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# Europe's Energy Policy and the Task Ahead

by Guido Brunner, Brussels \*

**The oil shock of 1973 and the subsequent world recession have drastically demonstrated the weakness of countries dependent on external energy supplies. In the following, Guido Brunner, the competent Member of the Commission of the European Communities, describes the changes we are facing in the energy field and what the Community is doing to face up to them.**

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**T**he Commission is becoming familiar with an allegation which presently is being repeated in a variety of tongues: "The world is approaching an energy crisis, but the Community, having forgotten the shock of the events of 1973-74 has no common energy policy, and at a time when the need for one is more and more urgent, the Member States appear to be content to fiddle while the oil burns."

As in most sweeping and categorical statements the grain of truth is masked by the chaff of misrepresentation. In this article I should like to describe exactly what dangers we are facing in the energy field and what the Community is doing to face up to them.

## Reorientation of Energy Policy

Most analyses of the current and future energy situation take October 1973 as their starting point, with good reason. Everyone in the oil-importing world in the 1950s and 1960s — the Community, Governments, the oil companies and industrial and financial institutions at large — had been lulled into a dangerous complacency by plentiful and cheap oil supplies which it seemed would continue to fuel the apparently limitless expansion of our economies.

All that is now changed. The OPEC countries decisively demonstrated the weakness of countries dependent on external supplies and changed the balance of economic power which their control over the world's principal energy source had brought about. Physically the temporary shortage of oil showed how it underpins in the most fundamental way the functioning of our economies. Economically, the effect was longer term and more serious, intensifying international monetary and balance of payments problems, and increasing inflation and interest rates. The result was a

world recession which has not left the OPEC countries unscathed. Not only the industrialized countries but also the oil producers and the developing countries have had to reflect upon and re-appraise the implications for them of the new energy economy and its bearings upon traditional assumption of energy use and economic growth.

Once energy had become a fashionable topic in this way, it was quickly established that energy policy should be concerned not solely with mopping up the damage of 1973/77 and reducing our vulnerability to similar damage but also, and more importantly, with re-orienting our policy for the future to equip ourselves to face the inevitable decline in the availability of fossil fuels. This is my concept of the "energy crisis" — not as sudden repetition of an artificially contrived shortage at some time in the future (however much that possibility cannot be ignored), but as the situation existing now, wherein unless action is taken soon, there will be a shortage of energy in years to come. However, because all the current indications suggest that energy is plentiful, it is very difficult to convince the public, and politicians too in some cases, that this apparently satisfactory state of affairs is largely illusory. Without the firm political commitment of public will to make timely amendments to ingrained energy habits, we cannot make progress.

## Dependence on World Energy Factors

What is the position of the European Community in all this? The first point to make is that EEC energy policy is not formed in a hermetically sealed box. It is vitally dependent on world energy factors, four of which I single out for special comment.

World demand, on best current forecasts, is going to increase dramatically in the years to come and no statistical or methodological fine-tuning can change the orders of magnitude involved. By

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2000, demand in the Community, the USA and Japan may have doubled and in the rest of the world it may have trebled. Table 1 illustrates this trend for the non-communist world as a whole.

**Table 1**  
**World Energy Demand and Supply**  
**(excluding communist countries)**  
(Mtoe)

	1975	1985	2000	
			Demand	Supply
Solid fuels	780	967	1,060–1,695	1,305–2,050
Oil	2,200	3,000	3,655–4,630	2,895–3,630
Natural gas	785	985	1,075–1,385	925–1,195
Nuclear	75	550	1,405–1,945	1,405–1,945
Hydro and others	300	400	535–785	535–785
Total	4,150	5,902	8,250–10,000	7,605–9,050

Source: WAES (Workshop on Alternative Energy Strategies) – Study, 1977.

The feasibility of a physical balance shown in this table for 1985 is not, of course, beyond doubt; some forecasts show the beginnings of imbalance even before 1985. The precise timing is less important than the inescapable conclusion that from the 1980s onwards we shall move into a position of supply imbalance. The ranges given in Table 1 for the year 2000 are necessarily tentative; but they show that oil requirements could exceed availability by 760–1,000 mn tons p.a.; by then, and taking into account a possible coal surplus, the net deficit could be 665–835 mn tons. Although in reality this "gap" would be bridged by rising prices – since at the end of the day consumption cannot exceed supply – the economic consequences are identical with those of physical shortage: loss of economic growth, increased unemployment and aggravated structural problems.

Given the inadequacy of mere adjustments made in response to the inevitable operation of the price mechanism and given the absolute requirement for supplies to be available to meet demand, lest our economic and social objectives be jeopardized, we have to ask ourselves some more fundamental questions. Where are these supplies to come from and how are they to be divided around the world? Are we going to witness a competitive and destructive scramble for energy in the last part of this century? Or is there a better way with the nations of the world, developing and industrial, producer and consumer, arriving at sensible and equitable arrangements for an orderly approach to a world problem whose solution is in everyone's interest?

The second international factor to which I attach importance arises from this very fact that energy questions can less and less be isolated geo-

graphically in tidy but unrealistic national or regional boxes. Increasingly the stewardship of energy resources – the responsible use of both finite, conventional sources and of nuclear energy – is coming under international scrutiny. No country in the world nor the Community can support a profligate pattern of energy use without exposing itself to accusations of irresponsibility and to physical supply risks. There are encouraging signs that this new atmosphere in which interdependence is recognised is bearing fruits. The Conference on International Economic Co-operation (CIEC), for example, made valuable progress and was a landmark in international relations. The Community is keen to participate in useful follow-up to this work. At the same time, the Community places considerable importance on the Euro-Arab dialogue as a means of promoting constructive cooperation between the Community and the Arab countries on whom it largely depends for its oil supplies.

The third factor is the position of the Middle East, and in particular that of Saudi Arabia. Current Saudi production is about 9 mn b/d; but by 1985 Saudi Arabia could be faced with demand for production of 12–13 mn b/d. We cannot take it for granted that the Saudis will find it physically possible or to their economic advantage to produce at that level, bearing in mind that their investment requirements could be met by the revenues of production of about 5 mn b/d. The same point applies to other producers for whom revenue raising is not an overriding objective. The recent Bahrain Conference on oil revenues and financial management clarified the nature of the dilemma in which the oil producers find themselves in this respect.

The fourth major world influence on the position of the European Community is the USA energy situation. It is not an exaggeration to say that the success of US energy policy will to a large extent determine whether our economic prospects will be seriously inhibited by an energy shortage. The USA is currently importing oil at almost the same rate as Saudi Arabia produces it. On past trends these imports should rise to 650 mn tons by 1985. The new Carter target for 1985 is to reduce oil imports to 300 mn tons. If this is achieved, it will have a major impact on world oil markets. For this reason the Community attaches the highest importance to the successful implementation of the Carter energy programme.

#### Main Targets for 1985

From this analysis, the Community's energy goals inexorably emerge, and they are really very obvious. Our overriding objective must remain the reduction of the Community's dependence on ex-

**Table 2**  
**Consumption, Supply in 1985, 1974 Objectives**

(Mtoe)			
	EEC Production	Net imports	Consumption %
Solid fuels	210	40	250 (17)
Oil	180	515	695 (49)
Natural gas	175	95	270 (18)
Nuclear	190	—	190 (13)
Hydro and others	45	—	45 (3)
<b>Total</b>	<b>800</b>	<b>650</b>	<b>1,450 (100)</b>
<b>%</b>	<b>(55)</b>	<b>(45)</b>	<b>(100)</b>

ternal supplies, particularly of oil. This we must do by significantly reducing the level of demand, particularly for oil, below previously forecast levels by means of pricing policies and stringent energy conservation measures. At the same time, since reduction in external supply will not be fully matched by reductions in demand, we must increase domestic production, by new investments and new techniques. The achievement of each of these aims would be beneficial in itself, but they are in fact complementary in that the achievement of one would increase the prospects of achieving the others. The sum of these objectives in broad strategic terms is that we should bring about, in international collaboration, an orderly transition from our present oil-dominated energy economy to a more flexible and diversified supply pattern, so that difficulties in any one sector will have a less damaging effect.

To achieve these broad objectives, the Community set itself in 1975 the following main targets for 1985:

- ☐ a reduction in consumption of 15% from the level forecast in 1973;
- ☐ a reduction in the share of oil in total consumption from over 60% (1973) to 50% or less;
- ☐ the accelerated establishment of nuclear capacity, to the extent of 160 GWe in 1985;
- ☐ increased coal production up to a stable level of 250 mn tons p.a.

**Table 3**  
**EEC Consumption and Supply 1976**

(Mtoe)			
	EEC Production	Net imports	Consumption %
Solid fuels	184	23	207 (22)
Oil	22	520	542 (58)
Natural gas	144	12	156 (16)
Nuclear	21	—	21 (2)
Hydro and others	25	1	26 (2)
<b>Total</b>	<b>396</b>	<b>556</b>	<b>952 (100)</b>
<b>%</b>	<b>(42)</b>	<b>(58)</b>	<b>(100)</b>

The production, import and consumption patterns we envisaged are quantified in Table 2.

For purposes of comparison, these targets should be viewed alongside the figures in Table 3 showing the actual position in 1976.

The Community is constantly monitoring progress towards these goals. The results so far have been mixed. On the one hand, demand forecasts for 1985 are well down from the original 1985 objectives (1280 Mtoe compared with 1450 Mtoe) although this must be due in part to economic recession; oil's share of total demand fell to 58% in 1976 and the forecast share in 1985 (51%) is still within range of the target (50% or less); and an increasing share of the EEC's total oil and gas demand is being met from North Sea production although the contribution of oil from this source will probably not exceed 20/25% of total Community needs.

On the other hand, there remain some disturbing features. There have been setbacks in the nuclear field where the expected installed capacity in 1985 is now 90 to 100 GWe compared with the forecast of 125 GWe made last year. This means a total shortfall from the 1974 objectives equivalent to about 10–80 mn tons of oil. (I discuss the implications of this and other nuclear matters below.) Also, the Community coal market has remained sluggish; its inability to compete with third country imports has kept production down and contributed to excessive stocking levels, while the use of coal in power stations remains too low.

### Further Proposals

In the light of these developments and of the latest forecasts based on information from Member States of the achievement of the 1985 objectives, the Commission has put forward further proposals to the Council of Ministers, including

**Table 4**  
**Commission Proposals**  
**for New 1985 Energy Targets**

	A Objective (Dec. 1974)		B National Programmes (1977)		C New Com- mission Proposals		D Difference between C & B
	Mtoe	%	Mtoe	%	Mtoe	%	
Solid fuels	250	17	220	17	240	18.5	+ 20
Oil	695	49	665/650	52	640	50	— 10/25
Natural gas	270	18	221/236	17	245	19	+ 25/10
Nuclear	190	13	140	11	120	9.5	— 20
Hydro and others	45	3	35	3	35	3	—
<b>Total Gross Consumption</b>	<b>1,450</b>	<b>100</b>	<b>1,280</b>	<b>100</b>	<b>1,280</b>	<b>100</b>	<b>0</b>
<b>Imported Oil</b>	<b>515</b>	<b>36</b>	<b>555/490</b>	<b>43/38</b>	<b>500</b>	<b>39</b>	<b>— 55/+ 10</b>

the revised consumption figures shown in column C of Table 4.

While recognising the difficulty of achieving the coal burn target originally established, we are determined to do better than the latest forecasts by Member States suggest. But this will require strong common action if we are to be successful. Table 4 shows the extent of the nuclear slippage only too plainly; in partial compensation for this we are proposing an enhanced role for natural gas, involving additional imports of 70 Mtoe by 1985, with all the investments in infrastructure which that entails. Another important new element in our proposals is a limit on Community oil imports by 1985 of 500 mn tons. This will be complementary to the limit proposed by the International Energy Agency of the OECD.

Of course, owing to the long lead times involved, the scope for action to affect the 1985 outcome is by now fairly limited, but within this time horizon Community efforts will be directed at four main policy priorities.

We shall pursue the implementation of conservation measures at Community and national level with renewed vigour, with particular regard to the effect on oil imports. We shall work hard to prevent a further deterioration in the implementation of nuclear programmes thereby minimising the risk of yet more oil use in power stations. We shall promote measures designed to halt the decline in Community coal production and use; and we shall encourage continued and increasing efforts in research both into new energy sources and into conservation techniques.

Other policy priorities which we are proposing to the Council are to tighten up the existing restrictions on the use of oil and gas in power stations, to bring the refining industry's capacity more into line with demand, to encourage increased investment in energy and to expand intra-Community trade in energy with a view to greater security and flexibility.

### **Nuclear Energy**

No account of the problems faced by the Community would be complete without a reference to our policy on nuclear energy. The slippage from the 1985 objective is described above. Nuclear power has already made a significant contribution to our energy supplies, and Europe is in the lead in many areas of nuclear technology, including the fast breeder. Nuclear energy could become — indeed arguably must become — the medium and long term answer to our energy needs in the

face of declining reserves of conventional fossil fuels. However, increasing public doubts about the acceptability of nuclear power have made its continued introduction in many of our countries very difficult. Where these doubts are expressed in good faith, they must in democratic societies be discussed and resolved rather than overridden. The Commission is therefore holding a series of open debates on nuclear energy, starting in November, so that its implications and problems can be considered in an informed and rational way.

But nuclear power, like oil, is an international subject and decisions in the nuclear field must inevitably be taken with regard to international considerations, because of:

- ☐ the global implications of the dangers of proliferation of military nuclear capability as a result of diversion of nuclear fuels and technology to military use;
- ☐ the scale of the industry and the increasing degree to which fuel fabrication, reprocessing and

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waste disposal, and reactor design and construction, are being carried out between the various countries.

It follows that the Community through the Commission will participate in the International Fuel Cycle Evaluation proposed by President Carter fully aware of the importance this will have for the continuing development of nuclear power as a secure and safe source of energy in the coming decades.

The Community appreciates the underlying concern about the wish of proliferation which has led to President Carter's restrictions on several important nuclear developments. We also note his recognition — recently re-affirmed by Mr. Schlesinger — of the necessity of nuclear power in medium and long term energy programmes. However, the Community's energy position is different from the USA's in a way which leads us to place a much higher priority on the development of a substantial nuclear generating capacity.

In the first place, the Community's commercial fossil fuel reserves are not comparable with the USA's, and cannot be an adequate alternative to nuclear power. Second, the Community is even more heavily dependent on imported uranium supplies (80 %) than it is on oil, and hence is very vulnerable to external difficulties. The USA, on the other hand, may be able to afford not only a slower approach to nuclear power development, but also a conventional programme based on the use of their own uranium in light water reactors. We are not in this position; there would be serious doubts about uranium supplies and the environmental impact of uranium mining if all countries including the Community were to follow this route. We therefore need to push ahead with new nuclear technology which will help us to use uranium with much greater efficiency, thereby conserving a precious natural resource. The fast breeder, for example, should be able to achieve a fuel utilisation of 60 % compared with 2 % by conventional reactors. It is for these reasons that work on the development of the fast breeder reactor and on the establishment of Community reprocessing capacity is of much greater importance to the Community than it is to the USA.

A halt now on the fast breeder would lead to the break-up of research and design teams and effectively close the option of this source of power for the rest of the century — at the very time when the availability of oil is increasingly open to doubt.

The Community has recently put forward proposals on Community reprocessing, in the light of current international concern on such questions.

The build-up of Community reprocessing capacity could reduce our uranium needs by 20–25 % in the late 1980s and our need for enrichment capacity by 10–15 %. But this depends on the building and operating of major plants by the early 1980s. If these plants are not built we shall forego these savings in uranium supply — yet we should still need plutonium for fast breeder development.

The Community has always laid great emphasis on the importance of the security of nuclear installations and of safeguards against diversion of fissile material. For many years the Community has coordinated research into development of light water reactors and fast breeders and quite some efforts are being made to harmonize security standards for light water reactors in Member States.

The Euratom-Treaty obliges the Community to ensure, by appropriate safeguards, that nuclear materials are not diverted to other purposes than those for which they are intended. To this end the Community has over 20 years developed a safeguards system which has been recognized as effective throughout the world and especially in supplier countries. In addition, since February of this year, the Community safeguards system is being verified by inspectors of the International Atomic Energy Agency in Vienna (IAEA) by virtue of an agreement between the European Community and the IAEA.

### **A Realistic Policy Framework**

I hope my description of the Community view of the energy world, the challenges it presents, the Community's objectives and progress in meeting them, specific measures either agreed or under discussion, and the broad lines of our approach to international oil and nuclear questions, will demonstrate that the Community has indeed got a clearly defined and coherent energy policy. To summarise, the Community's role is to establish a realistic policy framework, firm yet responsive to new developments, consisting of quantified targets, the adoption of a common position on external questions and the agreement of aims for domestic policy. Within this framework effective action can be taken at the appropriate level. It is of secondary importance whether this means action by individuals, consumer groups, trade unions, companies, national or local government, or the institutions of the Community itself. What is vital is that the Community as a whole and all its constituent parts pull together. The less we do this, the weaker our position will be. Given my rather bleak analysis of the energy scene, this is something in which we cannot afford to fail.