41 Internationaux

Enjeux

Alain Beltran, Éric Bussière,
Giuliano Garavini (dir.)

L'Europe et la question énergétique

Les années 1960/1980

P.I.E. Peter Lang

Au-delà des deux dates charnières de 1973 et 1979, il importe de considérer les évolutions qui ont touché l'Europe de l'ouest comme des mutations nécessaires dans un monde de moins en moins bipolaire. À travers ses épreuves et ses hésitations, la Communauté européenne construit malgré tout un parcours original dans le domaine énergétique. Consciente de ses faiblesses, elle n'a pas toutes les armes pour dépasser ses contradictions. Mais la période 1960/1980 lui permet au moins de poser les bases de solutions adaptées aux réalités du Vieux Continent.

Alain Beltran est directeur de recherche au Centre national de la recherche scientifique (UMR SIRICE). Ses recherches portent essentiellement sur l'histoire de l'énergie depuis la fin du XIX^{e} siècle, l'histoire d'entreprise, l'évolution des grands services publics et l'innovation.

Éric Bussière est professeur à l'Université Paris-Sorbonne, chaire Jean Monnet d'histoire de la construction européenne, et directeur de l'UMR SIRICE. Ses travaux portent sur l'histoire des entreprises et des relations économiques internationales et sur l'histoire de la construction européenne.

Giuliano Garavini est Senior Research Fellow à l'Université de New York Abu Dhabi. Il est l'auteur de *After Empires. European Integration, Decolonization and the Challenge from the Global South 1957-1986* (OUP, 2012). Il écrit actuellement une histoire de l'OPEP.

P.I.E. Peter Lang,
Bruxelles

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Introduction

Les chocs pétroliers, et en particulier celui de 1973, se sont inscrits dans la mémoire des peuples comme un tournant dramatique de l'histoire récente. La césure est désormais établie entre les belles périodes de croissance (les années 1960), les crises des années 1970 et les doutes de la décennie 1980. S'y ajoutent, essentiellement pour les Européens, un kaléidoscope d'images qui mêlent les autoroutes néerlandaises vidées de leurs voitures, le changement d'heure, les limitations de vitesse, les centrales nucléaires françaises, etc. Pourtant, les chocs pétroliers ne furent pas un coup de tonnerre dans un ciel serein. Comme toute crise, celle de 1973 avait ses antécédents et ses prodromes. S'il faut regarder évidemment vers le Proche et le Moyen-Orient pour comprendre l'enchaînement des faits, il est tout aussi nécessaire de prendre un peu de recul chronologique. Considérer l'Europe ensuite : un continent dépendant sur le plan énergétique, et même de plus en plus dépendant. Mais un continent qui a essayé dès les années 1960 de trouver une autre voie dans ses relations avec les pays producteurs. Et qui a en partie refusé dans la décennie 1980 l'idée d'un affrontement tout autant économique qu'idéologique entre le Vieux continent et ses fournisseurs. Même si les deux Grands, et en particulier les États-Unis, ont toute leur place dans cette période de guerre froide, on ne peut s'empêcher de souligner l'originalité des politiques française, italienne, britannique… Et par voie de conséquence, se poser la question d'une politique de la Communauté européenne sur le plan énergétique.

Les contributions rassemblées ici reprennent les exposés faits lors d'un colloque tenu à l'Université de Padoue les 18 et 19 octobre 2013 sur les Européens et les questions énergétiques. L'apport de ces spécialistes est d'un intérêt majeur pour comprendre l'évolution récente qui n'est pas sans donner un cadre aux réflexions d'aujourd'hui. En effet, les thématiques comme l'indépendance énergétique, la coopération entre producteurs et consommateurs, les échanges industriels, l'autonomie (ou la non-autonomie) des compagnies pétrolières nationales européennes par rapport aux Majors américaines… sont autant de questions qui se sont posées face à un monde qui changeait très vite. En effet, les années soixante sont marquées par la création de l'OPEP et l'indépendance de pays producteurs comme l'Algérie ; dans la décennie suivante ce sont ces mêmes producteurs qui nationalisent leurs actifs pétroliers et gaziers. La donne change brutalement alors que les pays consommateurs se sont

rués sur un pétrole peu cher, indispensable aux mobilités nouvelles et au confort de tous les jours (pétrochimie). La vie sans pétrole n'est pas possible mais la vie avec le pétrole est devenue dès lors compliquée. Telle est l'équation nouvelle qu'il faut résoudre. Les solutions proposées ne sont pas univoques. On ne remplace pas si aisément une énergie si précieuse et si pratique. Les économies d'énergie sont un peu partout mises en avant. Mais la question se pose d'une alternative au pétrole. Le nucléaire peut en offrir une, énergie qui a déjà une histoire assez longue derrière lui. On sait que ce sera le choix majeur de la France même si d'autres pays ont plus ou moins pris le même chemin. Une autre alternative consiste à développer le pétrole dit « non-OPEP », c'est-à-dire qui ne se trouve pas dans les zones exploitées par des membres de l'Organisation des Pays Exportateurs de Pétrole et en particulier les membres arabes de ce cartel. La Mer du nord est une solution pour le Vieux Continent. Certes, les conditions d'exploitation sont difficiles, le pétrole est cher, mais l'Europe (en particulier la Grande-Bretagne et la Norvège) peuvent s'éloigner des soubresauts d'une région – le Moyen-Orient – structurellement instable.

Il reste qu'au niveau des entreprises pétrolières, des adaptations, des mutations sont également possibles sinon souhaitables. Les sociétés nationales ont changé leurs actifs, essayé certaines diversifications. Ce fut par exemple le cas du gaz naturel qui s'est fort développé dans les années 1970. Or, il n'existe pas d'OPEP du gaz et le marché est assez bien partagé entre les pays socialistes, les pays libéraux et ce qu'on appelait alors le tiers monde. A-t-on oublié les énergies nouvelles (on dirait renouvelables aujourd'hui) ? À dire vrai non mais les efforts majeurs n'ont pas porté sur le solaire, l'éolien, la géothermie, etc. Si les questions environnementales apparaissent nettement dans les années 1970 puis s'affirment dans les années 1980, elles ne sont pas encore décisives. Les chocs pétroliers ont malgré tout apporté un coup fatal à la douce illusion d'une croissance soutenue et régulière. Même si la prudence est défaillante quand les prix du baril se remettent à baisser, il reste que les Européens ne raisonnent plus après 1973/79 comme avant. Une fragilité se fait jour. La croissance elle-même est remise en question dès avant le premier choc pétrolier (publication en 1972 de *Limits of growth* curieusement traduit en France l'année suivante par *Halte à la croissance*). Même si l'euphorie n'était pas si débridée qu'on l'a dit, même si l'insouciance n'était pas le propre des Européens, il n'empêche que les années 1980 sont celles des remises en cause. Mais ici encore, entre le poids des États-Unis et les égoïsmes nationaux, l'Europe a un certain mal à se coordonner et encore plus à se faire entendre.

Au-delà des deux dates charnières de 1973 et 1979, il importe donc de considérer les évolutions qui ont touché l'Europe de l'ouest (ce qui se passe de l'autre côté du rideau de fer est tout aussi intéressant même

s'il n'est pas dans notre propos) comme des mutations nécessaires dans un monde de moins en moins bipolaire. A travers ses épreuves et ses hésitations, la Communauté européenne construit malgré tout un parcours original dans le domaine énergétique. Consciente de ses faiblesses, elle n'a pas toutes les armes pour dépasser ses contradictions. Mais la période 1960/1980 lui permet au moins de poser les bases de solutions adaptées aux réalités du Vieux Continent.

Alain Beltran, Éric Bussière et Giuliano Garavini

Première partie

Les années 1960 : quelle abondance ?

Adjusting Europe's Energy Policies in the 'Golden' Oil Years

Ruggero Ranieri

Università degli Studi di Padova

The Importance of Oil

This paper starts by outlining the key features of the shift in energy sources that occurred, worldwide, in the period between 1950 and 1973, against the background of a sharp rise in energy consumption. The rise in energy consumption between 1950 and 1960 was of 55%; between 1961 and 1970 of 60% [table 1]. Only a few areas in the world accounted for the giant share of this increase: the US, Canada, OECD Europe, the USSR, and Japan. In 1950 they covered 80%, of the world's energy requirements; in 1970, 73%.

The importance of different energy sources changed dramatically: solid fuels' (coal and lignite) share declined from 66% in 1945 to 62% in 1950 to 48% in 1961 to 33% in 1970. Oil on the other hand grew from 23% in 1945, to 25% 1950, to 33% in 1961 to 45% in 1971. There was also a sharp increase in the share of natural gas from 12% in 1950, to 20% in 1951.[1]

Considering OECD-Europe, the movement away from solid fuels, was more dramatic: its share declined from 83% (1950) to 75% (1955) to 61% (1960) to 45% (1965) to 23% (1973), whereas liquid fuels grew from 14% (1950) to 21% (1955) to 30% (1960) to 45% (1965) to 59% (1973). The importance of natural gas, hydroelectric and nuclear energy remained, overall, rather small. [2]

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1 Clark, J. G., *The Political Economy of World Energy. A Twentieth Century Perspective*, Chapel Hill and London, The University of North Carolina Hill Press, 1990, p. 100. For a general overview see: Pavese, C., "L'energia, le risorse, l'ambiente", in Toninelli, P. A. (ed.), *Lo sviluppo economico moderno. Dalla rivoluzione industriale alla crisi energetica (1750-1973)*, Marsilio, Venezia 1997, from p. 132.

2 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, table 4.5. OECD Europe included the following 18 countries: Austria, Belgium, Denmark, France, W. Germany, Greece, Iceland, Ireland, Italy, Luxembourg, the

In the smaller Europe of the Six, the shift away from coal and lignite happened rather late in day. In 1960 it was still at nearly 60%, with oil at 30% and natural gas at 2.7%. By 1965 oil covered 48.5%, while solid fuels were at 42%. In 1973 oil, however, covered over 60% of energy requirements [table 2]: Italy and the Netherlands had moved rapidly away from coal starting in 1955 and more rapidly after 1960; they were joined, after 1965, by W. Germany, France and Belgium[3] [table 5].

There were a number of economic and technological factors accounting for the shift towards oil. Clearly oil exploitation technologies made rapid advances during the period and known oil reserves also grew faster than oil production and consumption. Breakthroughs were achieved in long distance oil transportation both in terms of capacity and of costs. Oil refining achieved new *impetus* as did basic petrochemical production. Oil is easier than coal to store and has the dual attraction of possessing less volume, while yielding more energy per ton. The use of oil also yields superior results in terms of process control, allowing for savings in manpower.[4]

The same advantages, in fact even greater ones, applied to natural gas. Production of natural gas had risen rapidly after WW2 with the discovery and development of new fields in Austria, Italy and France from a level of 400 million m^3 in 1946 to 5,025 million m^3 in 1955. By 1959 production had doubled again and there was a further 60% increase between 1959 and 1962. By 1964 production had reached 17 billion m^3. Drilling programmes were underway in various European countries, the biggest of which in the Groningen province in the Netherlands. Transport of liquefied natural gas by ship is economical. Advantages of natural gas over other fuels, including oil, are that it is readily controlled and creates

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Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, Turkey, UK. For a general perspective of energy in Western Europe, see: Taylor, E., and Davey, W. G., "Energy in Western Europe", *Energy Policy*, 12, 1984, p. 409-422.

3 See Communautés Européennes, *25 ans de marché commun du charbon. 1953-1978*, Ceca-CEE.CEEA, Bruxelles-Luxembourg, 1977, from p. 15; see also Curli, B., "Le origini della politica energetica comunitaria" in Guderzo, M., e Napolitano, M. L. (eds.), *Diplomazia delle risorse. Le materie prime e il sistema internazionale del Novecento, Atti del convegno internazionale di Urbino, 11-12 dicembre 2001*, Firenze, Polistampa, 2001, t. 2, p. 116.

4 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, cit., p. 106-107; Van der Wee**,** H., *Prosperity and Upheaval. The world economy 1945-1980*, Harmondsworth, Viking, 1986, from p. 129; Molle, W., "Oil refineries and petrochemical industries: coping with the midlife crisis", in De Jong, H.W. (ed.), *The Structure of European industry*, Dordecht, Kluwer Academic Publisher, 1993, p. 43-63.

less pollution and that it reduces capital costs through savings on storage, construction costs and the longer life of plant.[5]

The shift to liquid fuels was composed of a two pronged development: on one side there were certain uses, such as road, air and water transport, to which there was, already prior to 1945, no real alternative to oil. All of these expanded rapidly during the post-war years of sustained growth; equally there were other sectors, particularly industrial ones, in which oil replaced coal. In the US the switch was already under way during the interwar period, and this, plus the rise in the production of automobiles, explains the impressive level of US oil production and consumption, already before 1940.

Oil and economic growth

The shift to oil and natural gas was, thus, an important enabling factor in explaining the high growth rates of European economies, although its importance should be kept in perspective alongside many other factors.

Economic historians define the 1960s as the period in which energy intensity (i.e. energy inputs relative to GDP) reached a peak in Western Europe. The argument is that falling petroleum prices in the 1960s permitted European importing nations to expand purchases of oil without unduly burdening their balance of payments.[6] Some of the factors accounting for Europe's economic success after WW 2, such as backlog of technological innovation, cheap and abundant labour supplies, were losing some of their importance by the mid to late-1950s, and it was exactly at that point that the oil-based energy revolution materialized. Hassan and Duncan see this as facilitating structural transformation, i.e. allowing the growth of energy intensive, technologically advanced, high productivity sectors in manufacturing industry, which acted as engines of growth to the whole economy of Western economies. Whereas during

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5 On the supply of natural gas see: Williot, J. P., "Le gaz naturel: une énergie nouvelle de l'Europe?", in Conference Paper "Europe and Energy: From the 1960s to the 1980s". See also: Jensens, W. G., *Energy in Europe 1945-1980*, London, G.T. Foulis & Co Ltd, 1967, p. 106; on the advantages of natural gas, see: Hassan, J. A., and Duncan, A., "The role of energy supplies during Western Europe's Golden Age 1950-1972", *Journal of European Economic History*, v. 18, 1989, p. 494; Van der Wee, H., *Prosperity and Upheaval. The world economy 1945-1980*, p. 131.

6 Hassan, J. A., Duncan, A., "The role of energy supplies during Western Europe's Golden Age 1950-1972", p. 490. For a general overview of economic growth in Europe, see: Eichengreen**,** B., *The European Economy since 1945.Coordinated capitalism and beyond*, Princeton and Oxford, Princeton University Press, 2007, from p. 2; and United Nations, *Economic Survey of Europe in 1971. Part I. The European Economy from the 1950s to the 1970s*, New York, Secretariat of the Economic Commission for Europe Geneva, 1972, from p. 3.

the 1950s in all in all the major Western European economies, with the exception of Italy, the growth in manufacturing output was stronger than the growth in energy consumption, during the period between 1960 and 1972 growth in manufacturing energy consumption was more rapid than that of manufacturing output, meaning that the use of energy became more intensive. After the oil shock of 1973, however, the trend was rapidly reversed and the growth in energy consumption slowed down more rapidly.[7]

Structural change in the manufacturing sector was both cause and consequence of these changes. There were two areas of growth in the manufacturing sector in Western Europe: on one side the rise of consumer durables and, on the other, the strong increase in capital goods. In WG, UK, Italy and France the main thrust for industrial growth came from the capital goods sector: in WG and in Italy, for example, between 1950 and 1963/4 the index of production for capital goods rose respectively from 100 to 249 and from 100 to 243, whereas corresponding indexes for consumption goods rose to 178 and 209.[8]

According to Kirby on the forefront of innovation were petrochemicals, chemical engineering, synthetic materials, heavy electrics and electronics. To these we might add, iron and steel and cement. All these industries grew in response to rapidly growing domestic and foreign markets and they were characterized by an increasing degree of concentration. These industries were also the most energy intensive. The assumption is that they were also engaged in improving their energy productivity; in other words the increase in energy consumption due to structural change would have been much greater but for energy efficient measures as well as for the decline of old sectors such as smokestack industries. There was another component: the energy sources most used in the fastest growing industries were those most rapidly falling in cost, so that there was a substantial reduction in the cost of every additional unit of energy consumed. Industrial fuel oil prices fell by about one half between 1960 and 1970 in France, the Netherlands and Italy, although by less in WG and the UK. Furthermore, between 1956 and 1970 the cost of petroleum prices fell relative to the price of both labour and capital equipment. Thus, fuel substitution and the relative fall in energy costs, released resources for firms.[9]

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7 Hassan, J. A., and Duncan, A., "The role of energy supplies during Western Europe's Golden Age 1950-1972", p. 489, t. 5.

8 Kirby, "Industrial and Structural Change", in Schulze, M.S. (ed.) *Western Europe: Economic and Social Change since 1945*, London, Longman, 1999, p. 92.

9 Hassan, J. A., and Duncan, A., "The role of energy supplies during Western Europe's Golden Age 1950-1972", p. 493.

Price considerations were not the only ones for firms wishing to diversify. Oil and natural gas present advantages on many fronts. There are many examples of industries for which the introduction of new, labour saving, technology, was associated with the switch to oil or gas. In the Italian cement industry the switch to rotary kilns is a case in point. Also in Italian primary steel making, natural gas was used in open hearth furnaces, enabling better process control.[10] On the whole, however, the link between technological change and fuel efficiency may have led to differing results. Certainly the scale of some new energy-intensive equipment in steel and chemicals could not have been countenanced but with falling energy prices. For example strip mills of Generation III commissioned in Japan and Europe at the end of the 1960s were huge, extending to the upper limits total mill power and economies of scale, incurring overall huge energy as well as structural engineering costs. These massive plants became a liability when energy prices rose in the 1970s, unfortunately at a time when some of them had yet to become operational. The next technological waves in strip rolling were aimed at smaller, more flexible plants, with much lower energy inputs.[11]

Changes in the international oil market

Of key importance in the international oil market was the rise of the Middle East. The average daily output of a Middle Eastern well reached 3,860 barrels in 1958 compared to 250 in Venezuela and 12 in the USA. Middle Eastern fields produced 28% of world production in 1965 compared to 7% in 1938. Kuwait, Saudi Arabia, Iran and Iraq, each the preserve of a consortium of MNOCs (Multinational oil corporations), exported, in 1960, 233 Mt of oil, more than 50% of all the oil moving in international trade. While the Middle East prospered and dominated the market, during the 1960s there were new discoveries of oil in Nigeria, Egypt, Algeria and Libya. In 1955 Libya did not produce any oil; by 1970 it had become the 6th producing country.[12]

The price factor was clearly of key importance. Oil products sold at low market prices throughout the Sixties, driving the terms of trade for

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[10] Pozzi, D., *Dai gatti selvaggi al cane a sei zampe. Tecnologia, conoscenza e organizzazione nell'Agip e nell'Eni di Enrico Mattei*, Venezia, Marsilio, 2009, from p. 182.

[11] Aylen, J., "A technical history of the hot strip mill for steel – Generation I to V", in Aylen, J., and Ranieri, R. (eds.), *Ribbon of Fire. How Europe adopted and developed US mill technology (1920-2000)*, Bologna, Pendragon, 2012, p. 49-75.

[12] Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 118; Leonardo Maugeri, *L'era del petrolio. Mitologia, storia e futuro della più controversa risorsa del mondo*, Milano, Feltrinelli, 2006, p. 109.

the oil exporting countries downwards, while maximizing the benefits for consumers [see tables 3 and 4]. Wholesale price indices for all goods closely paralleled those for oil. The landed price of crude oil in Europe exceeded that in Japan, but neither price differed significantly from the wellhead price in the USA.[13]

MNOC's were often referred to as the Seven Sisters. Some authors put their number to eight, including CFP (Compagnie française de pétrole), which, however, was much smaller than the others and often acted independently from them. The others were: SONJ (Standard oil New Jersey, then Exxon-ESSO); AIOC (Anglo-Iranian oil company) later BP; Royal Dutch Shell, later SHELL; GULF (Gulf oil company); TEXACO (Texas oil company); SOCAL (Standard oil of California) later Chevron; Socony Vacuum later MOBIL. MNOC's reacted to the increase in demand with technological innovation and large-scale exploration. They negotiated long-term contracts with supplying countries and organized profit sharing schemes or sometimes joint ventures. They were challenged by "independents" (US smaller oil companies) and by state companies, including Italy's ENI. However, the real challenge came from the producing nations which increasingly made their power felt.

Between 1950 and 1966 the big Seven provided approximately 50% of world output. Their share of refined products capacity was higher, nearing 70%. If one excludes US, Soviet and Canadian oil then their share rises to 80% of output, reserves and refining capacity. By 1972 state oil companies (including France's and Italy's) and independents had made gains, but they still purchased most of their crude from the MNOCS.[14]

The MNOC regulated the market by imposing their prices. The standard was the so-called "posted price" of crude, but increasing competition and overproduction in the market meant that MNOCs during the 1950s resorted to a variety of concealed discounts from it: real prices were falling to a level of 20 or 30% below the posted price. Moreover pressures were building up in the US from independent producers to stop imports of foreign oil by the MNOCs, until, in 1959, the Eisenhower administration imposed a quota program (Mandatory Oil Import Program) which set imports of oil a 13% ceiling of the US domestic market. In September 1959 the MNOCs unilaterally reduced the posted price of crude by 5%, followed one year later, in August 1960, by another 10% reduction. This hurt the host countries in the Middle East and Venezuela, the revenue of

[13] Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 158.

[14] Maugeri, L. *L'era del petrolio. Mitologia, storia e futuro della più controversa risorsa del mondo*, p. 105, 307; Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 152.

which was tied to that price and prompted a reaction which precipitated the formation of OPEC.[15]

The OPEC (Organization of petroleum exporting countries) was created on September 14, 1960 in Bagdad by Iran, Iraq, Saudi Arabia, Kuwait and Venezuela. The aim was to create a common front in negotiations on oil prices with the major oil companies. Late joiners were: Qatar (1961); Libya (1962); Indonesia (1962); Abu Dhabi (1967); Algeria (1969); Nigeria (1971); Ecuador (1973); Gabon (1975). This cartel started negotiating with the companies to raise the revenue for the producing countries. Increase in demand strengthened the position of OPEC in the 1960s, and they started intervening in the international price mechanism.[16]

The challenge of producer nations became progressively more organized, consistent and aggressive. Revenue gains as a share of oil exports accruing to the seven main producer countries (Iran, Saudi Arabia, Iraq, Venezuela, Nigeria, Kuwait, and Libya) jumped up from 33% in 1961, to 49% in 1970, to 60% in 1972. In its first few years OPEC, however, was beset by national rivalries; single governments set their own policy. Although OPEC achieved success in forestalling further lowering of posted prices after 1960, it was rather ineffective until 1970. For example, it was unable to cut production in the member states. After 1965, however, the MNOCs steadily retreated. The US government, despite its presumed influence in Iran and Saudi Arabia, watched passively as producer states encroached upon the managerial rights of the oil companies.[17]

The Six Day War of 1967 provided an occasion for producer countries to flex their muscles. The lack of coordination by the suppliers meant that the initiative was not successful but it was ample proof of the radicalization of attitudes against the West. A number of Arab producers, first united in the Arab League and then in OAPEC, challenged western support for Israel. Oil prices moved upward during the final two quarters of the year. In most European markets and in the USA, prices then fell

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15 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 124-6.

16 Maugeri, L., *L'era del petrolio. Mitologia, storia e futuro della più controversa risorsa del mondo*, p. 310; H. Van der Wee, *Prosperity and Upheaval. The world economy 1945-1980*, p. 132.

17 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 161-173.

moderately in 1968, thereafter holding steady until the first marked price increases in late 1970 and 1971.[18]

By 1970, world energy consumption exceeded that of 1961 by 62%. Refined product requirements in the USA, OECD-Europe, and Japan advanced by 300 Mt from 1960 to 1965 and by over 500 Mt from 1965 to 1970. Producer countries realized that new oil from the North Sea or Alaska would not be forthcoming in sufficient volume to dilute their collective strength. Oil production advanced more rapidly in Libya than in other producing countries. Western Europe looked to Libya as a primary source of supply; in 1970, Italy received 35% of crude imports from Libya, Britain, 25%, France, 14%, and West Germany, 12%. The Libyan monarchy had wisely divided the earliest concessions among seven producing groups, of which the Oasis consortium, Oxy, and SONJ accounted for 66 per cent of lifting in 1970.[19]

Gaddafi, flushed with the success of the 1969 coup and ardently anti-Zionist and anti-western, challenged the concessionaires in 1970 over the issue of price and production. In January 1970 he demanded a revision of the fifty-fifty clause and a rise in posted prices. Having received a negative answer, he proceeded to impose progressive cuts in the output of oil companies. Ultimately he got his way. One of the main foreign concessionaries in Libya was Occidental, which had developed a large field in western Libya, but lacking other sources, was exposed to Libyan blackmail. Ultimately, followed by all the other companies present in Libya, it had to accept the rise of posted prices and new contractual terms demanded by Gaddafi (55% of profits to the producer nation). [20]

Soon after, in November 1970, Iran demanded equal concessions from all the MNOCs operating in Iran. In December 1970 OPEC approved a resolution asking that all companies should apply the 55% formula and demanding negotiations be held by international oil companies with producing countries both in the Gulf and in North Africa on the level of posted prices. Separate negotiations were held in early 1971 in Teheran with the Gulf oil countries and in Tripoli with North African countries. The results were higher posted prices and a new profit sharing formula.[21]

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[18] In 1968 OAPEC (Organization of arab petroleum exporting countries) is formed on the initiative of Saudi Arabia, Libya and Kuwait, to discuss specific Arab issues. Other members were Arab Emirates, Siria, Iraq, Algeria, Egypt and Qatar.

[19] Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 176-7.

[20] Yergin, D., *The Prize. The epic quest for oil, money, and power*, New York, Simon & Schuster, 1991, from p. 577.

[21] Maugeri, L., *L'era del petrolio. Mitologia, storia e futuro della più controversa risorsa del mondo*, *p.* 127.

The Tripoli-Teheran agreements of 1971 altered the balance of power in the market, with producer states gaining the upper hand. Furthermore there was a wave of nationalizations. Algeria between 1968 and 1971 took hold of 51% of all the oil reserves of foreign companies. In 1971 Gaddafi nationalized the Libyan operations of BP, and later adopted the Algerian scheme of 51% ownership of all other companies' assets. In 1972 Iraq completed the nationalization of Iraq petroleum company, started in 1961. The response of Western Governments to all these actions was weak.[22]

Between December 1979 and September 1973, just before the oil shock, official oil prices rise from 1.21 to 2.90 dollars a barrel, while spot prices are in the region of 5 dollars. In industrialized countries demand continued to grow showing little price elasticity.[23] Finally, the Yom Kippur War in November 1973 provided the occasion for a strong and decisive OPEC offensive.

The argument is, therefore, that Western Europe, swashed in cheap oil, under the corrupting regime of the MNOCs lost its bearings, succumbed to an overwhelming and debilitating dependence on Middle Eastern oil. It proved incapable of formulating a viable alternative and paid dearly for it thereafter. Various arguments are advanced, but basically they come down to the statement that Western European countries, and in particular their main supranational organization, the EEC/EC, proved incapable of formulating a coherent energy policy throughout the 1960s. National government, it is claimed, fell in total disarray, devoid of policies to protect their domestic resources or to foster alternative ones.

The decline of coal

Looking at the European Communities, a distinction has to be made between the ECSC and EURATOM on one side and the EEC on the other. The ECSC treaty was negotiated with political objectives in mind, but it also was predicated on the pooling of French and German coal resources. Creating a common market in coal meant, at the time, sharing energy resources across Europe, in the name of the efficient use of resources and an end to discrimination. In the first years of the ECSC it was assumed that all kinds of energy, and particularly coal, would be in short supply for decades to come. The Hartley Report for the OEEC in 1956, for example, recommended that indigenous fuel should be developed almost regardless

[22] Levy, W. J., "Oil Power", in Conant, M. A. (ed.), *Oil Strategy and Politics, 1941-1981*, Boulder, Westview Press, 1982, from p. 180.

[23] Maugeri, L., *L'era del petrolio. Mitologia, storia e futuro della più controversa risorsa del mondo*, p. 136.

of cost. The assumption of fuel shortages, moreover, was part of the impetus for setting up EURATOM.[24]

Very soon, however, the situation changed. After an alarming rise in pithead stocks, in 1958 a full-scale crisis in the ECSC coalmines broke out. Many factors contributed: weak cyclical demand together with imports of cheap oil, both from the Middle East and the Soviet Union, with new refinery capacity coming on stream. Furthermore long-term contracts for coal imports, mainly from the US, had to be honoured. The situation was particularly serious in Belgium, where the coalmines had failed to rationalize despite the transitional compensation payments they had been granted under the ECSC Treaty. The HA (High Authority) had to finance rising pithead stocks and extend subsidies against growing unemployment. The HA requested the introduction of a "manifest crisis" regime, which would have allowed the introduction of Community production quotas and the restriction of imports; member states, however, rejected its request in May 1959, with France, Germany and Italy voting against.[25]

The most explosive situation was the Belgian one. On December 23, 1959, the HA went to the point of applying art. 37 of the ECSC Treaty, an emergency procedure, the implementation of which had the effect of isolating the Belgian market from the rest of the Community. Imports were restricted, on the provision that the Belgian government proceed to implement cuts in capacity. The number of pits in Wallonia was of halved and 50,000 miners lost their job between 1957 and 1965.[26]

If the "manifest crisis" regime had been enacted in May 1959, as it was to be for the steel industry in October 1980, the retreat from coal would have surely been more orderly and less traumatic. This setback can be explained by rising nationalistic pressure in France and Germany, as well as by the divergence between countries importing coal from outside the community, such as Italy and the Netherlands, and coal producers and exporters such as West Germany. National governments actively torpedoed the supranational powers of the HA, which, other than declaring its total irrelevance, was left with the option of allowing members states

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[24] Sampson, A., *The New Europeans. A guide to the workings, institutions and character of contemporary Western Europe*, London, Book Club Association, 1968, p. 81.

[25] Lucas, N.J. D., *Energy and the European Communities*, London, Europa Publications, 1977; Mioche, P., *Les cinquante années de l'Europe du charbon et de l'acier, 1952-2002*, Communautés européennes, 2004, chap. 2; Spierenburg, D., Poidevin, R., *Histoire de la Haute Autorité de la Communauté Européenne du charbon et de l'acier*, Bruxelles, Bruylant, 1993, from p. 542.

[26] Leboutte, R., *Histoire économique et sociale de la construction européenne*, Bruxelles, PIE Peter Lang, 2008, p. 415; Communautés Européennes, *25 ans de marché commun du charbon. 1953-1978*, cit., from p. 83.

to act outside the spirit of the Common market. However, the Treaty contained a number of detailed prescriptions leaving the HA some room for manoeuvre at a lower level. It was, thus, still able to accompany the decline of the industry with a variety of measures: trade restrictions, guidelines for investment and production, subsidies for re-adaptation and for manpower transfers, financing of pithead stockpiles, aid to research.

Subsequent measures taken at the Community level confirm this picture. In 1965 the HA was charged by the Council to implement a system of State aids for the coal industry: member states would notify the HA of intended subsidies, and the HA would authorize them if they fulfilled certain criteria. On the other hand, for coking coal exported inside the ECSC a flexible Community based system of subsidies was put in place at the beginning of 1967, with an element of joint funding. Both these measures were confirmed a few years later; in fact the system of legalized state aids was to remain in force until 2002.[27]

Scaling down the coal industry across Europe was a dramatic process. Between 1957 and 1962, 290,000 jobs in the coal industry were lost, equivalent to 27% of the total. The largest cuts were in the Borinage and Centre basins in Belgium, but all coal basins shed labour. Underground labour was particularly affected, technological advances requiring less of it; moreover young workers shunned that kind of occupation, preferring to find jobs elsewhere.[28] If we look at the pattern of coal production we see that Belgium practically ran down its coal industry very rapidly after 1960 [table 5]. By 1970 France had halved its coal production, but Germany maintained a fairly robust output (over 100 Mt in 1970-74), which it only gradually scaled down. Britain, too, was still mining large quantities of coal in the 1970s. In Britain and W Germany, abetted by the government, coal played an important role in electric power stations throughout the 1960s. Also, coking coal continued to be a very important input for the steel industry. Imports of coal into the EC, mainly from the US, played an important role, although they never covered more than 15% of the market.[29]

On the whole, Europe managed the crisis in a progressive and balanced way, compared to US where the process was much more abrupt. Measures were taken by the industry in terms of rationalization, closures, and increased productivity. Output was phased down; collieries were progressively closed or amalgamated to create fewer, more efficient units.

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27 Spierenburg, D., Poidevin, R., *Histoire de la Haute Autorité de la Communauté Européenne du charbon et de l'acier*, *p.* 808-813.

28 Curli, B., "Le origini della politica energetica comunitaria", p. 111-112.

29 Leboutte, R., *Histoire économique et sociale de la construction européenne*, p. 421, 423.

Community grants were extended for retraining redundant workers and for housing grants; safety techniques were examined and improved, and research into new uses of coal and its by-products was fostered. In France and Belgium new industrial estates were created in the decaying mining areas. Altogether about 500,000 workers were retrained.[30]

Attempts at a Common Energy policy in the EC

The story of the failure to enact a comprehensive common Community energy policy, i.e. beyond coal, has a different starting point: the Treaties of Rome. Despite the fact that the Spaak Report had signalled the importance of a common energy policy, the EC Treaty had, in fact, carefully avoided following in the steps of the ECSC: its main thrust was to liberalize the market and avoid any supranational intervention. Energy questions were to be dealt with by an Energy Economy Division within DGII, Economic and Financial Affairs. Responsibility over energy issues was to be shared among three separate executives of the Communities. Formally: in 1959, an Inter-Executive Group on Energy was created, chaired by a member of the High Authority, Pierre Olivier Lapie.[31] However, as Marjolin, Commissioner in the first Commission responsible for energy matters, observed "nowhere in these Treaties is energy policy treated as a whole; no one is dealing with the relationship between different forms of energy. The three Executives produced proposals for different energy sources, the HA on Coal, the EURATOM Commission on the nuclear sector, and the EEC Commission on oil and natural gas".[32]

EURATOM had been created amid high hopes. For a short while there had been an overwhelming confidence that the future would be nuclear, but it did not last long. Very soon it became clear that nuclear civilian energy offered no commercial advantage in an era of cheap and plentiful oil supplies. The commercial significance of nuclear energy faded in the background. The issue of nuclear power, both civilian and military, was still pursued, but member states increasingly saw it as national rather than common endeavour. By 1967, by the time the Executives of the three

30 Minshull, G. N., *The New Europe. An economic geography of the EEC*, London, Hodder & Stoughton, 1985, chap. 2 "Energy: a variety of sources", p. 27; on the decline of coal in the community, see: Mioche, P., *Le cinquante années de l'Europe du charbon et de l'acier, 1952-2002*, cit., p. 49-57.

31 Curli, B., "Le origini della politica energetica comunitaria", cit., p. 98; Spierenburg, D., Poidevin, R., *Histoire de la Haute Autorité de la Communauté Européenne du charbon et de l'acier*, p. 674.

32 Cailleau, J., "Energy from synergies to merger", in Dumoulin, M. (ed.), *The European Commission 1958-1972, History and Memories*, Luxembourg, Office for the Official Publications of the European Community, 2007, p. 471.

Communities were merged, EURATOM had almost ceased to function as an institution and it never had an important voice in influencing Community policies on energy.[33]

Initial Community thinking on energy issues shared a feeling of optimism and abundance. Prices of oil on the international market between 1959 and 1960 had gone down; there was ample access to low priced Soviet oil; the French had discovered petroleum in Algeria. The Robinson Report, prepared in 1960 by the OEEC Energy Advisory Committee came down on the side of free trade and liberalization, writing down much of the European coalmining industry and accepting dependence on outside sources on the part of the OEEC countries. In 1966 another Report, by the OECD Energy Committee Report, concluded along similar lines.[34]

A number of proposals were put forward, containing sensible and important prescriptions, but each time the member states could not agree on them and the Council did not take any action. The first proposals were issued by the Working Group in 1960, calling for a single energy market to be achieved gradually. In 1964 a Protocol of Agreement on energy policy was adopted by the Council of Ministers, but its practical application consisted merely in measures designed to allow state subsidies of coal. During this first phase it could be said that, despite calls for liberalization, the dominant influence was still the High Authority of the ECSC, which had the great advantage of a Treaty designed specifically to cope with the management of the coal (and steel) sector.[35]

After a long preparation, in 1967 the Merger of the Three Executives took place. The new EC Commission started work on a new initiative on a common energy policy. A new Directorate General for Energy was created as part of the EC Commission with responsibility over all energy issues and bringing together experts and specialists from the three communities, under the German Commissioner Wilhelm Haferkamp.[36]

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[33] On Euratom see: Lucas, N. J. D. *Energy and the European Communities*, from p. 40; Leboutte, R., *Histoire économique et sociale de la construction européenne*, from p. 433; Bussière, E., Van Laer, A., "Research and technology, or the 'six national guardians' for 'the Commission, the eternal mirror'", in *The European Commission, 1958-72*, cit., from p. 496. An Italian prospective in Curli, B., *Il progetto nucleare italiano (1952-1964), Conversazioni con Felice Ippolito*, Soveria Mannelli, Rubbettino, 2000, from p. 183.

[34] Jensens, W.G., *Energy in Europe 1945-1980*, cit., from p. 85.

[35] See: Curli, B., "Le origini della politica energetica comunitaria", from p. 115; Lucas, N. J. D., *Energy and the European Communities*, from p. 36; Spierenburg, D., Poidevin, R., *Histoire de la Haute Autorité de la Communauté Européenne du charbon et de l'acier*, from p. 799.

[36] Cailleau, J., "Energy from synergies to merger", p. 480.

New proposals emerged only slowly. In December 1968 the Commission submitted to the Council its *Initial Guidelines Towards a Common Energy Policy*, with an explicit commitment to a low cost energy policy. The range of ideas and analyses was wide ranging: it included a five-year rolling plan to serve as a guide to investment and proposals to intervene in the event of difficulties with supplies; liberalization measures in view of a common market; proposals to promote cheap reliable supplies, mainly through Community intervention aimed at supervising and coordinating national policies. There were proposals for financial aids to support production in some coalfields; exploration and production of gas and oil in the Community, with supplies to be controlled by the Community, steps towards a common supply and pricing policy.

In November 1969 the Commission sent a set of more detailed proposals to the Council, but again there was no agreement. In 1972 the Council approved a directive settings mandatory stocks of oil to 90 days and regulations for notifying imports of hydrocarbons and investment projects. More documents were produced in 1972. By this time the international situation of the oil market had become alarming. For the first time it was observed that the Community would require to monitor the pattern of vertical and horizontal integration of the oil companies. There was a call for more investment in nuclear energy and imports of natural gas and for a dialogue between the EEC and the Middle East producing nations. Information on prices to the Commission was called for.[37]

Discussion on a common energy policy, centring on oil, was held by the Council of Ministers in May 1973, not long before the oil crisis of 1973. The meeting lasted nineteen hours, and was marked by a confrontation between France which believed in dialogue with the producing nations, and others members believing in consumer solidarity. This split was to dominate and paralyse the next stage of Community policy.[38]

Why then so little was achieved in terms of implementing measures that could have helped the Community in facing the crisis of the 1970s? The Commission did present possible lines of action with sufficient clarity. Some authors have stressed that is could have put more the accent on the danger to security, rather than endorsing the notion of compatibility of low cost and security of supply. However, some of its later documents did contain sufficient warning. The key problem for the Commission, however, was that the EEC Treaty offered very few tools for independent action outside of the agreement of the Council, and this was not available as member states pursued their own national strategies. Whereas for issues related to coal, there was at least the fiction of respecting the Treaty

[37] Lucas, N. J. D., *Energy and the European Communities*, from p. 48-50.

[38] *Ibid.*, p. 56.

framework, in wider energy matters even this was unnecessary. A stronger reliance on anti-trust provisions, such as was much later developed by the Commission, would have been a useful tool in addressing the oligopolistic structure of the EEC's oil and energy market.

On the surface ECs member states paid only lip service to a common market for energy. National strategies, including protection, price controls, favoured treatment for preferred companies, meant that a real common market in energy sources was unrealistic and unachievable. It cannot be claimed, on the other hand, that energy issues were perceived as marginal; rather member states chose to meet them according to their national interests and did not see integration as way of achieving their aims in this field.

National Energy policies in Western Europe

Even a brief comparative examination of the energy position of the main European country reveals similarities as well as differences. By the early 1970s all European countries had developed a strong import dependence from Middle Eastern oil, despite their persistent search for alternative sources of supply, be it from Algeria and Libya, or from the Soviet Union. On the other hand, their choices and preferences had been shaped, in differing ways, by their respective endowment of resources, comparative costs, and pressures from interest groups, strategic and military national priorities. Each country balanced its choices by trying to meet two imperatives: self sustained economic growth and national security, the latter largely conceived in economic terms. Far from ignoring o underestimating the issue, energy was at the very core of national strategies for prosperity and international status.

France after WW2 had nationalized coal (Charbonnage de France) as well as electric and gas utilities. Initial focus had been on reducing coal imports by the expansion of coal mining and by investment in hydroelectric capacity. Still coal capacity remained inadequate and costly. It defended its coal industry, by subsidy and protection against oil, until the 1960, when as a result of the Plan Jeanneney it was scaled down: from 58 Mt in 1958 it fell to 27 Mt in 1973.[39] At the same time the country embraced a policy of energy independence by control of foreign oil through CFP, development of oil fields in its overseas possessions, and expansion of refinery capacity and nuclear power. A civil nuclear research program was started in the 1950s and the first nuclear power station opened in 1962,

[39] See Escudier, J. L., "Charbonnages de France entre progrès technique et régression économique 1960-2000", in Conference Paper "Europe and Energy: From the 1960s to the 1980s".

however, it was only after 1973 that the government decided to make nuclear power the pivot French energy policy.[40]

CFP (Compagnie francaise des pétroles) had been created in 1924, with the French state owning a 35% stake. It became party to a number of international consortia among the MNOCS in the Middle East, albeit with a minority stake. Being at the same time an insider and an outsider led to frequent tensions with the other MNOCs as well as with the French government, De Gaulle fearing the company had gone "native" and was pursuing its own commercial interest rather than fulfilling the nation's needs.[41]

CFP had been looking hard for petroleum in the French African territories. Oil was firstly discovered in Algeria in 1956 and a kind of "Sahara fever" took over in the late 1950s and early 1960s. The French government managed to retain a leading role in exploiting Algerian resources despite Algeria gaining independence. In 1965, a new totally state-owned French oil company, Elf Erap, better known as Elf, was created.[42] Oil import dependence seemed an acceptable risk given state-owned company control over a substantial part of oil imports. France, moreover, tried, without much success to ensure preferential treatment for Algerian petroleum in the Common market, while at the same time import quotas and other regulations guaranteed the domestic market of French produced crude.

During the 1950s France had derived over 80 per cent of its oil from the Persian Gulf. In the course of the 1960s, however, France was able to replace Middle Eastern oil with Algerian and Libyan oil. In 1970 the Middle East covered only 44% of French oil imports, while Algeria and Libya had risen to 45%. But the situation was soon dramatically reversed, with Algeria nationalizing French companies and causing them to withdraw and Gaddafi limiting output in order to jack up prices. In

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40 On French Energy Policy see: Asselain, J. C., *Histoire économiques de la France du XVIII^e siècle à nos jours. 2. De 1919 à la fin des années 1970*, Paris, Édition du Seuil, 1984, from p. 130; Daviet, J. P., "Le nucléaire en France, enjeux stratégiques et économiques (1944/1973)", in Conference Paper "Europe and Energy: From the 1960s to the 1980s".

41 See: Tristani, P., "Groupes pétroliers et stratégies nationals en Europe: Le cas de TOTAL", in Conference Paper "Europe and Energy: From the 1960s to the 1980s"; Yergin, D., *The Prize. The epic quest for oil, money, and power*, *p.* 525-527.

42 In due course Elf was to become a new major, and one of the largest industrial groups in the world, see Yergin, D., *The Prize. The epic quest for oil, money, and power*, p. 526-7.

1971 imports from Algeria and Libya had gone down to respectively 7% and 3%.[43]

In the Netherlands, reliance on imported oil was relieved by domestic natural gas. The huge Groningen methane field was discovered in 1959 and natural gas was developed and exported by Gasunie, a state-owned company, which acted in collaboration with Shell and ESSO. By the 1970s the country, which had closed its coal mines down entirely, became a major natural gas consumer and exporter. Natural gas climbed from 4 to 31% of Dutch energy needs between 1965 and 1970.[44]

W. Germany and Britain continued to rely on coal until the late 1960s. Both bolstered and supported coal with subsidies and protection against oil competition. Nevertheless coal production fell in Britain after 1955/6, while in W. Germany it reached a plateau. In both countries electric generation emerged as the single largest market for coal, however, but for a policy of subsidies and taxes on imported fuel, the role of coal would have diminished much faster. In Britain, despite coal being sold at a discount to thermal power plants, by 1973 fuel oil had captured 29% of that market.[45]

W. Germany was less dirigiste than France or Italy and its policies were based on incentives to coal users and tax disincentives for fuel oil. As a result, in absolute terms, coal consumption still grew, although marginally, between 1960 and 1973. At the same time employment in the coal mines fell rapidly: between 1957 and 1968 from 604,000 to 272,000. 1967 was a key date for Germany's coal industry: with more mine closures in the Ruhr, there were massive social protests. The government pressed the coal companies to merge and gave them massive subsidies. By 1973 coal provided only one third of W. Germany's energy needs, and production had fallen below the level of 1955. MNOCs on the other hand, by 1969, supplied the country with most of its oil and owned 75% of German refining capacity. After 1968, Germany moved in the direction of the French model; it set up a national oil company and tried to reserve a section of the home market to German owned firms. The first important commercial nuclear power plant opened in 1969. Germany imported large

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43 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 201-202.

44 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 194; Minshull, G. N., *The New Europe. An economic geography of the EEC*, p. 32.

45 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 198.

quantities of natural gas from the Netherlands: between 1963 and 1973 German distribution companies purchased 35% of Dutch gas exports.[46]

Britain had a less dynamic economy than its European partners. Its global energy requirements which were 57% larger than W. Germany's in 1950, trailed 10% behind Germany's in 1970. Energy requirements grew by 15% from 1950 to 1960 and another 29% from 1960 to 1973, a rate of growth far slower than that of its EEC counterparts. Reliance on coal remained substantial until the 1970s, helped by imported oil and coal licensing requirements, high excise duties on fuel oil, and restraints on the use of fuel oil by power plants. However, in the long run, coal's disadvantages could not be overcome.[47]

Britain was the first among the western countries to develop a commercial nuclear plant, as early as 1956 (Calder Hall), but by the 1960s the role of oil was becoming essential. The country enjoyed considerable advantages in the oil market, because British oil companies, BP (in which the state had a majority stake) and Shell (a private British-Dutch conglomerate) were strong in the Middle East and other parts of the world. BP and Shell controlled one half of the domestic oil market. The relationship between the British government and BP had traditionally always been an arm's length one, and it remained so for the company's Middle East and other international operations, but it was questioned particularly by Labour governments in respect to the exploitation of North Sea gas and oil. During the 1960s in fact Britain, Holland and Norway had launched exploration ventures in the North Sea, where substantial oil and natural gas fields were discovered. By 1973 North Sea gas covered 11% of Britain's energy requirements, and soon after oil in substantial quantities became available.[48] Already in the 1960s the Wilson government sought to put pressure on BP, by submitting its licences and contracts to State owned corporations such as the National Coal Board and British Gas.[49] The British government

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46 Sampson, A., *The New Europeans. A guide to the workings, institutions and character of contemporary Western Europe*, *p.* 77; Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 197-198.

47 See Moore, L., *Britain's Trade and Economic Structure. The impact of the European Union*, London and New York, Routledge, 1999, from p. 144; Chick, M., "Le Charbon, la sécurité et la politique énergétique dans l'Europe des années cinquante et soixante: la perspective britannique", in Ministère de l'économie, des Finances et de l'Industrie, *Le rôle des ministères des Finances et de l'Economie dans la construction européenne (1957-1978), Tome I, Actes du colloque tenu à Bercy les 26, 27 et 28 mai 1999*, Paris, Comité pour l'Historie économique et financière de la France, 2002, p. 507-523.

48 Clark, J., *The Political Economy of World Energy. A Twentieth Century Perspective*, p. 107-7 and 197-8.

49 Kuiken, J., "Free From Interference, Protected from Competition? The Evolutions of BP's Relations with the British State (1960-1968)", in Conference Paper "Europe and Energy: From the 1960s to the 1980s".