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COMMUNITY ENERGY STRATEGY : PROGRESS AND GUIDELINES FOR FUTURE ACTION

(Communication from the Commission to the Council)

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PROGRESS AND GUIDELINES FOR FUTURE ACTION

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1. At its meeting in Luxembourg on 21 April 1983 the Council (Energy) committed itself to update at its next meeting the Community's energy policy priorities, in the light of a report by the Commission on progress by Member States towards the Community's 1990 energy objectives¹, including an assessment of the financial aspects.

2. The report that follows aims to take stock of the progress made by Member States along the path of reducing dependence on oil, diversifying sources of energy supply and increasing energy efficiency; to review the steps already taken to define energy policy priorities and to implement policy measures at Community level aimed at accelerating the rate of progress; and to help the Council to identify the main areas where a reinforcement of Community action is essential. This report is not, however, a substitute for the detailed annual review of Member States' energy policy programmes, to which the Commission attaches particular importance and which will be presented to the Council in the autumn in the light of a more detailed analysis of the development of policies in each Member State.

3. Three main conclusions emerge from the analysis in Parts II-III of the report:

- (i) there are signs of very real progress in the restructuring of energy supply and demand in the Community, although some Member States remain much more vulnerable than others;
- (ii) there are considerable uncertainties however about the future rate of progress;
- (iii) those uncertainties have been enhanced by the evolving oil market situation.

The new oil market situation has increased the risk of higher oil consumption and put all the uncertainties in Member States' projections into sharper relief. It has therefore changed the context in which energy strategy at national and at Community level must be further developed.

It is against that background that the Commission is proposing in a separate paper a pluriannual Community energy programme². This is intended to provide a stable medium-term framework for a more coherent set of Community actions and to overcome the impasses in the development of Community energy strategy described in Part IV below.

¹ OJ C149, 18 June 1980.

² Energy and Energy Research in the Community : A Five-year Programme of Action and its Financing. COM(83)315.

I - THE NEED FOR A NEW IMPETUS

The case for stronger action

4. The new oil market situation and the uncertainties about the future pace of structural change have reinforced the importance of the five priorities for action at national and at Community level presented by the Commission in its strategy document two years ago¹. But the change in context means that the policy instruments available to implement the priorities will now need reinforcement to offset the effects of weakening market signals. The analysis that follows suggests that those policy instruments should now be directed particularly at six main areas of concern. These are : (the listing is not intended to suggest a hierarchy of priorities)

- (a) the rate of exploitation of the potential for energy saving and conversion away from oil (rational energy use) where progress must be maintained and increased in the face of the new climate of uncertainty about oil prices which could work very much against it;
- (b) the obstacles to the penetration of solid fuels, particularly in the industrial sector and the desirability of improving the efficiency and health of the Community solid fuels industry;
- (c) the need for continuity in the development and commercialisation of new energy technologies both to expand the potential for rational energy use and to exploit new and renewable energy sources on a much wider scale;
- (d) the projected levels of dependence on imported energy in many Community countries, which makes it all the more important to accelerate the identification and development of economic Community energy resources;

¹COM(81)540 final.

- (e) the resolution of uncertainties about the development of nuclear power. In those Member States where nuclear is already playing an important role there has been substantial progress in the recent past. This progress is expected to continue between now and 1990 as power stations under construction come into operation. But there are very major uncertainties about the prospects for the 1990s. A sustained and more even development of nuclear power in the Community will depend heavily on concrete measures taken to help meet the continuing concerns about, notably, safety and waste-disposal which have discouraged a more widespread public acceptance of nuclear power.
- (f) increased security and flexibility in the energy supply systems within the Community as a protection against the risk of disruptions to supply and the economic damage that would follow.

The Case for Community Action

5. While the Council, at its meeting on 21 April 1983, has concurred with the Commission about the risks in the present situation, the lack of progress on new Community programmes to further common energy objectives reflects doubts on the part of some Member States about the value of Community action as opposed to national action, in dealing with the problems. These doubts must now be addressed.

6. In its Communication of October 1981 the Commission suggested that much of the action to further the pursuit of common energy objectives could be pursued satisfactorily at national rather than Community level within the framework provided by a system of agreed analysis and recommendations. Hence the importance of common guidelines for the long-term and of the regular review by the Commission of Member States'

energy policies and projections. But the Commission also drew attention to the desirability of exploiting the Community dimension wherever it was more economic and more effective to do so for the Community as a whole. This general principle remains entirely valid. But its translation into proposals for particular new Community programmes can be made only on a case-by-case basis taking account of a number of more specific complementary criteria, notably :

- (i) the scope for exploiting economies of scale. The importance of this criterion is already recognised in the field of energy R, D & D where duplication of often heavy expenditure can be avoided by pooling of scientific and financial resources. It is also relevant to the ability of the Community's financial instruments to borrow on the most favourable market conditions;
- (ii) the pooling of knowledge and experience, both of energy technologies and systems and of policy measures in specific sectors. Community programmes should provide a framework for the faster and more widespread dissemination of the results of programmes to develop technologies and techniques. This has already been shown clearly in the case of R, D & D programmes. They should also draw on the best of experience of policies in specific areas in individual Member States, making this available to the Community as a whole. One field where this is of particular relevance is the encouragement of the more rational use of energy, where all Community members can benefit from the experience of others through effective Community programmes of support based on analysis of experience Community-wide;
- (iii) encouragement to the expansion of the internal market in energy products. Access to a larger internal market encourages the development of new products and technologies. Community action to encourage energy price transparency, to remove artificial distortions to energy prices and to promote a more uniform approach to energy taxation is of particular relevance here. So too is action to harmonise norms and standards relating to energy-using equipment and to pollution control.

- (iv) the collective interest of Community Member States in the security provided by competitive energy resources produced and traded within the Community. The reduced balance-of-payments burdens vis-à-vis the outside world and increased internal trade that follow are both good for growth and employment, aside from their security benefits;
- (v) the common interest in the flexibility provided by a more integrated infrastructure for Community energy supply;
- (vi) the collective interest of Member States in protecting their economies against future energy supply and price crises by improved collective contingency arrangements. All Member States - even those with significant indigenous energy resources - will be affected by the economic disruption resulting from any major future crisis no matter how effective are contingency arrangements nationally. In some fields, notably that of gas supply, comprehensive contingency arrangements require maximisation of flexibility in the supply system which cannot be assured at national level.

7. The proposals in the pluriannual programme of energy and energy research set out in the Commission's separate paper on the Development and Financing of the Community's Energy Activities reflect these criteria.

They also proceed from the view that the scale of Community programmes should be large enough to have a significant impact in relation to the underlying policy needs.

In putting forward its proposals the Commission has examined all the information available to it about national programmes and expenditure on the areas in question. It will do so as a matter of course in further proposals that it makes for Community programmes; but for an effective assessment to be made of national programmes, Member States must make available to the Commission adequate and timely information, as the Council promised in the Conclusions of its meeting on 13 July 1982. The existence of significant levels of expenditure in some Member States in some areas is in any case

no reason in itself to call into question the desirability of Community programmes in those areas. In the first place, expenditure at Community Level need not necessarily always be additional to expenditure by Member States. In its Green Paper on the Future Financing of the Community, the Commission argued that in some fields of Community activity it would be more economic to achieve a different balance between Community and national expenditure. Action at Community Level could enable some Member States to replace some of their expenditure on national measures, while reinforcing national action within others. Secondly, however, there are some areas, where despite sizeable programmes at the national level, there remain gaps in coverage which can be complemented most economically at Community level.

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II - PROGRESS IN STRUCTURAL CHANGE

8. The present energy policy objectives of the Community were defined by a Council Resolution of June 1980¹; which agreed five main guidelines for the Community for 1990, viz.:

- reducing to 0.7 or less the average ratio between the rate of growth in gross primary energy demand and the rate of growth of gross domestic product;
- reducing oil consumption in the Community to a level of about 40% of primary energy consumption;
- covering 70-75% of primary energy requirements for electricity production by means of solid fuels and nuclear energy;
- encouraging the use of renewable energy sources so as to increase their contribution to the Community's energy supplies;
- the pursuit of energy pricing policies geared to attaining Community energy objectives.

¹OJ C149, 18 June 1980.

While these guidelines were fixed for the Community as a whole, the Council in its Resolution underlined the importance of increased consistency among national energy policies in their pursuit, and it requested the Commission to report annually on progress, making appropriate recommendations and proposals.

Progress at Community level

9. At a Community level, a number of indicators of structural change show a marked improvement both on the position three years ago, immediately before the 1980 Resolution was agreed, and also on the position in 1973. This is particularly the case for oil use and for the pattern of fuel use in power stations:

- oil consumption (inland) in the Community fell from 537 mtoe in 1979 to 425 mtoe in 1982 (-21%), a much steeper fall than for energy demand as a whole (-11.5%); and the share of oil in total inland consumption fell from 54.5% in 1979 to 49% in 1982. Over the same period net oil imports fell from 487 mtoe to 323 mtoe (-34%) because of the slump in demand and a substantial increase (+30% or 26 mtoe) in the Community's own annual production of oil;

- the share of solid fuels and nuclear in electricity generation¹ increased from 58% in 1979 (45% solid fuels, 13% nuclear) to 69% in 1982 (46% solid fuels, 23% nuclear).

The main figures are set out in Table 1 (Annex 1) which also includes figures for 1973 and the projections for 1985 and 1990 discussed later.

10. The trends in energy efficiency at Community level are less easy to interpret. The energy coefficient (the energy-GDP ratio) fell significantly in the latter half of the 1970s (0.63 1975-1980) compared with the decade before the first oil crisis of 1973-74.

But, as the Commission pointed out in last year's review of Member States' energy policy programmes, the energy coefficient is not an unambiguous

¹ Measured in terms of fuel inputs.

guide to progress in improving energy efficiency, for three main reasons:

- it may rise rather than fall as nuclear and coal-fired electricity replaces the direct use of oil (this is because of the conversion losses in electricity generation);
- it is, statistically, highly volatile at low levels of economic growth such as have been experienced during the past few years; and
- some of the more energy-intensive industries have themselves been particularly badly affected by the recession, artificially deflating the numerator in the calculation of the coefficient.

An analysis* by the Commission services of the explanations for falling energy consumption suggests, however, that there has been important real progress since 1973 in the Community as a whole in reducing final energy use per unit of output in some sectors of the economy. This progress has been sustained since 1979, notably in industry and the residential-tertiary sector:

Changes in Final Energy Use, EUR - 10

| | 1973-1979 | 1979-1981 |
|-----------------------------------------------------------------|-----------|-----------|
| | Mtoe | |
| <u>Total</u> : | + 34.1 | -58.0 |
| as a result of | | |
| (a) changes in the level of economic and industrial activity | +101.1 | + 6.3 |
| (b) changes in economic and industrial structure | + 3.7 | - 4.0 |
| (c) changes in the level of final energy use per unit of output | - 61.3 | -61.2 |

But as is shown below (paragraph 16), the rate of improvement varies considerably among Member States.

11. As far as the introduction of new and renewable energies is concerned, progress so far has been very slow. Their total contribution to the Community's inland energy consumption in 1979 was 14 mtoe or 1.4%. In 1982 the figure was still 14 mtoe, equivalent to 1.6% of a lower total consumption. In each of these years, moreover, virtually the whole of

*To be published shortly in European Economy.

this contribution came from hydroelectricity, which provides nearly 5% of total electricity supplies in the Community as a whole and around 11% in France and Italy. These figures make no allowance for the limited use of, for example, solar collectors and heat pumps in the Community (whose contribution is reflected only in reduced energy demand and not in the supply figures themselves) and they therefore understate the real contribution of new and renewable energies and new energy technologies. But even allowing for the statistical imperfections, it is clear that new and renewables will find an increasingly important place in the Community's total energy supplies only at a later stage and then only as a result of sustained efforts in R,D&D and in the commercialisation of new technologies.

12. Progress in pricing policy is summarised in paragraph 25 below.

Progress at national level

13. All Member States have experienced significant reductions in inland oil consumption since 1979. But the degree of reduction has varied significantly among them (Table 2). In percentage terms it has been greatest in Denmark (-30.4%), Ireland (-28.3%) and the Netherlands (-29%), and smallest in Greece (-3.3%) and Italy (-10.2%). In terms of the share of oil in inland energy consumption three countries (UK, Netherlands and Luxembourg) are already meeting or going further than the Community guideline of "around 40%", while three others (Ireland, Italy and Denmark) still depend for around two-thirds of their energy supplies on oil.

14. The unevenness among Member States becomes even clearer from an analysis of the patterns of oil import dependence and net oil import burdens (Table 3).

The variation in levels of oil import dependence remains striking, with Italy dependent still on imported oil for 67% of its primary energy consumption while the UK is now a sizeable net exporter. If the United Kingdom is excluded from the calculations, the average dependence on oil imports (including exports from the UK) for the remaining nine Member States remains high, at 46% (as against 36% for the Community of the Ten).

As a percentage of GDP, moreover, net oil imports are a heavier economic burden in 1982 than in 1974 for eight of the Community's ten Member States. For Italy, Belgium, Ireland and Greece they are around 6% of GDP; and apart from the United Kingdom, only one country (Ireland) has actually reduced its oil import bill as a share of GDP. All this underlines the continuing vulnerability of Community countries to future tensions on the world oil markets.

In addition, and most importantly, despite the overall reduction in the volume of net oil imports into the Community, the rise in the price of imported energy has meant that the net cost of energy imports in relation to GDP is the same now (3.8%) as it was in 1974.

15. The rate of movement out of oil in electricity generation also varies considerably among Member States. Four Community countries have already reached the Community guideline of 70-75% coverage from nuclear and/or solid fuels and two others are not far off:

- 91.5% of Danish electricity is produced from coal;
- 68% of electricity in the UK is produced from coal and 18% from nuclear energy;
- 62% of German electricity is produced from solid fuels and 19% from nuclear energy;
- over 51% of French electricity is now produced from nuclear power and over 24% from coal;
- in Belgium, coal and nuclear each account for about 32% of total electricity generation;
- in Greece, 62% of electricity is already produced from coal and lignite.

In the four remaining countries, however, the use of oil or gas remains predominant.

- Ireland has halved her oil consumption in the electricity sector since 1980. But the switch has been to gas from Kinsale (which now provides 48% of electricity supply) and there has been only a marginal increase in the use of solid fuels (to 23% of the total);
- Italy continues to produce 59% of her electricity from oil and 10% from gas. Only 30% is produced from other sources (of which solid fuels 13%, nuclear 5% and hydropower 12%).

- oil use in the electricity sector in the Netherlands has fallen by 46% since 1980 and there has been a doubling of the contribution of solid fuels, along with an increase also in gas use, which is still by far the largest single element. With a small decline in nuclear power production the total contribution of solid fuels and nuclear remains low, at less than 30%*.

16. Tables 4 and 5 provide an indication of the progress by Member States in more rational energy use since 1973. As noticed earlier, the picture varies considerably from country to country. In Belgium, France, Ireland and Luxembourg there were particularly striking reductions in the ratio between inland energy consumption and GDP (energy-intensity) in the aftermath of the first oil shock of 1973; while in the United Kingdom during the same period changes in economic and industrial structure appear to have played a much more significant rôle in influencing the level of energy demand as a whole. In the more recent period, continuing improvements in energy-intensity have been registered, though at a slower pace than in the earlier period in all countries except Italy and the United Kingdom. The improved performance in Italy reflects a real improvement in the level of efficiency in the residential and tertiary sectors but a fall-off in the rate of progress in the industrial sector. The failure to sustain progress in the industrial sector is even more marked in the United Kingdom, where the improvements in final energy demand owe a very great deal to the particularly low level of economic activity overall. These figures give only a broad-brush impression of the trends. But they do suggest some grounds for concern. The rate of future progress clearly cannot be taken for granted. A very large share of the easy improvements in energy-efficiency, through good housekeeping measures, have already been made. Further improvement will come only through high levels of investment in energy saving and progress in the application of new and more efficient technologies.

* Luxembourg uses practically no natural gas, but depends heavily on coke-oven and blast-furnace gas for electricity generation.

III - THE OUTLOOK FOR FURTHER PROGRESS

17. The projected pattern of energy supply and demand in the Community in 1985 and 1990, as it emerges from the latest available information supplied by Member States, is summarised in Table 1. If the underlying assumptions turn out to be correct:

- the share of oil in inland energy consumption should fall to 41% in 1990 (compatible with the 1990 guideline);
- the share of coal and nuclear in electricity production should rise to 80% (above the guideline);
- the energy coefficient would fall to 0.5 for the second half of the decade (an improvement on the guideline);
- the share of new and renewables would rise from 1.4% to 2.6% of total inland energy demand. (But note the qualification earlier about the statistical imperfections.)

Projections

18. The individual projections from Member States also suggest improvements on the 1982 figures in every country:

- Belgium would reduce the share of oil in total primary energy demand to 37%, more than doubling the contribution of nuclear to electricity production, increasing power-station coal use by 35% and significantly reducing the intensity of energy use;
- Denmark would see further steady increases in the use of solid fuels (up by 44% over the rest of the decade) despite saturation of coal use in the electricity sector, together with growing penetration of gas from the Danish sector of the North Sea in the second half of the decade, largely to replace oil in heating;
- Germany's dependence on oil would fall below 40%; and with an increase in the contribution of nuclear power by a factor of 2.3 and a further 15% increase in the use of solid fuels in the electricity sector, nuclear and solid fuels together would account for 86% of total electricity supplies;
- In France dependence on oil would fall from 51% to 35% as nuclear production doubled from its 1982 figures;
- Greece would reduce its dependence on oil from 72% to 56% through a massive expansion of solid fuel use (+274%), principally in electricity generation, and despite a projected increase in the volume of oil consumed;
- Ireland would reduce dependence on oil to less than 48% by a 270% increase in the use of solid fuels (two thirds of them imported), notably in the electricity sector.

- Italy would reduce its oil dependence from 68% to less than 52% by a quadrupling of solid fuel use in the electricity sector and of nuclear power production; a 260% increase in natural gas imports, mainly for domestic and industrial purposes; and an expansion of solar and hydropower;
- the share of oil in the total energy balance of Luxembourg would also fall (to 31%), largely as the result of increased use of solid fuels and gas;
- In the Netherlands a doubling of coal use in the electricity sector, the expansion of coal use elsewhere and increased use of gas in industry and the domestic sector would more than compensate for an expected increase in inland oil consumption, reducing oil dependence to 32.5%; and
- in the United Kingdom the share of coal and nuclear in electricity production would rise to the highest level in the Community (93%) by 1990 as a result of the introduction of new nuclear stations; there would be some further penetration by gas; and increased industrial penetration by coal to offset lower use in the electricity sector.

The fragility of the hypotheses

19. Prima facie, these projections are relatively comforting. But, as for those discussed in last year's review of Member States' programmes the uncertainties are great and there are a number of question-marks about the underlying hypotheses. The uncertainties have increased since last year because of the new oil market situation (see below)*. The projections assume, most notably:

- high levels of investment in the electricity sector, notably in Italy (where a large programme of construction must be completed if nuclear and coal-based electricity is to achieve anything like the projected shares of electricity-generation), in the Netherlands (where a substantial conversion programme is underway), in Belgium and Germany (in both coal and nuclear) in France (nuclear) and in Greece (lignite). Yet in its annual review of electricity investment last December, the Commission showed that the number of power stations planned or under construction was at its lowest level since 1977¹;
- major programmes to develop economic indigenous energy resources (notably, coal, oil and gas in the United Kingdom, oil and gas in Denmark, lignite in Greece, peat in Ireland);
- increased penetration of solid fuels in the industrial sector. Solid fuel use is projected to grow by 28% or 59 mtoe between 1982 and 1990. 31 mtoe of this incremental demand may be accounted for the electricity sector. All the rest must be absorbed by general industry, unless there is a significant pick-up in demand for coking coal by the steel industry.

¹COM(82)833 final.

*As indicated in last year's review of national programmes, the Commission is engaged on work to develop alternative scenarios of energy supply and demand based on different assumptions about the main variables.

- increased penetration by gas outside the power-station sector. The projections assume an increase in gas use of 46 mtoe or 29%, and a fall in gas use in power stations by 2 mtoe. The industrial, commercial and domestic sectors are therefore expected to absorb substantial amounts of extra gas.

20. The realism of these assumptions depends in turn crucially on three other interrelated factors. The first is the financial outlook for the energy supply industries. The electricity industry throughout the Community has been badly affected by the recession and in a number of countries (and notably Italy) electricity utilities may find it difficult to generate resources to finance projected investment programmes. The same applies to the Community coal industry. With the fall in demand for coal during the past two years pithead stocks have risen to record levels and aggravated the already difficult financial circumstances of the industry. Public subsidies have risen to more than three times their level in 1974 (3.844 MECU). The situation of the oil refining industry is also far from healthy.

21. Secondly, the prospects for economic growth. The expected upturn in economic growth should improve the finances of the supply industries and create a more favourable climate for investment in the energy sector as a whole. It will also increase the rate of turnover of capital stock in industry and therefore improve the prospects for the introduction of more energy-efficient equipment. It should help to increase the cash available to governments and to industry to develop new technologies. But the projections already take these elements into account. They are based on a return to relatively satisfactory levels of economic growth of on average +2.7% 1980-85 for the Community. If these assumptions about economic growth turn out to be over optimistic (and the Commission continues to believe that this may be the case) the pace of investment and innovation to restructure energy supply and demand are likely also to be over-estimated in the projections based on present policy assumptions.

Oil Prices

22. The most serious questions relate, however, to the effects of falling oil prices on the realism of the projections. In last year's review of Member States' energy programmes the Commission drew attention to the risk that a continuing fall even in real (rather than nominal) crude oil prices could slow down the pace of structural change by creating uncertainty among consumers and investors and adversely affecting the economics of alternatives to oil. Developments since then have increased the risk.

The fall in the dollar price of crude over the past two years, and the market instability associated with it, has produced both a climate of uncertainty about the future and reduced expectations about the likely evolution of the oil price in the medium- and long-term. The fact that the fall in dollar crude prices has so far been offset in the Community by the rise of the dollar has increased the uncertainty rather than reduced it. Neither uncertainty nor reduced expectations are reflected in the projections by Member States, which were all prepared long before the weakening of the oil price of late 1982/early 1983. They take therefore no account of the likely effects of oil market developments on:

- . solid fuels, which could come under increasing competition from heavy oil fuels particularly if the price of fuel oil fell more quickly than that of crude oil itself, as could well happen;
- . consumption of natural gas. There has been a sharp rise in the price of imported natural gas during the past three years, which has been reflected in consumer prices, especially to industry. The result is that already in some countries natural gas prices have caught up with and in some cases overtaken those of fuel oil. Natural gas consumption in 1982 fell back by 14% in Germany and by 25% in Belgium and Luxembourg as industrial consumers switched back to oil. This trend could be aggravated by falling oil prices, at least until the indexation mechanisms produced some compensating reductions in gas prices. These in turn would have an effect on the economics of gas development;
- . exploration and development of Community hydrocarbon resources. Expenditure on exploratory drilling for oil and gas in the North sea has held up well so far. But there was a comparatively modest response to the UK government's Eighth Round of Licensing, at least as far as oil was concerned, and a slowdown in development expenditure in 1982. The pace of future North sea development will depend on technological factors, the absorptive capacity of the oil companies themselves and fiscal regimes, as well as the outlook for oil prices. The UK government has recently proposed major steps to reduce the fiscal burden so as to help sustain the pace of development, particularly of more marginal fields*. More will need to be done, however, to sustain the pace of activity throughout the Community as a whole and not just in the North Sea, in a climate of reduced expectations about the future evolution of the oil price which reduces the interest of the private sector in investigating areas of possible new potential;

*Some of these were included in the 1983 Finance Act passed by the UK Parliament immediately before its dissolution; but proposed royalty reliefs in particular are in abeyance pending the outcome of the General Election.

- Investment in energy saving. Higher economic growth will increase the financial resources available for investment in energy efficiency, and even in the event of a considerable fall in the price of oil many energy savings investments will remain attractive. Some, however, will become more marginal. And the willingness of many potential investors to commit their cash could be badly affected by continuing uncertainty about the future evolution of the oil market. Last year's survey by the Commission of investment in the rational use of energy¹ revealed the importance attached by potential investors to greater certainty about market trends. Recent market developments will have reduced rather than increased their confidence;
- technological development Higher economic growth will free resources for R,D&D but lower oil prices may well discourage their application in the energy sector. There are already clear signs of a weakening of interest by the private sector in the development of advanced technology notably for the development of renewables and the use of solid fuels. Two coal liquefaction projects in the Community, for example, have already been deferred because of the withdrawal of the private sector companies involved; and a number of coal gasification projects are being reviewed. Reassessment of the likely longer-term trend in crude oil prices has played an important role in these developments.

¹COM(82)24 final.

Energy Imports

23. Future lines of action must also take new account of the implications of the growing dependence of the Community on non-oil energy imports.

As noted earlier (paragraph 14), the net cost of energy imports into the Community in relation to GDP was as high in 1982 (3.8%) as in 1974.

Table 1 shows that Member States are assuming for the coming years significant increases in imports of gas and solid fuels to replace oil. The main issues were highlighted by the Commission in its report last year on Member States' energy programmes. The prospect of higher levels of imports makes it essential to sustain efforts to :

- identify and develop economic energy resources within the Community itself so as to improve supply security and to reduce the balance-of-payments costs;
- ensure stability and security in external energy supplies; and
- improve the flexibility of the energy supply systems within the Community and contingency arrangements to provide protection against disruptions to supply (including more comprehensive interconnections and adequate stock-holding and management policies).

IV - THE DEVELOPMENT OF COMMUNITY ENERGY STRATEGY

24. During the past 2 years the Commission has put forward a large number of proposals for Community action based on the general framework provided by the 1990 energy objectives; by the considerations set out in the previous paragraph; and by the guidelines and priorities set out in its Communication of October 1981 on the Development of an Energy Strategy for the Community¹. The latter Communication :

- . emphasized the need for more rapid progress in diversifying energy supply and in improving the efficiency of energy use in the Community;
- . called for greater consistency among the energy policies of Member States and the acceptance of collective discipline in the pursuit of strategic goals (an essential corollary of agreement on long-term objectives);
- . argued for greater pooling of scientific and financial resources among Member States so as to capitalise on the Community dimension, with consequently faster growth in spending on energy from the Community budget; and
- . defined five operational priorities for Community action, namely to ensure :
 - adequate levels of investment (both on the supply and demand side);
 - the implementation of a common approach to energy pricing and taxation (Member States had already committed themselves to common pricing principles in their 1980 Resolutions on 1990 Energy Objectives and New Lines of Action in Energy Saving);
 - increased attention to innovation through a reinforcement of Community energy research, development and demonstration;
 - measures to increase stability on the energy markets;
 - a more unified approach to external energy relations.

25. Since October 1981 there have been four formal meetings of the Council (Energy) as well as an informal meeting of Ministers in Copenhagen on 16 December 1982 to discuss solid fuels policy. The complete list of Commission Communications and proposals that formed a basis for Ministerial discussion is given at Annex 2. Particular attention has been focussed on the following areas:

¹COM(81)540 final.

Investment in the Rational Use of Energy

At the beginning of 1982 the Commission presented a detailed analysis of the prospects for and constraints on investment in energy saving and substitution for oil¹. This was followed by Council adoption in July 1982 of a Recommendation to Member States² to take a number of actions at national level to encourage this kind of investment. In October 1982 the Commission made a proposal (draft Regulation) for complementary action at Community level through a system of financial incentives (interest-rebates from the Community budget on loans from the Community's financial instruments) to certain categories of investment in this sector. This has been discussed at two meetings of the Council (Energy) (9 November 1982 and 21 April 1983), with little progress.

Pricing

The Commission's work in this area was the subject of a progress report discussed by the Council in November 1982². The Commission will be reporting further in due course. There have been four main lines of action:

- to develop and refine the general pricing principles agreed in June 1980. A number of specific suggestions were made by the Commission in a Communication of October 1981³, which have formed the basis for the further development of Community policy in this field;
- to increase the transparency of energy prices so that consumers and investors can be better informed and the degree to which the principles are applied can be readily observed. As a contribution to transparency the Commission is now publishing a six-monthly Bulletin of Energy Prices⁴. Discussions are underway between the Commission, the industries and Member governments on other measures to achieve acceptable transparency in each sector;

¹COM(82)24 final.

²COM(82)651 final.

³COM(81)539 final.

⁴A first trial issue was published in December 1982. A second issue will be published shortly.

- to develop guidelines for the translation of the general principles into practice in specific sectors. In 1981 the Council issued a Recommendation to Member States on the setting of electricity tariffs; and in April 1983 a similar Recommendation¹ on the methods of setting natural gas prices and tariffs was agreed by the Council; and
- to ensure the application of the principles and compatibility of pricing régimes with Community competition law through careful monitoring of national policies. This work involves very detailed case-by-case analysis and the issues are complex. The Commission will be seeking further information from Member States so as to be able to form a better judgment of progress to date and of areas where remedial action needs to be taken as a matter of urgency.

Research, Development and Technological Demonstration

In December 1982 the Commission presented to the Council a Framework Programme for Community R & D, which gave renewed emphasis to the energy sector². A proposal for a 3rd Energy R & D Programme is now being submitted to the Council and a proposed programme of activities by the Joint Research Centre which will include a sizeable energy component will follow shortly. In the demonstration field, progress in setting a stable framework for future action remains stymied by the Council despite nearly two years of discussion; despite a very positive evaluation of the Community programmes and national programmes to date made by the Commission services nearly one year ago at the request of the Council; and despite acceptance by the Council of the rôle for Community programmes of this kind. For two years the programmes have been running on a hand-to-mouth basis and no decision has been taken by the Council on the levels of finance that will be needed to sustain a credible Community programme for the medium-term. We are now nearly half-way through the first year of the programme proposed by the Commission³ and still no final arrangements have been made even for 1983 itself.

¹ Recommendation 83/230, OJ N° L 123, 11.05.83, p.40.

² COM(82)865 final and COM(83)260 final.

³ COM(82)555 final and COM(82)458 final.

Coal and other Solid Fuels

In February 1982 the Commission submitted to the Council a Communication on the Role for Coal in Community Energy Strategy¹ which made a number of suggestions for encouraging coal use, modernising coal technology, promoting the development of a healthier Community coal industry and encouraging the smooth evolution of coal imports from third countries. The Commission subsequently presented an analysis of the lignite and peat industries in the Community².

The main issues in the solid fuels sector were discussed at three Council meetings during 1982, but no progress was made until December 1982 when Ministers meeting informally in Copenhagen made clear their common interest in seeking progress towards a balanced and comprehensive strategy for solid fuels and expressed their willingness to examine appropriate proposals by the Commission. The Commission subsequently drew up a programme of work for this sector³, which was discussed by Ministers in Luxembourg on 21 April 1983, and the Council has approved two draft Recommendations encouraging national measures to promote increased coal use. The Commission is now preparing specific legislative proposals in the light of the Ministerial discussion on 21 April.

Nuclear

In February 1982 the Commission presented a comprehensive analysis of the issues for the Community in the nuclear field (An Energy Strategy for the Community - the Nuclear Aspects)⁴. This led to a positive debate in the Council in July. Despite the fact that some Member States have made no commitment to nuclear power programmes, all Member States acknowledged that:

- . nuclear, along with coal must bear the main burden in helping to diversify Community energy supplies between now and 2000;
- . nuclear power has economic advantages, giving economic operators access to competitive sources of energy supply.

¹ COM(82)31.

² COM(82)649 final.

³ COM(83)54 final.

⁴ COM(82)36 final.

These agreements are a useful complement to the 1990 objective of increasing the contribution of nuclear and solid fuels to electricity production.

In December 1982 the Commission also presented a proposal for the modification of Chapter VI (Supplies) of the Euratom Treaty¹, which is now under discussion in the Council. The basic aim of the proposal is to bring the nuclear supply regime in the Community into line with the industrial realities of the 80's, both offering greater autonomy to nuclear industry and commerce in the further development of nuclear energy and sufficient guarantees that users receive a regular and equitable supply of nuclear fuels.

In the field of nuclear safeguards, the Commission also made a report in January 1983 on the application of the Verification Agreements concluded by Euratom and its Member States with the International Atomic Energy Agency². The Commission underlines in that report the crucial importance of safeguards to the development of stable relations in international nuclear trade, together with the fact that two multinational safeguards systems are in operation in the Community. The report describes progress achieved and problems encountered in implementing these arrangements.

Natural gas

During the past two years particular attention has been focussed by the Commission and the Council on the implications of growing dependence on external supplies of natural gas: At its meeting on 27 October 1981 the Council invited the Commission, in collaboration with Member States, to study the question of security of gas supply. A first report³ setting out some general considerations about security was discussed by the Council in March 1982. A second report⁴, submitted in October 1982, included the results of an examination of the ability of the Community to cope with a significant shortfall in expected supplies at the end of the decade.

¹COM(82)732 final.

²COM(83)36 final.

³COM(81)530 final.

⁴COM(82)45 final.

This showed that, if plans by gas utilities and governments to improve storage, interconnections and flexibility of the gas supply systems are implemented, Member States should be able to withstand major disruption of supplies (a cut of 25% for a period of 6 months during the winter) with only a relatively small impact on the final consumer.

At its meeting on 9 November 1982 the Council endorsed the conclusions of the Commission's study, underlining the importance of efforts within Member States to enhance supply security by :

- encouraging indigenous production, exploration and development;
- diversification of imports; and
- development of substitute natural gas.

It also encouraged the Commission to explore further, in collaboration with Member States and the gas industries themselves, the scope for closer cooperation among Member States. Work has been proceeding on this basis in parallel with work on gas security in other international organisations.

Oil stocks and limited oil shortfalls

At its meeting of 27 October 1981 and following proposals by the Commission¹, the Council agreed in principle on the procedures to be followed and on a range of possible measures to be implemented in the event of limited shortfalls in oil supply. While this agreement provided a framework for Community decisions in this field, the Commission considered that it should be given a legal form. To this end, the Commission submitted a draft Decision to the Council in February 1982². Up to now, however, there has been no final agreement by the Council.

In parallel, and taking into account on the one hand the drop in oil consumption since 1979 and its effects on the level of the compulsory stocks to be maintained by the Member States, and on the other hand the uncertainty prevailing on the oil markets, the Commission considered it useful to propose a mechanism designed to limit the fall in the level of compulsory stocks in the event of a prolonged downward trend in oil consumption. In the light of the discussions with the Council and the difficulties in reaching a decision, the Commission agreed to reconsider the problem in a general examination of oil stock policy on which it is currently engaged.

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¹COM(81)533 final.
²COM(82)41 final.

* * * * *

26. This short survey of developments at Community level shows that, while there have been a large number of useful debates on both general and sectoral issues, progress by the Council in reaching agreement on specific common actions to further Community energy strategy has been patchy. No new agreements have been finalised on Community energy programmes involving finance from the Community's general budget. The total financial interventions in the energy sector by the Community instruments (general budget, ECSC budget and Community lending instruments) are by no means negligible (Annex 3). In 1982 loans and grants together amounted to 2.8 billion ECUs, or nearly 6% of total energy investment in the Community. But by far the largest share of those interventions are in the form of loans (1.94 billion) and of the remaining 890 MECUs a substantial share represents payments by the regional fund, EMS subsidies and supplementary measures for the United Kingdom which help to finance essentially national rather than Community energy programmes. The same is true of budgetary expenditure for 1983 which is heavily influenced by the financing of special energy programmes in the United Kingdom and Germany.

The Community is therefore still a very long way from the implementation of a coherent Community energy policy, which the European Parliament has demanded. The separate paper on the Development and Financing of the Community's energy activities is intended to remedy that situation.

TABLE 1: MAIN INDICATORS OF STRUCTURAL CHANGE
1973 - 1979 - 1982 - 1985 - 1990

| | Mtoe | | | | | |
|---------------------------------------------------|-------------|-------------|-------------|---------------|-------------|-------------|
| | <u>1973</u> | <u>1979</u> | <u>1980</u> | <u>1982</u> * | <u>1985</u> | <u>1990</u> |
| <u>DEMAND</u> | | | | | | |
| Inland energy consumption | 931 | 985 | 944 | 872 | 1000 | 1065 |
| Inland oil consumption | 564 | 537 | 494 | 425 | 469 | 432 |
| Inland oil consumption as % of energy consumption | 61% | 54% | 52% | 49% | 47% | 41% |
| <hr/> | | | | | | |
| Total primary energy inputs to power stations | 236 | 279 | 279 | 282 | 311 | 369 |
| (of which) <u>solid fuels</u> | 101 | 125 | 130 | 132 | 132 | 163 |
| <u>nuclear</u> | 18 | 37 | 43 | 64 | 89 | 132 |
| Solid fuels and Nuclear as % of total | 50% | 58% | 62% | 69.5% | 71% | 80% |
| <hr/> | | | | | | |
| <u>SUPPLY</u> | | | | | | |
| Total domestic primary energy production | 351 | 458 | 462 | 491 | 533 | 561 |
| (of which) solid fuels | 198 | 180 | 185 | 184 | 182 | 188 |
| gas | 112 | 138 | 129 | 114 | 121 | 109 |
| nuclear | 18 | 37 | 43 | 64 | 89 | 132 |
| oil** | 13 | 89 | 91 | 115 | 121 | 104 |
| <u>new & renewables</u> *** | 10 | 14 | 14 | 14 | 20 | 28 |
| Net energy imports | 620 | 559 | 527 | 409 | 499 | 538 |
| (of which) net oil imports | 596 | 487 | 438 | 323 | 381 | 362 |
| <hr/> | | | | | | |
| <u>ENERGY AND ECONOMIC GROWTH</u> | 1973-1963- | 1980-1975 | 1985-1980 | 1990-1985 | | |
| Inland energy consumption (% change per year) | +4.7% | +1.9% | +1.2% | +1.3% | | |
| GDP (% change per year) | +4.7% | +3.0% | +2.1% | +2.7% | | |
| <u>Coefficient E/GDP</u> | 1.0 | 0.63 | 0.57 | 0.5 | | |

Sources: 1973 to 1982 : Statistical Office of the European Community
1985 & 1990 : Submissions by Member States, up-dated where necessary.

* provisional data

** mid-points of ranges submitted

*** hydro-electricity, geothermal energy, solar, biomass, etc

TABLE 2

| Member State | Reduction in inland oil use by Member State 1982/1979 | | Share of oil in gross inland energy consump- tion | | Share of nuclear and solid fuels in electricity generation | |
|----------------|----------------------------------------------------------|-------|---------------------------------------------------------|------|------------------------------------------------------------------|------|
| | Mtoe | % | % | 1982 | % | 1982 |
| Belgium | -5.6 | -22.4 | 47 | | 64.4 | |
| Denmark | -4.8 | -30.4 | 65 | | 91.5 | |
| Germany | -34.2 | -23.9 | 44.5 | | 78.0 | |
| Greece | -0.4 | -3.3 | 73 | | 61.8 | |
| France | -27.0 | -23.5 | 51 | | 75.5 | |
| Ireland | -1.8 | -28.3 | 56 | | 23.0 | |
| Italy | -9.8 | -10.2 | 68 | | 18.9 | |
| Luxembourg | -0.3 | 20.0 | 34 | | 8.3 | |
| Netherlands | -8.9 | -29.0 | 39 | | 29.3 | |
| United Kingdom | -18.5 | -20.0 | 40 | | 86.5 | |
| EUR-10 | -11.1 | -20.7 | 49 | | 69.5 | |

TABLE 3: THE BURDEN OF NET OIL IMPORTS, BY MEMBER STATE,
1973 & 1982

| | Net oil import dependence in % | | Net oil import bill as % of GDP | |
|----------------|--------------------------------|-------|------------------------------------|------|
| | 1973 | 1982 | 1974 | 1982 |
| Belgium | 62.5 | 49.8 | 4.2* | 6.2 |
| Denmark | 90.5 | 54.9 | 4.6 | 4.9 |
| Germany | 54.4 | 41.7 | 2.9 | 4.0 |
| Greece | 88.8 | 64.4 | 4.0 | 6.2 |
| France | 71.5 | 48.5 | 3.4 | 4.1 |
| Ireland | 78.5 | 56.4 | 6.7 | 5.7 |
| Italy | 79.5 | 67.1 | 4.7 | 5.6 |
| Luxembourg | 37.7 | 33.8 | - | - |
| Netherlands | 54.8 | 42.7 | 2.2 | 3.9 |
| United Kingdom | 49.7 | -14.8 | 4.6 | -1.4 |
| EUR - 10 | 61.6 | 36.1 | 3.7 ⁺ | 3.3 |

* Belgium + Luxembourg

Source : as Table 1

⁺ It is also noteworthy that the net cost of total energy imports, in relation to GDP, has actually remained stable for the Community as a whole between 1974 and 1982 at 3.8%.

TABLE 4 : CHANGES IN THE RATIO BETWEEN INLAND PRIMARY CONSUMPTION
AND GDP, BY MEMBER STATE

| | <u>1973 - 1977</u> | <u>1977-1980</u> |
|----------------|--------------------|------------------|
| Belgium | -11.2 | - 5.1 |
| Denmark | - 6.6 | - 6.5 |
| Germany | - 8.0 | - 4.8 |
| Greece | + 1.8 | + 0.7 |
| France | -14.1 | + 2.5 |
| Ireland | -13.8 | + 7.7 |
| Italy | - 4.1 | - 7.1 |
| Luxembourg | -17.2 | -13.6 |
| Netherlands | - 8.5 | - 3.5 |
| United Kingdom | - 7.3 | - 8.0 |

Source: Study of Energy Saving in the Community's Member States prepared for the Commission by the Fraunhofer Institut, 1983

TABLE 5: CHANGES IN FINAL ENERGY DEMAND 1973-1979, 1979-1981 IN SEVEN COMMUNITY COUNTRIES

| ENERGY (10 ³ TOE) | B | | DK | | D | | F | | I | | NL | | UK | | CE-10 | |
|---------------------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 1973-79 | 1979-81 | 1973-79 | 1979-81 | 1973-79 | 1979-81 | 1973-79 | 1979-81 | 1973-79 | 1979-81 | 1973-79 | 1979-81 | 1973-79 | 1979-81 | 1973-79 | 1979-81 |
| FINAL ENERGY DEMAND IN INDUSTRY | -1269 | -2122 | -49 | -15 | -2110 | -5980 | -29 | -7980 | +1044 | -768 | +2356 | -2162 | -10742 | -7554 | -10394 | -27858 |
| Efficiency Effect | -2887 | -1714 | -466 | +11 | -8816 | -5228 | -7309 | -7377 | -5114 | -2746 | +1186 | -2278 | -8992 | -718 | -34958 | -23990 |
| Structural Effect | -289 | -596 | -17 | +23 | -2408 | -2113 | -525 | -1322 | +1028 | +501 | -831 | +133 | -7023 | -5267 | -8355 | -6432 |
| Growth Effect | +2312 | +149 | +443 | -33 | +10487 | +1323 | +9310 | +598 | +5934 | +1385 | +2079 | -41 | +5005 | -1829 | +38728 | +2038 |
| Residual | -405 | +39 | -9 | -16 | -1373 | +38 | -1505 | +121 | -798 | +92 | -78 | +24 | +258 | +260 | -5789 | +526 |
| FINAL ENERGY DEMAND IN TRANSPORT | +967 | -275 | +198 | -349 | +6557 | -336 | +5244 | +1046 | +5423 | +496 | +1221 | +198 | +3008 | -829 | +23927 | +200 |
| Efficiency Effect | -35 | -201 | -176 | -180 | -279 | -819 | -936 | -79 | +2012 | -605 | -865 | +403 | +483 | -498 | -742 | -2336 |
| Structural Effect | +157 | -63 | -17 | -92 | +1581 | -307 | +1214 | +571 | -62 | +186 | +640 | -172 | -90 | +1006 | +3937 | +860 |
| Growth Effect | +761 | +63 | +417 | -34 | +5127 | +837 | +5013 | +505 | +3231 | +940 | +1568 | -21 | +2575 | -1282 | +20320 | +1491 |
| Residual | +84 | -74 | -26 | -43 | +128 | -47 | -47 | +49 | +242 | -25 | -122 | -12 | +40 | -55 | +412 | +185 |
| FINAL ENERGY DEMAND IN RESIDENTIAL TERTIARY | +1706 | -2502 | +266 | -2699 | +6873 | -13249 | -231 | -3879 | +3881 | -1691 | +1798 | -2679 | +5137 | -3315 | +20600 | -30325 |
| Efficiency Effect | -517 | -2599 | -750 | -2440 | -8016 | -14159 | -11014 | -5592 | -960 | -3142 | -3609 | -2246 | +566 | -2771 | -25556 | -34674 |
| Structural Effect | +401 | -155 | -49 | -255 | +3775 | -659 | +2546 | +991 | -98 | +259 | +1794 | -450 | +163 | +1612 | +8152 | +1618 |
| Growth Effect | +1949 | +156 | +1199 | -96 | +12244 | +1812 | +10511 | +876 | +5130 | +1310 | +4399 | -55 | +4666 | -2310 | +42075 | +2805 |
| Residual | -127 | +96 | -134 | +93 | -1131 | -243 | -2274 | -154 | -191 | -118 | -786 | +72 | +68 | -48 | -4071 | +126 |
| FINAL ENERGY DEMAND: TOTAL | +1404 | -4899 | +415 | -3063 | +11320 | -19565 | +4984 | -10813 | +10348 | -1963 | +5375 | -4643 | -2597 | -11698 | +34143 | -57993 |
| Efficiency Effect | -3439 | -4514 | -1392 | -2609 | -17111 | -20206 | -19259 | -13048 | -4062 | -6493 | -3288 | -4721 | -7933 | -3987 | -51255 | -51200 |
| Structural Effect | +269 | -814 | -83 | -325 | +2949 | -3079 | +3235 | +240 | +868 | +946 | +1603 | -489 | -7276 | -2449 | +3734 | -3954 |
| Growth Effect | +5022 | +368 | +2059 | -163 | +27859 | +3972 | +24834 | +1979 | +14295 | +3635 | +8046 | -117 | +12246 | -5421 | +101123 | +6334 |
| Residual | -448 | +61 | -169 | +34 | -2376 | -252 | -3826 | +16 | -753 | -51 | -986 | +84 | +366 | +159 | -9448 | +837 |

ANNEX 2

PRINCIPAL COMMUNICATIONS FROM THE COMMISSION TO THE COUNCIL SINCE SEPTEMBER 1981

Energy Strategy

The Development of an Energy Strategy for the Community COM(81)540 final
2 October 1981

Investment in the Rational Use of Energy

Investment in the Rational Use of Energy COM(82)24 final
10th February 1982

Proposal for a Council Regulation (EEC) on the payment of financial incentives in support of categories of investment in the rational use of energy COM(82)357 final
14 September 1982

Pricing

Energy Pricing - Policy and Transparency COM(81)539 final
1 October 1981

Energy Pricing - Developments in Community Policy 1981 -82 COM(82)651 final
19 October 1982

Taxation

Taxation of Petroleum Products COM(81)511 final
11 September 1982

Monitoring Member States' Energy Policies

Review of Member States' energy policy programmes and progress towards 1990 objectives COM(82)326 final
10 June 1982

Solid Fuels

The Rôle for Coal in Community Energy Strategy COM(82)31 final
10 February 1982

Report on the Brown Coal and Peat Industries in the European Community COM(82)649 final
18 October 1982

Work Programme on Solid Fuels COM(83)54 final

Nuclear

An Energy Strategy for the Community : the Nuclear Aspects COM(82)36 final
9 February 1982

Proposal for a Council Decision adopting new provisions relating to Chapter VI 'Supplies' of the Treaty establishing the European Atomic Energy Community COM(82)732 final
3 December 1982

Report from the Commission to the Council on the implementation of the verification agreements concluded by Euratom and its Member States with the International Atomic Energy Agency COM(83)36 final
27 January 1983

Oil

Measures to limit the effects of a limited shortfall in oil supply COM(81)533 final
30 September 1981

Proposal for a Council Directive amending Directive 68/414/EEC imposing an obligation on Member States of the EEC to maintain minimum stocks of crude oil and/or petroleum products COM(82)41 final
4 February 1982

Proposal for a Council Decision on a Community procedure for the adoption of measures to mitigate the effects of a limited shortage of crude oil and petroleum products COM(82)41 final
4 February 1982

Natural Gas

Communication from the Commission to the Council concerning natural gas COM(81)530 final
1 October 1981

Communication from the Commission to the Council concerning measures to enhance the security of natural gas supplies to the Community COM(82)45 final
15 February 1982

Communication from the Commission to the Council on Community natural gas supplies COM(82)653 final
15 October 1982

| | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|
| Draft Council Recommendation on the methods of setting natural gas prices and tariffs in the Community | COM(82)603 final 29 September 1982 |
| <u>Research, Development and Demonstration</u> | |
| Communication from the Commission to the Council concerning the review of the energy research and development programme adopted in the Council Discussion of 11 September 1979 | COM(82)124 final 18 March 1982 |
| Proposals for a European Scientific and Technical Strategy Framework Programme | COM(82)865 final 21 December 1982 |
| Communication from the Commission to the Council. Evaluation of the Community demonstration programmes in the energy sector | COM(82)324 final 11 June 1982 |
| Assessment Report on the Community Demonstration Programmes in the field of energy saving and alternative energy sources | COM(82)324 final/2 11 June 1982 |
| Assessment Report on the Community demonstration Projects in the fields of energy saving and alternative energy sources (Annexes I, II and III) | COM(82)324 final/3 17 June 1982 |
| Proposal for a Council Regulation (EEC) on the granting of financial support for pilot industrial projects and demonstration projects relating to the liquefaction and gasification of solid fuels | COM(82)555 final 3 August 1982 |
| Proposal for a Council Regulation (EEC) on the granting of financial support for demonstration projects relating to the exploitation of alternative energy sources, energy saving and the substitution of hydrocarbons | COM(82)458 final 3 August 1982 |
| <u>Refining</u> | |
| Problems affecting the oil refining industry in the Community | COM(81)534 final 30 September 1981 |
| Problems of the oil refining industry : progress report | COM(82)360 final 15 June 1982 |

Substitute Fuels

Draft Council Directive on crude oil saving through the
use of substitute fuel components in petrol

COM(82)491 final
29 July 1982

Interventions financières de la Communauté en faveur du secteur de l'énergie

- 1982 -

(Mécus)

Subventions du budget
général et du budget CECA

| | | |
|-------|-----------------------------------------------------------|------------|
| A.1 | Combustibles solides | |
| A.10 | Liquéfaction et gazéification du charbon (projet de dém.) | 17 |
| A.11 | Fonds régional | - |
| A.12 | Bonifications SME | - |
| A.13 | Budget CECA | |
| A.130 | Bonifications charbon (article 54) | 7 |
| A.131 | Aides charbon à coke | 6 |
| A.132 | Recherche charbon (article 55) | 17 |
| A.133 | Réadaptation (article 56) | 42 |
| | <u>Sous-total A.1</u> | <u>89</u> |
| A.2 | Hydrocarbures | |
| A.20 | Développement technologique | 29 |
| A.21 | Fonds régional | 55 |
| A.22 | Bonifications SME | 36 |
| | <u>Sous-total A.2</u> | <u>120</u> |
| A.3 | Energie nucléaire | |
| A.30 | Transport matières radioactives | 1 |
| | <u>Sous-total A.3</u> | <u>1</u> |
| A.4 | Electricité | |
| A.41 | Fonds régional | 221 |
| A.42 | Bonifications SME | 13 |
| A.43 | Mesures supplémentaires Royaume-Uni | 404 |
| | <u>Sous-total A.4</u> | <u>638</u> |
| A.5 | Sources d'énergie alternatives | |
| A.51 | Energie géothermique (projet de dém.) | 10 |
| A.52 | Energie solaire (projet de dém.) | 6 |
| | <u>Sous-total A.5</u> | <u>16</u> |
| A.6 | Economies d'énergie (projet de dém.) | 26 |
| | <u>Total général</u> | <u>890</u> |

Interventions financières de la Communauté en faveur du secteur de l'énergie

- 1982 -

(Mécus)

Prêts

| | | |
|-------|-------------------------------------------------------|-------------|
| B.1 | <u>Combustibles solides</u> | |
| B.10 | CECA | |
| B.100 | Production | 202 |
| B.11 | BEI | |
| B.110 | Transport | 2 |
| | <u>Sous-total B.1</u> | <u>204</u> |
| B.2 | <u>Hydrocarbures</u> | |
| B.20 | BEI | |
| B.200 | Production | 155 |
| B.201 | Transport et raffinage | 192 |
| B.21 | NIC | |
| B.210 | Transport | 77 |
| | <u>Sous-total B.2</u> | <u>424</u> |
| B.3 | <u>Energie nucléaire</u> | |
| B.30 | BEI | |
| B.301 | Centrales | 329 |
| B.302 | Cycle du combustible | 90 |
| B.31 | Euratom | |
| B.311 | Centrales | 303 |
| B.312 | Cycle du combustible | 55 |
| | <u>Sous-total B.3</u> | <u>777</u> |
| B.4 | <u>Electricité</u> | |
| B.40 | BEI | |
| B.401 | Centrales thermiques | 134 |
| B.402 | Centrales hydroélectriques | 51 |
| B.403 | Transport | 8 |
| B.41 | NIC | |
| B.411 | Centrales thermiques | 23 |
| B.42 | CECA | |
| B.421 | Centrales thermiques | 41 |
| | <u>Sous-total B.4</u> | <u>257</u> |
| B.5 | <u>Economies d'énergie</u> | |
| B.50 | BEI | |
| B.501 | Chauffage urbain | 73 |
| B.502 | Utilisation rationnelle de l'énergie dans l'industrie | 175 |
| B.51 | NIC | |
| B.511 | Utilisation rationnelle de l'énergie dans l'industrie | 31 |
| | <u>Sous-total B.5</u> | <u>279</u> |
| | <u>Total général</u> | <u>1941</u> |