



COMMISSION OF THE EUROPEAN COMMUNITIES

Brussels, 17.07.1998
COM(1998) 458 final

COMMUNICATION FROM THE COMMISSION
TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

**Progress Report on the multiannual programme for the promotion of
energy efficiency in the Community - SAVE II**

Council Decision 96/737/EC Art. 8.1

Introduction

On 16 December 1996, SAVE II was formally approved by the Council, almost one year after the SAVE programme terminated [Council Decision of 16 December 1996, 96/737/EC]. SAVE II was approved for five years, retroactive to 1 January 1996, with an indicative budget of 45 MECU. In anticipation of the delay in approval, steps were taken during 1996 to ensure momentum and continuity. In 1996, various studies and pilot projects were ready to start upon final approval.

This report provides a review of the activities and progress made since the approval of SAVE II, as required under Article 8.1 of Council Decision 96/737/EC. The report is followed by a proposal for guidelines for 1998 for the targeted sectoral actions.

SAVE II is the only Community-wide programme solely dedicated to promoting the rational use of energy. SAVE II focuses on the non-technological elements, helping to build the energy efficiency infrastructure and to improve policy analysis. SAVE II does not pay for hardware investments. The purpose of the programme is rather to create an environment in which investments in energy efficiency will be accelerated and whereby energy efficiency will be recognised as a market opportunity.

SAVE II reinforces a number of actions started under the original SAVE programme:

- labelling and standardisation in the area of energy-using equipment and appliances;
- pilot actions;
- dissemination of information.

However, SAVE II goes beyond the scope of SAVE by:

- monitoring energy efficiency progress at the national and Community-wide levels;
- improving energy management at regional and urban levels by the establishment of policies aimed at efficient energy management; and
- investigating the possibilities for establishing energy efficiency as a criterion within Community programmes.

SAVE II has also been opened to the participation of associated Central and Eastern European countries as well as to Cyprus, pending the adoption for each country of a Council Decision on the conditions of participation. Furthermore, SAVE II has also been opened in 1996 to the participation of the EFTA-EEA States, Liechtenstein, Iceland and Norway.

SAVE II supports actions in five areas:

- studies and related actions aimed at implementing and completing Community measures such as the development of standards, studies on the effects of energy pricing on energy efficiency and studies helping to establish energy efficiency as a criterion within Community programmes;
- sectoral targeted pilot actions aimed at accelerating energy efficiency investment and/or improving energy use patterns;

- measures to foster the exchange of experience;
- monitoring of energy efficiency progress in the Community and in individual Member States and on-going evaluation and monitoring of the measures undertaken in SAVE II; and
- specific actions at the regional and urban levels as well as improving the cohesion between Member States and regions in the field of energy efficiency.

During 1997, the final independent evaluation of SAVE was completed. The evaluation highlighted SAVE as a valuable policy instrument to promote energy efficiency but stressed that a clear and consistent strategy for pilot actions was required; that dissemination of results is a key to the long-term success of SAVE and that long-term effectiveness requires better on-going monitoring and impact analysis. The evaluation had difficulties quantifying the full benefits of SAVE, because of the non-technical nature of most of the actions. The benefits that have derived, or are expected to derive from the SAVE programme exceed by far the cost of the programme. The boiler directive alone has benefits amounting to potentially over 391 MECU per year (with annual energy savings of over 11 million tonnes of oil equivalent to the year 2010 for the 12 Member States), exceeding the total budget of the SAVE programme several times over. To this can be added avoided environmental damage and the macro-economic impact. The evaluation also showed that SAVE actions will also indirectly lead to the achievement of the objectives of the Non Nuclear Energy (Joule-Thermie) Research and Technological Development (RTD) Programme through the creation of a positive environment (as far as legislative, administrative and social aspects are concerned) for the dissemination and implementation of new technology supported by Joule-Thermie.

The recommendations from the evaluation of SAVE were used in the planning of SAVE II.

Annex I provides summary tables on the budget for the SAVE II programme to date by area. In 1996 SAVE II had a total budget of 15.2 MECU. This was followed in 1997 with a budget of 18.3 MECU. Annex I gives also a short statistical overview of the programme.

• *Actions Under Article 2a (Studies)*

SAVE II supported a wide range of studies under Article 2a. One of the major activities was to support CEN and CENELEC in the development of measurement standards. Some of the areas supported included lamps, ballasts, ovens and washer/dryers. Activity in standards development led to one labelling directive concerning household dishwashers (97/17/EC) being approved in 1997. Another Labelling Directive concerning household lamps is under discussion and will be adopted by the Commission in 1998.

Other studies related to determining the effectiveness of SAVE and SAVE II include the funding for the SAVE evaluation, the development of an interim on-going monitoring and evaluation system for SAVE II, evaluation of the boiler directive (92/42/EC) and a study on the effects of energy labelling.

The study of the application of Council Directive 93/76/EC to limit carbon dioxide emissions by improving energy efficiency was completed in late 1996. The study showed that the Council Directive had some significant but non-quantifiable impact on national programmes. Overall the Directive had many shortcomings because there are no measurable objectives, it is hard to monitor, it is almost impossible to enforce and the lack of focus reduces the overall impact. In general, the Directive is a low priority for Member States.

Another category of studies relates to determining standard measuring methods for the efficiency of certain appliances such as domestic ovens, domestic room air conditioners, etc. There was a separate study on procurement strategies for energy-efficient products.

SAVE II also contributes towards the Commission's participation in the IEA Implementing Agreement on Demand Side Management (DSM).

An important study starting in late 1997 is aimed at determining the employment impacts of energy efficiency investment programmes.

The first phase of a study to develop a handbook for evaluation of energy efficiency programs in the utilities will be presented in 1998.

• *Actions Under Article 2b -- Targeted Sectoral Actions*

Targeted pilot projects continue to command the largest share of the programme budget. In 1996, the pilot projects represented 48.7 per cent and in 1997, 34.5 per cent. This compares with almost 76 per cent for the entire SAVE programme. However, it should be recalled that the percentages from 1996 and 1997 include the urban and regional component of SAVE II, which was not part of SAVE.

The targeted pilot projects are designed to accelerate energy efficiency investments improving energy use patterns and to create and extend the infrastructures (the "capacity building") in a wide variety of areas. These areas include transport, buildings, industry, integrated resource planning and demand side management, combined heat and power and appliances. This capacity building can occur at national, regional or local levels and take the form of training, education, information dissemination, developing expertise on methods and

policy tools. To a large extent, these infrastructures help implement the Community's energy efficiency legislative programme. The table in Annex 1 gives an overview of the range of subjects covered by SAVE II. More attention is being given in SAVE II to transport projects which now represent over 20 per cent of all projects. In SAVE, transport projects achieved only a 9 per cent share, despite efforts to have them increase.

None of the SAVE II projects are completed due to the fact that SAVE II was not approved until December 1996. It should be stressed, however, that SAVE is improving the monitoring of the 253 projects funded under the original SAVE programme to determine the long-term impact. SAVE II projects are designed to build on the results of the SAVE pilot projects.

SAVE II requires a minimum of two Member States for each project. However, there is a greater effort to have more than two Member States participating in any given project. Participants can be state bodies, institutes, regional and local authorities, private companies, universities or consultancies.

• *Actions Under Articles 2c and 2d – fostering the exchange of experience*

Article 2c provides support for actions that are proposed by the Commission and those under Article 2d represent actions proposed by organisations other than the Commission. Commission-initiated actions can receive full funding while the others can receive up to 50 per cent.

In 1996, the ENR network¹ was contracted to continue with its information dissemination activities that it had undertaken since 1993. For news/publications and events, SAVE II contributed 50 per cent of the costs. ENR also undertook some activities fully paid for by SAVE II. This included the support for various information networks, such as for DSM, education, residential buildings, public buildings, training, industry, etc. The contract also includes the development of an internet web site. While co-ordinated by the Irish Energy Centre (which co-ordinates the project for ENR), the web site is developed and maintained by CRES of Greece.

In 1997 a different approach is being taken on information dissemination, with less reliance on the ENR network. SAVE II is also continuing to support various conferences, particularly related to specialised topics such as third-party financing. These events are of a transnational nature.

Information on all ongoing and completed SAVE projects is accessible via the CORDIS-database of DGXIII. The information is updated every 6 months.

• *Actions Under Article 2e – monitoring and evaluation*

One of the new actions under SAVE II is to improve the monitoring of energy efficiency at the national and Community levels. Throughout the original SAVE programme, support was given for the development of energy indicators. This activity is co-ordinated by ADEME of

¹ ENR is a network of national energy agencies throughout Europe.

France and is continuing through SAVE II. A second activity concerns the MURE II project. The goals of the MURE II project are to establish a comprehensive catalogue of measures, both existing and planned, aimed at energy efficiency and conservation in the European Union and to allow for cost/effectiveness analysis and evaluation of energy efficiency measures as compared to alternative supply options. The recent contract included expanding the database to include Austria, Finland and Sweden. MURE is also undertaking strategic studies, such as measuring the effect of building codes and urban traffic management. In addition, a supplement to MURE; MURE Territory has been developed. It is directed to regional and local planners, to support them in the establishment and evaluation of energy efficiency policies and measures within a specific territorial area.

In 1998, external experts in all the various thematic fields of energy efficiency will assist SAVE II in the on-going monitoring and evaluation of actions.

The Council Decision on SAVE II states that the programme "aims at improving energy intensity of final consumption by a further one percentage point per annum over that which would have otherwise been attained." The new elements in place under monitoring and evaluation should eventually provide a strong indication of the effectiveness of the programme.

• *Actions Under Article 2f -- energy management at regional and urban level*

The creation of energy agencies at regional, local or island level was integrated in the SAVE II programme in 1996. Regions and cities provide a most important potential to support the energy strategy of the Community, in particular to reduce substantially CO₂ emissions through the development of regional channels for local and renewable resources .

The SAVE II programme has in 1997 financed 31 energy agencies of which 20 are regional and 11 urban. The agencies will benefit from a Community financing of 175.000 ECU each, for the first three years of operation. The budget for this activity was 5.400.000 ECU. The call for proposals is published on an annual basis and addresses regions or cities covering at least 100,000 inhabitants.

The principal objective of energy management at regional and local level is to define and implement actions which improve consumption patterns through the promotion of energy efficiency on the one hand and on the other, from the use of local and renewable sources.

The closeness of the regional and urban energy management agencies to both the energy producers and the public and private consumer, allows for tackling global issues, but also for tailoring activities to suit local situations, economic and social circumstances and the size of the authorities.

This bottom up approach further benefits from a multiplier effect due, in particular, to close co-operation between the agencies and the attendant exchange of information and experience, including technological know-how.

Specific dissemination activities such as annual contractors' meetings, thematic seminars and publication of guides and best practices complement this action. Energy and local authorities are the subject of a group of seminars organised together by the European Commission and

the Committee of Regions. The first two organised in Espoo (February, 28 1997) and Bologna (April, 18 1997) were about climate change and the implementation of energy efficient strategies. The third in Rhodes (October, 3 1997) was dedicated to local development and employment while the last in Lyon (November, 24-26 1997) dealt with the role of regions and cities in energy management.

At national level, seven workshops have been organised in the Member States which responded positively to the Commission invitation. In these workshops, all energy agencies created with Commission funds, the national agencies and the representatives of the government (Ministry) have developed fruitful contacts, examined the complementarity of their actions and worked out methods of co-operation and co-ordination.

A study upon the social impact of energy management (fuel poverty) has been approved by SAVE Committee and is under realisation by twelve agencies, Quercy Energies (France) being the co-ordinator.

• *Other Actions*

On 23 September 1997 the Council Working Group on Energy discussed the IRP, (RPT)² Directive proposal. The Commission is now reflecting on the comments given by the Member States at this meeting.

On 15 October a Communication³ on "A Community strategy to promote CHP and to dismantle barriers to its development" was adopted by the Commission. It has been forwarded to the Council, the European Parliament, the Economic and Social Committee and the Committee of Regions. On 8 December 1997 a resolution was adopted by the Council.

The process of a Council Decision for the participation of the associated CEEC's and Cyprus is underway. The process will be accelerated to allow as many of the associated countries as possible to participate in SAVE II in 1998.

• *Revised Guidelines*

Annex II provides the revised guidelines for priorities for 1998. The priorities are based on contributions from Member States, as requested, and from the Commission.

² IRP - Integrated Resource Planning, now referred to as RTP (Rational Planning Techniques)

³ COM (97)514 final

Annex I
Short Statistical Overview of SAVE II

• *Funding for SAVE II (ECU)*

Activity	1996	1997
Studies (2a)	753,525	2,528,893
Pilot Actions (2b)	7,424,977	6,472,356
Information (2c and 2d)	976,425	2,179,963
Monitoring (2e)	881,000	1,404,042
Energy Management at Regional and Urban Levels	5,200,110	5,738,746
Total	15,236,037	18,324,000

• *Pilot Projects*

The number and share of pilot projects by subject area were as follows:

Subject Area	1996	1997
Appliances	5 (9 %)	4 (10%)
Buildings	13 (23%)	12 (30%)
CHP	--	1 (2.5 %)
DSM	17 (30%)	7 (17.5%)
Education and Training	4 (17%)	5 (12.5%)
Industry	3 (5%)	2 (5 %)
Transport	14 (25%)	9 (22.5%)
Total	56	40

The pilot projects by Member State were as follows:

Member State	1996	1997
Austria	3	2
Belgium	0	2
Denmark	3	2
Finland	4	2
France	5	2
Germany	4	4
Greece	4	4
Ireland	2	0
Italy	6	4
Luxembourg	0	1
Netherlands	7	2
Norway	3	2
Portugal	3	3
Spain	4	4
Sweden	3	0
United Kingdom	5	3
Union-Wide Federations	--	3
Total	56	40

Understandably, since no pilot projects funded by SAVE II were signed until 1997, there are no completions. The status of pilot projects under the original SAVE programme is as follows:

	Complete	On-Going
1991	16	0
1992	46	5
1993	70	4
1994	39	24
1995	12	37
Total	183	70

* as of September 1997

Annex II
Revised Guidelines

The areas of interest for the SAVE II Programme in 1998.

The SAVE call for proposals has been issued in ten areas:

1. Rational use of energy in buildings.
2. Rational use of energy in equipment
3. Rational use of energy in transport.
4. Rational use of energy in industry.
5. Demand side management and integrated resource planning.
6. Education and training.
7. Promotion of combined heat and power.
8. Creation of regional and local energy agencies.
9. Information dissemination.
10. Studies aimed at the implementation of Union measures.

NOTE:

A study differs from a pilot action in that it in principle will cover all EU and EEA Member States. Furthermore a study is of an analytical nature while a pilot action in addition will have an operational side.

The areas of activity for 1998.

Areas for which proposals are requested in 1998 are:

5.1. PILOT ACTIONS (SAVE-directive 96/737/EC OJ No. L335/24.12.96 p. 50, Article 2b and 2d)

5.1.1 Rational use of energy in buildings.

- a) Rehabilitation of old buildings which incorporates the implementation of energy efficiency measures.
- b) Schemes aimed at the replacement of building components (e. g. windows) and installing additional components for higher energy efficiency.
- c) Third party financing in the public and the private sector.
- d) Energy management of multi-occupancy buildings.
- e) Application of design tools for energy efficient buildings.
- f) The added value of the use of building certification and the energy efficiency in building codes.

- g) Pilot actions to increase the demand for energy efficient building components, and to introduce very efficient components into the market e. g. by facilitating the organisation of group purchasing.
- h) Demonstration of new procurement specifications including energy efficiency for products and systems used in buildings and innovative changes in purchasing routines in order to introduce calculation of energy cost.
- i) The promotion of the implementation of Directive 93/76/EC (OJ No. L 237/22.9.93 p. 28).
- j) The promotion of the creation of Energy Service Companies in the Member States.
- k) Tools and methods for analysing the impact of projects and programmes in the building sector.

5.1.2 Rational use of energy in equipment, including energy using equipment incorporated in buildings (heating, cooling and water heating equipment).

- a) Support of energy labelling (training of retail staff, promotion, etc.).
- b) Pilot actions to provide the public, and other equipment buyers with personalised energy information.
- c) Pilot actions to increase the demand for energy efficient equipment, and to introduce very efficient equipment to the market, e. g. by facilitating the organisation of group purchasing.
- d) Pilot actions to promote the selection of appropriate, energy efficient equipment by installers and their clients (heating, water heating, and cooling systems, etc.).
- e) Improvements in the efficiency of use of appliances (households, offices, restaurants etc.)
- f) The promotion of the implementation of Directive 92/42/EC (OJ No. L 167/22.6.92 p. 17).
- g) Tools and methods for analysing the impact of projects and programmes in the equipment sector.

5.1.3. Rational use of energy in transport.

- a) Urban traffic control systems with energy saving performance.
- b) Public transport systems (trams, hybrid vehicles, trains, light trains..) e.g., by promoting better infrastructure, or changing behaviour. Improvement in the ratio of public to private use of town roads. Integration of public passenger transport.
- c) Measures to increase the use of energy efficient private transport (cycling, electric cycles and scooters, etc.) e.g., by promoting better infrastructure, or changing behaviour.
- d) Management systems related to freight transport.
- e) Management systems related to air transport.
- f) Improved connections between different modes of transport.
- g) Road pricing schemes in European cities.
- h) Transport services for commuters (park and ride, car-sharing schemes, transport plans for large industries and companies).
- i) Vehicle fleet management (trucks, buses, motor coaches, taxis, etc.)
- j) Tools and methods for analysing the impact of projects and programmes in the transport sector.

5.1.4. Rational use of energy in industry.

- a) The establishment of national or regional monitoring and targeting schemes especially through pilot programmes.

- b) The establishment of schemes (procurements, LCC methodologies, etc.) to promote investments in energy efficient equipment (including collaborative actions for purchase of energy efficient industrial equipment and energy efficiency specifications for products and systems used in industry; and innovative changes in purchasing routines).
- c) Establishment of schemes for the dissemination of best available technologies for industrial processes and plants.
- d) Introducing energy efficiency into environmental management schemes and quality management schemes.
- e) Analysing obstacles for energy efficiency in industry and demonstrating ways to overcome these obstacles.
- f) The promotion of the implementation of Directive 93/76/EC (OJ No. L237/22.9.93 p. 28).
- g) Tools and methods for analysing the impact of projects and programmes in the industrial sector.

5.1.5 Demand Side Management and Integrated Resource Planning.

- a) Pilot DSM programmes.
- b) DSM actions involving third party financing.
- c) Monitoring of the load and of improvement in electricity end-use, particularly in the area of domestic appliances and lighting.
- d) Tools and methods for analysing impact of DSM projects and programmes.

5.1.6 Education and training.

It should be noted that, as in previous years, classroom based training actions will not be supported under this heading

- a) Preparation of educational material (especially multi-media) for use by specialised groups (architects, teachers, energy managers, trainers etc.) or in specialised schools, universities etc.
- b) Preparation of educational material (especially multi-media) for use in schools and in vocational training centres.
- c) The promotion through the use of education/training schemes of energy efficiency in small and medium sized enterprises (SMEs).

5.1.7 Combined Heat and Power.

- a) Non-technological projects assessing the energy savings by CHP plants in industry and in the buildings sector.
- b) Analysis of legal, administrative and regulatory obstacles to the expansion of centralised and decentralised CHP and proposals for possible solutions in the new liberalised energy markets in the context of Article 8 of Directive 96/92/EC (OJ No. L327/30.01.97 p. 20).
- c) Pilot actions concerning the introduction of TPF in the CHP sector.
- d) Tools and methods for analysing the impact of CHP projects and programmes.

5.1.8 The creation of local and regional energy agencies.

Proposers wishing to submit applications for the creation of energy agencies should consult the separate brochure which is available for this topic, together with the special application form which must be used for proposals.

5.1.9 Information dissemination.

Activities aimed at promoting energy efficiency in itself or concepts, such as third party financing, which are directly related to the promotion of energy efficiency. Activities may be

conferences, seminars, workshops, production of publications and electronic materials (e. g. databases, CD-ROMs) and may relate to a wide range of topics. There are no precise priorities in this area but the activity must be of a transnational nature.

Priorities:

Within the above areas, the Commission would welcome especially projects in the fields of CHP, transport, energy use in buildings and industry.

5.2 STUDIES AND OTHER RELATED ACTIONS AIMED AT THE IMPLEMENTATION AND COMPLETION OF COMMUNITY MEASURES TAKEN TO IMPROVE ENERGY EFFICIENCY.

(SAVE-directive 96/737/EC OJ No. L335/24.12.96 p. 50, Article 2a)

5.2.1 Priority studies required to provide the factual and analytical support to develop policy actions in 1998.

- a) Refrigerators and Freezers⁴ - Revision of labelling (Directive 94/2/EC, OJ No. L 045/17.2.94 p. 1) and minimum efficiency standards (Directive 96/57/EC, OJ No. L 236/18.9.96 p. 36) as foreseen in the Directives.
- b) Water heaters² - Preparation for labelling and other Union measures for water heating systems.
- c) Washing machines (clothes)² - Revision of labelling (directive 95/12/EC, OJ No. L 136/25.6.95 p. 1) and of the voluntary agreements concluded with CECED for energy efficiency of washing machines.
- d) Dishwashers - Technical/economic analysis in support for the negotiation of a voluntary agreement.
- e) Variable speed drives for electric motors systems² - Identification of EU measures and programmes (labelling, voluntary agreements, efficiency standards, procurement) to achieve market transformation.
- f) Pumps² - Identification of EU measures (labelling, voluntary agreement, efficiency standards, procurement) to achieve market transformation for pumps, and the cost/benefit for the introduction of the recommended measures.
- g) IRP in a changing market - Analysis and update of IRP and DSM in the internal liberalised energy market.

5.2.2 Studies that are desirable to help the Commission monitor current actions and to develop new measures.

- a) Appliances - Monitoring of energy efficiency of refrigerators, freezers, tumble driers and washing machines sold in Union markets.
- b) Private transport - Factors that determine the use of low energy forms of private (urban) transport, including the use of bicycles. Identification of the most effective policy measures to promote this.
- c) Electric Fans and Compressors - Studies aimed at the implementation of Union measures, and market transformation for electric fans, and electric compressors.

⁴ These studies should involve characterization of the current market, estimate the economic savings potential, the costs and benefits of different possible appliances and policies, and an analysis of the impact on energy consumption, CO₂ emissions, and on the interested parties.

- d) Long term agreements - Analysis of potential energy saving in the Union by implementing Long Term Agreements to promote energy efficiency in industry and the tertiary sector; report on concluded actions in Member States and evaluation of their effectiveness.
- e) Energy related human behaviour - Analysis of the energy efficiency areas influenced by human behaviour, investigation of the available knowledge on the subject in the member states and definition of the types and means of information necessary for effective communication on energy efficiency.
- f) CHP/District heating - Analysis of the impact of the liberalisation of the electricity market on large centralised CHP and district heating and cooling plants (covering municipalities or large regions).
- g) Transport - Overview of energy efficiency measures in the transport sector in EU programmes.

ISSN 0254-1475

COM(98) 458 final

DOCUMENTS

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12 14 15 16

Catalogue number : CB-CO-98-468-EN-C

ISBN 92-78-38342-2

Office for Official Publications of the European Communities

L-2985 Luxembourg