreement	---
Romania	---	---	---	---
Bulgaria	---	DG - TREN CEE meeting	Conferences & workshops	National priorities: Market study; influencing consumer attitude; standards and methods; application of EU labels

Table 18. Appliance stock in CEE Countries

	Lithuania	Poland	Slovakia	Croatia	Romania	Bulgaria
			% households with appliance			
Refrigerators	94	98	99,4	98	n/a	n/a
Freezers	13	41	99,4	86	n/a	n/a
Washing machines	78	48	74,2	90	n/a	n/a
Tumble driers	n/a	1	1	6	n/a	n/a
Dish washers	0,5	1	2	19	n/a	n/a
Lamps	n/a	100	99,5	n/a	n/a	n/a
Air conditioners	n/a	1	3	n/a	n/a	n/a
Electric Ovens	9	n/a	21	18	n/a	n/a
ICT equipment	n/a	12	12,5	29	n/a	n/a
Televisions	108	96	93	97	n/a	n/a
Water heaters	9	n/a	18	n/a	n/a	n/a
[Microwave ovens]		14	39,4			
[Vacuum cleaners]		93				
[Audio sets]		61				
[combined ovens gas-electric]				64		
[VCRs]			30,3			

Table 19. Priority appliances for energy efficiency policy

	Lithuania	Poland	Slovakia	Croatia	Romania	Bulgaria
			Priority (0 = no priority, 3 = top priority)			
Refrigerators	2	3	3	3	3	2
Freezers	2	3	3	3	3	2
Washing machines	2	3	2	3	2	2
Tumble driers	2	3	1	1	0	2
Dish washers	2	3	1	1	0	2
Lamps	2	3	2	2	3	2
Air conditioners	2	2	2	2	1	2
Electric Ovens	2	2	2	1	0	2
ICT equipment	n/a	1	3	1	0	2
Televisions	2	1	2	1	1	2
Water heaters	2	3	3	3	0	2
[Hot water boilers]	2					2
[Electric heaters]			2			
[Microwave ovens]			2			

Table 20. Priority instruments for appliance energy efficiency

Instruments	Lithuania	Poland	Slovakia	Croatia	Romania	Bulgaria
			Priority (0 = no priority, 3 = top priority)			
Energy labelling	2	3	2	3	2	3
Minimum energy perform-ance standards	2	3	2	2	2	3
Negotiated agreements	n/a	1	2	1	1	2
Financial incentives	3	1	3	2	2	2
Information campaigns - public	3	2	3	2	2	3
Information campaigns - retail	3	2	2	2	2	3
Enforcement action	1	1	3	3	2	2

Table 21. Priority aspects in the EU policy making process

Policy making process	Lithuania	Poland	Slovakia	Croatia	Romania	Bulgaria
			Priority (0 = no priority, 3 = top priority)			
Market analyses to prepare for new policy	2	3	2	2	2	3
Stakeholder consultations	2	3	3	1	2	2
Member state discussions	2	3	2	1	1	2

Index 0: not important / 1: some importance / 2: very important / 3: top priority

Colophon

This report has been produced with the support of the Climate Technology Initiative, with the aim of supporting the Central and Eastern European countries in creating suitable conditions for accepting and implementing national appliance energy efficiency policies.

Editor
Climate Technology Initiative at the International Energy Agency
www.climatetech.net , www.iea.org, info@iea.org

Preparation of the report
Klinckenberg Consultants, Meerssen, The Netherlands

More information can be obtained from the partner organisations participating in the project:

Bulgaria
Center for Energy Efficiency EnEffect, Ms Valya Peeva
T +359 2 963 17 14, F +359 2 963 25 74, vpeeva@eneffect.bg

Croatia
Energy Institute Hrvoje Pozar, Mr Vedran Krstulovic
T +385 1 6326 125, F +385 1 6040 599, vkrstulo@eihp.hr

Lithuania
Lithuanian Energy Institute, Mr Feliksas Zinevicius
T + 370 37 350 225, F + 370 37 350 225, felix@isag.lei.lt

Poland
Polish National Energy Conservation Agency (KAPE), Mr Roman Babut
T +48 22 622 2794, F +48 22 622 2796, rbabut@kape.gov.pl

Romania
Romanian Energy Policy Association (APER), Mr Honoriu Pitaru
T +40 21 411 9829, F +40 21 335 0280, aper@bx.logicnet.ro

Slovak Republic
Slovak Energy Agency, Mr Martin Bella
T +421 2 582 48203, F +421 2 534 21019, martin.bella@sea.gov.sk

Germany
German Energy Agency (dena), Ms Petra Opitz
T +49 30 726 16 56 91, F +49 30 726 16 56 99,
opitz@deutsche-energie-agentur.de

The Netherlands
Netherlands Agency for Energy and the Environment (Novem),
Ms Annemie Loozen
T +31 46 4202 282, F +31 46 4528 260, a.loozen@novem.nl

International
International Energy Agency, Mr Emmanuel Bergasse
T +33 1 40 57 65 73, F +33 1 40 57 65 79,
emmanuel.bergasse@iea.org

International Energy Agency, Mr Piotr Tulej
T +33 1 40 57 67 07, F +33 1 40 57 67 59, peter.tulej@iea.org

Klinckenberg Consultants, Mr Frank Klinckenberg
T +31 43 365 6300, F +31 43 365 6301,
klinckenberg@klinckenberg.net

Paris, November 2002