ENERGY CONSIDERATIONS IN UNITED STATES FOREIGN POLICY

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Of the various ways in which energy enters into American foreign policy, the most important for national security is the heavy dependence of the United States and most of its allies on oil from unreliable sources, particularly from the Middle East. In comparison, other energy-related foreign policy problems, such as the tendency toward proliferation of nuclear weapons and the effects of high oil prices on the international capital markets, have a less immediate significance. The situation with respect to oil of each of various groups of countries will be discussed in turn, with incidental references to other energy matters. The final section, dealing with the United States, will present certain conclusions concerning our foreign policy.[1]

OPEC: Economic Aspects

On an average day in 1979 some 20 million barrels of oil passed through the Strait of Hormuz on their way to the industrial countries, whose total consumption was about 40 million barrels per day. Nearly all of the Persian Gulf oil, and most of the exports from other areas, came from OPEC members. The policies of OPEC are therefore a suitable starting point for this discussion.

The Organization of Petroleum Exporting Countries, founded in

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[1]Many of the problems taken up here are discussed more extensively in a recent book edited by David A. Deese and Joseph S. Nye (*Energy and Security* [Cambridge, Mass.: Ballinger Publishing Co., 1981]), which became available when the present paper was nearly finished in draft. The author is grateful to Professor Nye for valuable comments on an earlier version.

1960, started to dominate the world energy situation during the early 1970s. It had been formed to protect its members against the consequences of a fall in the price of crude, the result of massive discoveries by the major oil companies in the Middle East and elsewhere. When the world oil market gradually turned in favor of the sellers, the organization became more ambitious. This change resulted primarily from general economic growth in the importing countries and their increased demand for oil and was reinforced by the substitution of oil for coal (particularly in the generation of electricity).

In 1971 OPEC gained an easy victory when the international oil companies agreed to a general increase in the price of crude, the first of any size in many years. The companies also accepted greater control by the producing countries over the rate of extraction, in effect giving up the leadership they had exercised in the world oil market since the beginning of the century. Although some of the major companies, especially the four partners in the Arabian American Oil Company (Aramco), retained certain advantages, Western influence on petroleum policies in the Middle East came to an end.

OPEC's greatest success started in late 1973, when spot prices rose sharply as a result of the panic buying that followed an Arab embargo of the United States and the Netherlands. Whether or not the embargo itself (which was ineffectual from a political point of view) was intended to bring about this price increase, the effect was the same, namely a quadrupling of crude prices. By keeping oil exports under control, OPEC was able to exploit the market power that had emerged when the United States started to compete with Europe and Japan for oil from the Middle East and Africa.[2]

The success of the oil cartel was significantly aided by the reaction of consuming countries. In response to the embargo, the International Energy Agency was set up to formalize already existing agreements concerning the sharing of oil supplies in an emergency. Diplomatic efforts were made to reach some kind of understanding with OPEC in the framework of the so-called North-South dialogue, to be discussed later. Many European countries attempted to develop closer political ties with the Arab world, moving closer to recognition of the Palestine Liberation Organization in the process. None of this, it is fair to say, had any discernible effect on OPEC's policies, which were aimed primarily at economic goals.

[2]Until 1970 U.S. oil imports were relatively small and came mostly from Venezuela and Canada. Afterward domestic production fell sharply, while consumption was maintained at a relatively high level through price controls.

These diplomatic approaches were irrelevant, but at least they did no great harm. More serious was the refusal by the United States and Canada to recognize that the world price had changed. Politicians in both countries declared heroically but fatuously that the price of oil was going to be set by them, not by some foreign cartel. Since they set the price with a view to the short-term interests of consumers, it was too low to encourage conservation and domestic production. The volume of U.S. oil imports more than doubled during the middle 1970s, while Canada managed to become a net importer after having been a sizable net exporter for several years. There was greater realism in Europe and Japan, where not only the cartel price was passed on to consumers, but where excise taxes on oil were raised in addition. However, no credible common policy against OPEC emerged.

Even so, the world oil market became gradually weaker after a few years as high oil prices and a worldwide economic slowdown restrained consumption in Europe and Japan. Before these market forces could bring OPEC down, however, the Iranian revolution of late 1978 virtually eliminated the second largest exporter from the world market, thus setting the stage for another large price increase in 1979. Renewed weakness in the world oil market became apparent in 1980, but it was again cut short, this time when the war with Iran removed Iraq (by then the second largest producer in OPEC) as a major exporter. At the time of this writing (January 1981), these hostilities had had little or no effect on crude prices because the importing countries held large inventories in anticipation of further price rises; moreover, the price increase of 1979 and general economic weakness held down the current demand for oil products. As a result the spot price fell, even though the conflict between Iran and Iraq continued. The repeal of oil price controls by the United States in early 1981 no doubt also helped to restore balance in the world market.

OPEC's demonstration of power during the mid-1970s had serious repercussions in the world economy but did not initially destabilize the Middle East politically. The first sign of instability was the Iranian revolution, directed mostly against the shah's policy of rapid modernization financed by large oil revenues; it was at least an indirect result of aggressive pricing by OPEC. The subsequent war between Iran and Iraq, while not attributable to differences over oil policy, is symptomatic of the mischief that affluence permits: Without their accumulated oil profits, the combatants could hardly afford a prolonged military confrontation. The mutual destruction of petroleum installations, which recognizes this precondition, is also the most worrisome feature of the conflict for third parties. Doubts have also arisen about the permanence of other regimes in the Persian Gulf.

The cartel has been able to overcome these political disturbances because it is not very tightly organized; even in its heyday it relied more on informal understandings than on explicit agreements. Between 1971 and 1978 the cartel members were usually in agreement on the world price, but no formal mechanism for allocating output was ever adopted. The 1979 price rise was of course very much to the short-term benefit of the oil exporters, but it appears to have been as much a surprise to them as to anybody else. Since early 1979 the world price has in effect been determined on the Rotterdam spot market rather than by OPEC.[3] This does not mean that OPEC has lost control of the world oil market, but it does indicate that there are limits to OPEC power. The fall in OPEC's share of noncommunist world oil output from 65 percent in 1973 to below 60 percent in 1980 points in the same direction.

It can be maintained, in fact, that the main effect of OPEC is not so much on current production as on exploration. When the major oil companies had a free hand, they discovered enormous reserves, most of which are no longer under their control. Under present arrangements the incentive for exploration by these companies in most OPEC countries is severely reduced, and they have shifted their efforts to non-OPEC areas such as the North Sea and North America. Since the latter areas have less oil potential than the OPEC countries, the efficiency of the world oil industry has been adversely affected by the cartel.

As is true of most cartels, the members of OPEC have divergent interests. Some, particularly Indonesia and to a lesser extent Nigeria, have not let their OPEC membership influence their production decisions at all; these populous countries, which are not solely dependent on oil exports, are producing at or close to capacity and pushing ahead with exploration. Among the more committed members, only Kuwait has deliberately kept its production well below capacity, apparently preferring oil in the ground to investments in other areas. Since the fall of the shah, Iran has also produced at a very low rate.

[3]William Nordhaus, in "Oil and Economic Performance in Industrial Countries," *Brookings Papers on Economic Activity 2* (Washington, D.C.: Brookings Institution, 1980), pp. 341–99, has argued that this was also the case in 1973–74. If so, the achievement of OPEC was to prevent the world price from falling after 1974, which meant counteracting the effect of normal market forces by encouraging its members to restrict supply.

On the other hand, Saudi Arabia has sought to assert its leadership by actual or threatened increases in production; its share of OPEC output rose from less than a quarter in 1973 to over a third in 1979. Although less vocal on the subject, Iraq (until the recent hostilities with Iran) has also tended toward increasing output over time, raising its share from 6 percent in 1973 to 11 percent in 1979. While Algeria and Libya have consistently pressed for higher prices, they have rarely been prepared to back up this demand by commensurate output reductions. Among the remaining members, Venezuela and the United Arab Emirates have customarily acted as peacemakers within the cartel without attempting to pursue policies of their own.

These divergencies within the cartel can be explained by differences in economic circumstances. Saudi Arabia has vast reserves and would probably have little difficulty in increasing these reserves by further exploration. If it does not price itself out of the world market, it can confidently expect to be a major oil exporter well into the twenty-first century, but the qualification just stated compels it to take a longer view than members with more limited prospects. The position of Iraq and of the United Arab Emirates is similar to that of Saudi Arabia.

The majority of OPEC members, on the other hand, do not believe their oil reserves are large enough for continued dependence on that commodity. They want to diversify into other industries, for which purpose large investments are required; in fact, some of them have run current account deficits even with high oil prices. Their main concern, consequently, is for immediate revenues rather than for the long-term future of oil as an energy source. These members tend to argue for higher prices than the more far-sighted exporters consider prudent.[4]

The fact that Saudi Arabia has often worked toward moderation in pricing does not mean that it is less interested in the maintenance of OPEC's market power than the smaller producers. On the contrary, Saudi Arabia has consistently attempted to dissuade importing countries from holding large inventories, which would provide them with some flexibility in responding to further increases in the cartel price and which would also reduce the effects of any future embargo. It is due in large part to pressure from Saudi Arabia that the United States has fallen far behind in filling the Strategic Petro-

[4]In any case, it is not unusual for the larger producers in an industry to charge less than the traffic would bear in the short run. Thus for many years the world's leading copper companies kept their price below the free-market level. The reason they gave was fear of inroads by aluminum.

leum Reserve, which at last report contained less than 120 million barrels (about three weeks' imports at the current rate). As mentioned already, the initial impact of the war between Iran and Iraq on the price of oil was relatively modest because of the large stocks held in consuming countries, but Saudi Arabia has made a temporary increase in its production contingent on a reduction in these stocks. The International Energy Agency (IEA), already mentioned, has cautioned its members not to buy in the spot oil market, thus in effect yielding to the Saudi desire for a drawdown of inventories.

Whether this IEA recommendation is wise depends mostly on the duration of the Iran-Iraq war. If it is over soon, IEA may well be proved right. If it lasts a long time – and at the time of writing no settlement is in sight – it leaves the industrial countries defenseless against the large price increase that would be inevitable if their oil stocks were to run out. Although Saudi Arabia has increased its production somewhat (by less than 1 million barrels per day), this increase offsets only a fraction of the 4 million barrels per day exported by Iraq and Iran prior to the war. Even in conjunction with its usual OPEC allies, Saudi Arabia could hardly raise output sufficiently to equilibrate oil supply and demand at anything like prevailing prices if the world economy were to resume its normal growth. On balance the oil-importing countries would be better advised to hold on to their inventories and to buy more in the spot market while the war lasts.[5] There are indications that, despite the IEA policy, this is just what they have been doing.

In the longer run (say for the balance of the twentieth century), OPEC, barring major political upheavals, will probably survive despite recurrent dissension within its ranks. The cartel's market share is not likely to fall much below the 1980 level, but recent price developments suggest that it will become more difficult to raise the price in real terms. In other words, OPEC may at last have found the point of maximum revenue. As time goes on OPEC may get support from unexpected sources such as the United States, Canada, and Britain. These countries are developing new energy supplies, some of which, particularly synthetic fuels and oil from offshore wells in deep or Arctic waters, will be very costly. Once the new facilities are in place, a fall in the price of crude would be

[5]The spot market is sometimes considered misleading on the ground that such a small part of current oil flows are traded there (the remainder being governed by long-term contracts). This argument is fallacious: In a free market the price is always set by marginal quantities. Recent French proposals to suppress the spot market altogether are tantamount to trying to cure a fever by throwing away the thermometer.

inconvenient, to say the least. Of course, these countries could protect their high-cost domestic industries by tariffs, but proposals to this effect have been poorly received so far.[6] The need to invest in expensive alternative energy sources is one of the main burdens imposed by OPEC on the rest of the world.

OPEC: Political Aspects

The preceding discussion of OPEC has focused on its economic aspects because OPEC is first of all a commodity cartel. OPEC also has political aspects, however, to which we now turn. Perhaps the most important of these is OPEC's close involvement with the Third World. The relations between OPEC and other developing countries will be explored further in the section dealing with the non-OPEC LDCs.

A second political aspect has to do with the predominance of Arab countries in OPEC. In fact, there is a separate organization of Arab petroleum-exporting countries (OAPEC).[7] It was OAPEC rather than OPEC that proclaimed the embargo of the United States and the Netherlands during the Arab-Israeli war of 1973. Unlike OPEC, OAPEC is an organization claiming to pursue definite political goals, in particular a favorable settlement of the continuing conflict between Israel, its Arab neighbors, and the Palestinian refugees.[8] This common objective, however, has not prevented the members from taking opposite sides in the conflict between Iran and Iraq. Although the non-Arab members of OPEC have generally supported OAPEC on the Palestinian question, its substantive importance appears to be smaller than the usual rhetoric would suggest. The "Arab oil weapon" exists, but OAPEC has so far made no effective use of it because economic considerations have had priority, as they are likely to have in the future.

[6]The effects of a tariff on the world oil market were estimated in Hendrik S. Houthakker, *The World Price of Oil: A Medium-Term Analysis* (Washington, D.C.: American Enterprise Institute for Public Policy Research, 1976).

[7]The membership of OAPEC does not fully coincide with the Arab members of OPEC, but for our purposes the differences are not important. The largest non-OPEC producer in OAPEC was Egypt until its membership was suspended following the Camp David accord. Egypt's break with the other Arab countries resulted from the political failure of the 1973 embargo.

[8]Although the members of OAPEC would no doubt shed few tears at the complete disappearance of Israel, most of them appear to be resigned to its continued existence. It is not even clear that all of them favor an independent Palestinian state as opposed to the so-called Jordanian solution. The prospects for a settlement of the Palestinian question are so remote that the Arab oil exporters have had little need for precision concerning the details of an eventual solution.

A more important political concern of the OPEC countries, especially of those around the Persian Gulf, results from the great value of their petroleum reserves in conjunction with the small size of their populations. There is no need to be precise, but at present oil prices the value of these reserves runs into the trillions of dollars; by comparison, the total tangible wealth of the United States is probably around seven trillion dollars. This vast wealth, which dwarfs even the value of the investments accumulated from past oil sales, is a standing temptation to both internal and external enemies of the regimes presently in power. The gulf reserves are so valuable because they constitute more than half of the total proved reserves of conventional oil in the world.[9] By the same token, access to Persian Gulf oil is of the greatest importance to oil-importing countries, particularly the older industrialized countries. Once more forsaking precision, it is safe to say that a complete denial of Persian Gulf oil would cause a short-term reduction in the GNP of industrial countries comparable to the impact of the Great Depression of the 1930s.[10]

If the owners of these valuable resources were in a position to defend them, the world could be less concerned about their security. As it is, the armed forces of these small countries may be large enough for internecine warfare such as the Iraq-Iran conflict, but not for protection against outside enemies or even against the kind of popular revolt that overthrew the shah. Providing the regimes in question with sophisticated weapons may be good for the oil importers' balance of payments, but it does not necessarily do much for security, especially as the weapons may fall into the wrong hands.

The proclamation of the Carter doctrine following the Soviet occupation of Afghanistan demonstrated a recognition of the importance of the Persian Gulf, which is not covered by NATO, to the security of the United States and its allies. While the Carter doctrine is particularly aimed at Soviet encroachment in the area, it is not difficult to think of other dangers with equally serious consequences; one of these would be an Iranian-style revolution in Saudi Arabia. The Soviet Union, in fact, would no doubt be constrained

[9]Conventional oil is oil that flows naturally to the surface or can be extracted by pumping. If unconventional oils, such as those occurring in tar sands in Canada, in oil shale in the United States, or in the form of heavy oil in Venezuela and Siberia, are included, the share of the Persian Gulf is much smaller. At present prices, a large part of these unconventional oils will be competitive with conventional resources once the necessary facilities have been constructed.

[10]For a summary of estimates, see Deese and Nye, *Energy and Security*, p. 4.

by a realization that major intervention in this area could lead to a third world war, but domestic insurgents would not be swayed by such considerations.

The implementation of the Carter doctrine presents serious difficulties. After the taking of the American hostages by Iran, the United States dispatched considerable naval forces, including two large aircraft carriers, to the area. Since no local bases are available, the maintenance of these forces is difficult and expensive. Moreover, it is not clear that naval forces would be sufficient to defend the importing countries' access to oil. The United States has also organized a Rapid Deployment Force that could be transported by air in an emergency, but there, too, the lack of local facilities is an obstacle, the more so because the insecurity of the Persian Gulf region is not likely to diminish during the next several years. At present the nearest American base of any size is being developed on the British-controlled island of Diego Garcia in the southern Indian Ocean, too distant to be useful for tactical operations.

Recognizing the urgent need for ground facilities, the Carter administration opened negotiations with a number of countries, particularly Oman, Somalia, and Kenya. It appears that these negotiations have been successful, but no details of the results have been made public. Obviously Oman, which controls one side of the Strait of Hormuz, occupies a strategic location; it also borders on South Yemen, the principal Soviet foothold in the region. For many years the sultans of Oman were supported by Britain and by the shah of Iran in their fight against a regional rebellion in the province of Dhofar. This rebellion was brought under control, but Britain and the shah are no longer in the picture and the sultan is in need of other allies. Although a sizable oil producer, Oman is not a member of OPEC or of OAPEC. From the military point of view, the principal assets of Oman are Masirah Island on the south coast, formerly used as a British air base, and one or two ports near the Strait of Hormuz.

While American bases in Oman (and also in Somalia and Kenya) could ease the logistical problems of maintaining a military capability in the Persian Gulf area, they would probably not be enough.[11] Any facilities available there would apparently not be suitable as a staging area for the Rapid Deployment Force. The problem throughout the Persian Gulf region is that several of the

[11] Access to the French naval base at Djibouti would also be advantageous, but is prevented by French insistence on an independent posture. While the United States does have naval rights in Bahrein, the government there does not allow use sufficient for the purpose we are discussing.

regimes are well aware of the need for American support, but do not want it to be too visible. The most logical solution to the region's security problems would be an American base in Saudi Arabia or Kuwait, but that appears to be out of the question because the rulers of these countries fear internal opposition.

Alternative locations for ground facilities in the region must therefore be explored. The most frequently mentioned possibility is the large air bases built by Israel in a part of the Sinai desert that is scheduled to be turned over to Egypt in the spring of 1982. The main problem there is under what conditions Egypt will permit these bases to be used. It can be argued that American access to these bases would also benefit the security of Egypt, but that is not necessarily a decisive consideration.

Another possibility would be the construction of an artificial island in or near the Persian Gulf, whose waters are generally shallow. Such a base should at a minimum be able to accommodate a few hundred carrier-type aircraft and helicopters, but could also be used as a supply base for naval vessels and for the storage of other material. Experience in the Gulf of Mexico and the North Sea suggests that an artificial island in shallow waters could be built at moderate cost, and operating it should be cheaper than operating an equivalent capacity in aircraft carriers and supporting vessels; moreover, the stationing of carriers in this region has depleted naval forces in the Pacific and the Mediterranean. The main problem might be to find a place outside the territorial waters of a non-cooperative country.

To anyone who believes in the primacy of the private sector in economic matters, it is distasteful to contemplate the possibility of military action. We must ask whether it is inevitable, and whether there are alternatives to the involvement of U.S. forces. As to the first question, the military vacuum in the Persian Gulf left by the departure of the shah will be filled somehow, quite possibly by elements hostile to the West. The industrial countries are too dependent on the area to ignore this danger, which has been brought home by developments in Iran, Afghanistan, and Saudi Arabia during the last year or two.

That much being admitted, why must the United States once more bear the bulk of the responsibility, considering that most of our allies in Europe and Japan rely much more heavily on Middle East oil? One answer is in the oil-sharing agreements embodied in the International Energy Agency; even though other members currently get more of their oil from the area, in the event of a supply interruption the shortfall would be largely equalized (as it was in

1973–74). It is true that the IEA formula remains untested and that the U.S. government might find it hard to secure public acceptance of the implied cutbacks in domestic oil consumption, but our foreign policy must assume adherence to treaties. Even if there were no IEA, we could not overlook the possibility that if the Persian Gulf were to fall under hostile domination, our allies would be tempted or forced to bargain for oil supplies with the powers that be, thereby weakening NATO and endangering other concerns of U.S. policy such as the survival of Israel. Finally, the United States is the only country with forces large enough to afford a credible military presence in this part of the world.

The United States consequently cannot avoid a major role in the protection of the Persian Gulf oilfields against external and internal threats. Nevertheless, some of our allies could contribute more than they are doing now. Britain and France are already participating in the defense of the gulf, but Germany, Italy, Japan, Canada, and the smaller NATO members are quite happy to leave this responsibility to others. While these countries may not have sufficient naval strength to put forces of their own into the area, they could certainly share in the considerable cost.

One way of getting them to share this cost would be a toll levied on oil passing through the Strait of Hormuz. Since at present about 6 billion barrels go through per year, the toll would not have to be very high to yield considerable revenue. One or two dollars per barrel (or between 2½ and 5 percent of the value) would probably suffice to pay for the total cost of the Western defense effort in the region. Moreover, since Persian Gulf oil competes to some extent with oil from elsewhere, the oil producers (who, of course, would be among the beneficiaries) would have to absorb part or all of the toll themselves. Initially, the toll could be collected by agreement with tanker owners, but if this leads to undue evasion more comprehensive collection procedures could be instituted. The effect of the toll, which could be administered by an appropriate international agency, would be to spread the cost of local defense among all affected parties.

A "security fee"–as the toll might diplomatically be called–would not be essential to the higher level of military preparedness in Southwest Asia discussed here. The toll is merely a device for sharing the financial burden, and might facilitate political consent to the necessary expenditures in the United States. It would no doubt be resisted by the many oil-importing countries that are now getting a free ride and by the oil producers in the Persian Gulf, who would probably have to yield a small fraction of their vast monopoly profits. It could also raise questions of international law since the Strait of Hormuz is an international waterway. Unless skillfully handled, the security fee could be more trouble than it is worth. Nevertheless, raising it as a possibility would help focus the attention of oil importers on their exposure to risk and hence on their responsibility for doing something about the risk.

The Third World

Most of the growth in the world economy now occurs in the non-OPEC developing countries.[12] Although economic power does not necessarily lead to political influence – Japan, for instance, has one without the other – it is likely that such large Third World countries as Brazil, Mexico, and Pakistan will gradually adopt a more active foreign policy. In doing so, they may give new leadership to such groupings as the so-called nonaligned nations (also known as the Group of 77), which have hitherto tended to take their cue from the anti-Western governments of Cuba, Algeria, and Yugoslavia and to be tolerant of OPEC policies.

As the non-OPEC developing countries industrialize and urbanize, they will become increasingly dependent on imported oil. A few of them (Mexico and Argentina, for example) are capable of producing enough energy to satisfy their own long-run demand, but they are exceptions. Since countries in this group, unlike the older industrial nations, have not inherited a large capital stock with given energy requirements, they have some flexibility in choosing among different energy sources. Thus they will probably not be tempted to rely as heavily on oil for space heating or the generation of electricity as the OECD countries do. In the transportation sector, however, the use of oil is difficult to avoid. Consequently, the cost of oil has become a large item in the trade balance of the Third World.

Coming on top of the normal tendency of growing countries to run current balance-of-payment deficits, the rising cost of oil has put many of them into heavy debt. Most of them are in no position to repay these debts on schedule, and they will have to incur even larger liabilities if they want to continue their economic growth. The private capital market, with some help from bilateral foreign aid and official financial institutions, has so far done a good job of

[12] Although the major oil producers have substantially increased their incomes, this does not represent real growth, but merely a favorable change in their terms of trade. In fact, most of them are producing less than they did in the early 1970s. Some OPEC members, however, have had significant growth in their non-oil sectors.

transferring OPEC's surpluses to the Third World. Nevertheless the question has often been raised whether it can do so indefinitely.

The difficulty is not that the funds are not there, but rather that so large a fraction has to move through private banks with limited capital. Although the wealthier members of OPEC frequently express fraternal sentiment toward the Third World, they prefer to have their assets in London, New York, or Zurich rather than in Ankara, Kinshasa, or Lima. Moreover, the OPEC deposits in Western banks often have shorter maturities than these banks' claims on developing countries, which in any case require constant refinancing. Thus each of these banks is exposed to a serious risk of illiquidity, although the international banking system as a whole is not. This situation clearly needs watching, but it does not appear to pose an immediate threat.[13]

From the political point of view, the advantage to the Arab oil producers of channeling their investments through Western banks is that it deflects the natural resentment of debtors toward their creditors. OPEC likes to present itself as the champion of the Third World against the wicked capitalists. Even though its policies of supply restriction impose a heavy cost on the Third World, OPEC has so far managed to avoid political isolation. This is one of the reasons for the failure of the diplomatic endeavors mentioned earlier to deal with the OPEC menace.

How can the resulting weakness of the industrial countries be overcome? It will hardly be enough to point out to the developing oil-importers where their true interests lie; their trust in Western analysis is quite limited. Nor is there much promise in greater political selectivity when granting credit; the international banks cannot afford to let their customers go under. What could be more effective is what Plummer has described as "oil proliferation," a massive effort to find oil in countries that are now importers.[14] To some extent this effort is already underway and has met with moderate success in Egypt, Peru, and a few other places. However, it has probably fallen far short of its full potential.

The difficulty is not primarily financial: Exploration is not very expensive, and once a discovery is made credit for the much costlier development phase can normally be obtained. The real problem is that the necessary expertise is mostly in the hands of Western oil companies who will, understandably, make it available

[13] See the chapter by Philip Verleger in Deese and Nye, *Energy and Security*.

[14] James L. Plummer, "Financing Oil Proliferation in Developing Countries," in *Energy Vulnerability*, ed. James L. Plummer (Cambridge, Mass.: Ballinger, forthcoming).

only when the incentives are sufficient. So-called service contracts, in which the successful explorer does not acquire any equity in his discoveries, rarely meet this test. On the other hand, equity arrangements are often resisted by prospective host countries in the mistaken belief that they amount to giving foreigners a part of the national patrimony. A legal formula reconciling these different points of view is needed to make "oil proliferation" a reality, thereby weakening both the economic and the political power of OPEC.

The word "proliferation" has been more traditionally associated with nuclear power and especially with its use in the Third World. Elaborate export licensing and inspection schemes have been set up to forestall military applications of allegedly commercial or scientific atomic reactors. These schemes have had considerable but not complete success. The danger of nuclear proliferation is still with us, not least because producers of nuclear equipment are hard pressed for orders. Even from a strictly economic point of view, nuclear power, in fact, has not become more attractive, despite the largely unanticipated rise in oil prices. High interest rates work against this capital-intensive form of energy, as does the ever-increasing demand for safety devices. Generation of electricity from coal appears to maintain its economic advantage over nuclear power in the Third World, while hydroelectricity is a strong competitor in some areas. Natural gas, found in many places but expensive to transport, is another alternative to atomic energy, and even solar energy may one day approach commercial feasibility. Nevertheless, it is still likely that nuclear power will provide a major portion of Third World energy supplies in the next century.[15]

The Communist-Controlled Countries

The Soviet Union is the largest oil producer in the world and the second largest producer (after the United States) of coal and natural gas. Being roughly self-sufficient, it is not now a major factor in the world energy market, particularly since most of its exports go to its Eastern European satellites.[16] Energy considerations, however, have

[15] See Hendrik S. Houthakker and Michael Kennedy, "Long Range Energy Prospects," *Journal of Energy and Development* 4 (Autumn 1978); also see *Energy in Transition, 1985–2010,* Final Report of the Committee on Nuclear and Alternative Energy Systems, The National Research Council, National Academy of Sciences (San Francisco: W.H. Freeman and Company, 1980), chap. 10.

[16] China is even less of a factor. Its energy production is sizable in absolute terms, but small in relation to its population. Increases in its production will probably be largely absorbed domestically, while significant gains in imports are unlikely

assumed greater importance in East-West relations. The main reason is that Soviet oil production is growing slowly, although not quite as slowly as the Central Intelligence Agency, in a widely cited analysis, had predicted some years ago. To some extent the slow growth in oil is offset by a rapid rise in natural gas output, particularly from giant discoveries in western Siberia. Nevertheless, it is clear that Moscow is concerned about its oil prospects and would like to improve them with the aid of American technology. The rigidity and waste inherent in Soviet-style central planning make it hard to adjust domestic use, and unless output is increased there may not be enough oil to satisfy export demand.

Russia will be reluctant to cut oil exports to the West because it needs the hard-currency earnings. A more likely reaction to a shortfall is a reduction in exports to Eastern Europe, which is already relying on OPEC to some extent. This reduction would be painful since some of the countries involved are hard pressed as it is. The economic troubles of this region are due mostly to Communist mismanagement but have been aggravated by the high price of oil from Russia and the Middle East.

Should the Western countries assist the USSR in expanding its oil production by giving it access to advanced technology? As is often true in East-West trade issues, this question could be decided unambiguously if economics were the only consideration. Increased Soviet oil production would add to non-OPEC supplies and thus benefit all importing countries; it might even keep Russia from becoming a direct customer for OPEC oil. Some Western firms would be able to profit from potentially large sales of technology and equipment. Politically, however, the answer is different. The inadequacies of Russia's economy, of which the oil problem is just one symptom, are the severest constraint on the global ambitions of Moscow's ruling circles. Shortages of all kinds are common. Moreover, the government tends to give priority to its own citizens over those in Eastern Europe. Some of the satellite countries can earn enough hard currency to offset reduced supplies from Russia by imports from elsewhere; others cannot. Poland, in particular, is already heavily in debt to Western banks.

As the most vulnerable area in the Soviet empire, Poland in fact is the touchstone for Western policy toward the East. It is not only the

because of balance-of-payments constraints. The principal energy issue in Western relations with China is the participation of international oil companies in exploration and possibly development. As long as there are adequate safeguards against expropriation, the West has no reason to oppose participation on commercial terms, about which the Chinese rulers appear in any case to be ambivalent.

largest of the satellites, but it also occupies a strategic location between the USSR and its frontline armies in East Germany. A long tradition of nationalism intertwined with Catholicism, reinforced by the election of a Polish pope in 1978, has made the large majority of the Polish people – including, it appears, most members of the Communist Party – impervious to Communist ideology. Despite their overwhelming support, the leaders of the unions and of the church have been careful not to give the Soviet Union a pretext for occupation; thus they have not cast doubt on Poland's continued adherence to the Warsaw Pact. For the time being, the Russian leadership, apparently anxious to avoid a return to the Cold War, has followed a relatively conciliatory approach to the Polish problem, and this has involved economic concessions that do not come easily.

Though the NATO countries cannot intervene in Poland directly without risking World War III, they are under no obligation to facilitate Soviet control over Eastern Europe. Specifically, the security of the West will gain as Poland becomes a political and economic burden to its oppressor. To the extent that lagging oil output weakens the Russian economy it makes this burden heavier. Such political considerations would seem to outweigh the economic advantages to the West of larger Soviet oil productions.

It has often been argued that a shortage of oil might lead the USSR to military ventures or to more determined attempts at subversion in the Persian Gulf area; this concern was the principal reason for the proclamation of the Carter doctrine. The danger is not illusory, but neither does it appear at all immediate. Provided the West continues to assert its vital interest in the area and to back it up by an adequate local presence, the Soviets will remain cautious for fear of unleashing a global conflict. Until now Russia has not been particularly successful in the area: It lost all of its influence in Egypt and most of it in Iraq, and was unable to exploit the Iranian revolution. The occupation of Afghanistan no doubt improved its tactical position, but it also brought substantial Western forces into the region, thus continuing the stalemate. The need for military preparedness in Southwest Asia was discussed in the section on OPEC.

The Soviet Union, as mentioned earlier, has been more successful in finding natural gas than in finding oil. Although gas is sometimes described as a "premium fuel," it has the disadvantage of a much higher transportation cost than oil or coal, a problem that is especially serious when the gas is in such remote areas as northwestern Siberia. Rather than having to invest in more pipelines to the urban and industrial regions of the USSR, the Soviet leadership prefers to export the gas through pipelines built with foreign capital.[17] For reasons discussed below, these plans have had a favorable response in West Germany and some of the other Western European countries, but have recently been held up by disputes over interest rates. Moreover, the transportation route has had to be moved further south because the original route would go through Poland, no longer considered reliable. The United States has expressed strong doubts about the wisdom of this project because it would make West Germany unduly dependent on Russian energy supplies. Actual construction of the pipeline now appears unlikely.

Western Europe and Japan

The plan to import Siberian gas exemplifies the discord introduced into Atlantic relations by the energy problem. Although partly motivated by such mundane considerations as the large quantity of German steel that would go into a pipeline, the project also reflects factors that are more strictly political. In fact, its economics is as dubious as that of the gas pipeline from Alaska to the "lower 48," all the more so because plenty of gas should be available from existing and prospective fields in the North Sea. The project can be explained only in the context of a West German desire for closer relations with the Soviet Union.

This desire reflects a gradual disenchantment, not confined to Germany, with American leadership in foreign policy. The loss of the Vietnam War and the forced resignation of President Nixon were probably the first events to undermine European confidence in the United States. President Carter's erratic conduct of international affairs appeared to confirm the earlier doubts. Influential factions in West Germany were encouraged to find ways of hedging its commitment to Washington's policies. Continuing hopes for reunification with East Germany also played an important role in this subtle change in policy. None of this, however, has interfered with Germany's adherence to NATO.[18]

[17] For many years attempts have also been made to interest the Japanese in importing natural gas from eastern Siberia, so far without success. Proposals for joint development with Japan of oil discovered on and near Sakhalin have not gone far either.

[18] In any case, any German inclination to look eastward tends to make France turn the other way, toward the Atlantic alliance of which it has for many years been only a nominal member. Thus NATO as a whole has probably not been seriously weakened, even though some of the smaller members have developed more explicitly neutralist tendencies.

The emergence of the energy problem in the early 1970s also served to increase the political distance between Europe and North America.[19] The creation of the International Energy Agency was a limited though positive step toward a common front in energy matters, but divergencies soon appeared. The United States and Canada reacted to the rise in the world price of oil by insulating their domestic market through price controls, a short-run expedient that made the situation more difficult for other oil importers (and also, after a brief respite, for themselves), while the Europeans and Japanese not only allowed the world price to prevail domestically, but increased indirect taxes on petroleum products, thus reinforcing the necessary adjustment process. The result was that oil imports into North America rose sharply, while those into Europe and Japan declined. It was only toward the end of its term that the Carter administration, partly under pressure from abroad, recognized the folly of preventing the market mechanism from doing its job. By then, those in Europe and Japan who questioned the ability of the American political system (increasingly dominated by Congress) to look beyond the next election had more grist for their mill. The Reagan administration made a good start toward better international energy relations by abolishing oil price controls as soon as it took office, but gas prices have not yet been set free.

Reliance on the market mechanism was not the only energy-related issue dividing the United States from its allies overseas. As noted above, the latter also had more faith in the possibility of a political settlement with OAPEC, the Arab subset of OPEC (not to mention the abortive North-South dialogue). Apparently taking Arab rhetoric at face value, many Europeans harbor the illusion that a favorable resolution of the Palestinian conflict will lead OPEC to change its pricing behavior.

Whatever one may think of the balance between economic and political determinants in the cartel's behavior, the fact is that Europe and Japan had and have nothing of value to offer. The conservative rulers of Saudi Arabia, Kuwait, and Abu Dhabi do not favor recognition of the radical Palestine Liberation Organization. European and Japanese influence over Israel is slight, so there is no credibility in territorial proposals that would jeopardize Israel's jealously guarded security. The Arabs understand this as well as anybody: They have interpreted European gestures toward the PLO as mere atmospherics and have made no concessions in return—least of all on oil prices. In contrast to their performance on

[19]Much of what is stated here about Europe applies to Japan as well.

the economic side, Europe and Japan have little to be proud of in their oil diplomacy. The United States, on the other hand, can point to the Camp David accord as a major political accomplishment.

Now that the United States has restored the price mechanism to its rightful position and Europe and Japan have seen their diplomatic efforts come to nothing, there should be scope for better mutual understanding in the energy field. The International Energy Agency remains useful as a framework for emergency measures, but its effectiveness in long-term policy coordination remains to be tested. It can of course be argued that there is little need for policy making and that the energy problem should be left to the free market. Given the unimpressive record of government intervention in this area, this argument must carry weight. It is also true that the few measures that the IEA countries could with advantage take jointly – in particular a tariff on imported oil – are politically unpopular; in any case, the best time for introducing a successful tariff (i.e., one that would be paid in large part by OPEC) may have passed.

Nevertheless, there is still so much government intervention in the energy field that closer policy coordination is needed. Perhaps the most important item is oil and gas production within OPEC. The United States, long the laggard in this area, has recently regained some ground by decontrolling crude oil prices; as a result, exploration is now at the highest rate since the 1950s, and production has also benefited. The regulatory climate for greater production in Canada (discussed in the next section), the United Kingdom, and Norway, however, is much less favorable. The Conservative government in Britain, contrary to earlier hopes, appears to be reverting to the restrictive oil policies of its predecessors,[20] and Norway continues to proceed slowly with the development of its resources.

Nuclear power is another subject on which government policies have to be harmonized. As pointed out above, atomic energy is now less competitive than a few years ago because of high interest rates, intensified concerns about safety after the Three Mile Island accident, and slower growth in electricity demand.[21] These factors favor coal, of which the United States and Australia are the principal sources. Unfortunately, American coal exports have been

[20] For an analysis of British policies concerning North Sea oil, see Hendrik S. Houthakker, "The Use and Management of North Sea Oil," in *Britain's Economic Performance,* ed. Richard E. Caves and Lawrence B. Krause (Washington, D.C.: Brookings Institution, 1980).

[21] On the other side, uranium prices have recently weakened considerably as a result of new discoveries and postponement of nuclear projects.

hampered by inadequate port capacity, but this constraint should be removed within the next few years. In any case, nuclear power cannot be counted out for the longer run; environmentally, for instance, it is far superior to coal-fired electricity generation, and the safety implications of Three Mile Island have probably been exaggerated. Under the Carter administration a wide gap developed between the nuclear policy of the United States and those of most of its allies. Not only did the United States postpone development of the breeder reactor and of reprocessing while a few other countries went ahead with both, but the United States also sought to discourage some nuclear plans in the Third World, contrary to the sales efforts of Western European and Canadian manufacturers. The Reagan administration appears to be more favorably disposed to atomic energy, without which sustained growth in the world economy is difficult to imagine.[22] This makes it all the more important to maintain agreement with other interested countries (including the Soviet Union) on the necessary safeguards against proliferation and diversion. Lethal materials are not a commodity with which the free market can always be trusted. The sale of a French nuclear reactor to Iraq, a country believed to support international terrorism, is just one example of the inherent danger.

Canada and Mexico

Energy issues have become prominent in the intracontinental relations of the United States. Relative to their populations, though not in absolute terms, both Canada and Mexico are rich in energy resources. Although Mexico was a major oil producer in the early part of this century, its reserves were prematurely depleted, only to be revived within the last decade by spectacular discoveries of both oil and natural gas. Canada's history as an energy producer does not go back very far, but neither has it been so marked by ups and downs. The United States has traditionally been the major market for the energy exports of both of its neighbors.

American oil companies played a large part in the initial discovery and subsequent development of Mexican and Canadian hydrocarbons. In Mexico this frequently controversial involvement came to an abrupt end in 1938 when foreign oil interests were expropriated in favor of the national oil company, Pemex. Nothing as drastic ever happened in Canada, but in recent years the government in Ottawa has increasingly favored Canadian-owned companies. Even before 1973 energy matters could not be divorced

[22]See Houthakker and Kennedy, "Long Range Energy Prospects."

from domestic politics in either country, and this became still more true after the world price rose sharply in 1973–74.

Until the early 1970s Canada exported oil and gas from its western provinces to the United States, while eastern Canada imported oil from the rest of the world.[23] As was true in the United States, Canadian production of hydrocarbons declined rapidly because incentives for exploration and secondary recovery were insufficient to overcome the depletion of existing fields. When the world price of oil went up, Canada, like the United States, imposed price controls and an export duty, which are still in force. As a result, domestic consumption has remained relatively high while production has fallen further behind demand, so that Canada is now a net oil importer on as large a scale, relative to its population, as its southern neighbor. It is still an exporter of natural gas and electricity, however.

Canadian oil policy can only be understood in the context of the regional conflicts that bedevil the country. The federal government has long (with one brief interruption) been controlled by the Liberal party, whose constituency is almost entirely in Ontario and Quebec. Oil and gas are found only in the western provinces, and more recently off Newfoundland and in virtually uninhabited Arctic areas. A policy of low oil prices appeals both to consumers and industry in the two Liberal provinces because the resulting oil imports tend to keep the Canadian dollar low and thus protect Canadian manufactures against import competition. As a partial offset the federal government has granted generous tax concessions for exploration, but the resulting large discoveries have not led to greater production because prices remain under control. In order to put pressure on Ottawa, the government of Alberta has recently ordered cuts in oil output. A recently intensified program to "Canadianize" the oil industry has further discouraged the many U.S.-controlled companies; it has also brought protests from the United States.

Overshadowing these energy problems is the disagreement over the Constitution between Ottawa and most of the provinces. An even more serious threat to national unity, the separatist plan of the Parti

[23] Brief mention should also be made of the unhappy history of U.S.-Canadian relations in the nuclear field. Prevented by an embargo from exporting uranium to the United States, or from having its own uranium enriched there, Canada developed a heavy-water process using natural uranium. Several reactors of this type are operating in Ontario, but hopes of a substantial export trade have not materialized; the most notable export was to India, which used it to produce a nuclear bomb. It does not appear that heavy-water reactors are competitive with light-water reactors.

Québecois, was rejected by the voters but may be revived in the future.[24] Evidently domestic politics in Canada has reached a point where rational decision-making in the narrow field of energy can hardly be expected. Preoccupied with the need to keep the country together, the Trudeau government is attempting to maximize its short-term political support, and if this means larger oil imports or playing on the anti-American tradition in Ontario, so be it.

Under these circumstances, the prospects for closer U.S.-Canadian collaboration on energy matters are minimal. The United States also has a strong interest in Canadian unity, without which we would have to worry about security along our northern border. Even if this interest did not exist, few things would do more to inflame the Canadian domestic problem than the mere hint of American intervention. The United States can only influence Canadian policy through the federal government in Ottawa, which remains in charge of external relations even though each province controls the energy resources in its territory.

The Canadian political situation has already held back oil and gas production from existing fields and may also have an adverse effect on the development of recent new discoveries, of which those on the East Coast are of particular concern to the United States. In addition, the economic feasibility of the tar-sand and heavy oil projects in and near Alberta has been put in doubt by new federal measures. Ottawa is apparently still insisting on construction of the Alaska gas pipeline, which would connect some remote Canadian fields with the United States, but Washington has made it clear that completion of the pipeline depends on the availability of private financing. Because of the enormous cost of the project (current estimates are around $30 billion), the delivered cost of Alaska gas would be too high to compete with other actual and potential supplies, so sufficient private funds are not likely to be forthcoming.[25]

It is conceivable – indeed probable – that the confrontation between Ottawa and the resource-rich provinces will in due course give way to a mutually satisfactory compromise permitting Canada

[24] Energy considerations have also had a part in this issue. Quebec has a vast hydroelectric potential along the southern shore of Hudson Bay. The natural market for some of this power is in the United States, particularly in New York with its high local generating costs. The sales efforts of the Quebec government in the United States have at times assumed political overtones, as if their real purpose was to make an independent Quebec acceptable here.

[25] The economic justification of this project was first publicly questioned by Walter J. Mead; see Walter J. Mead, George W. Rogers, and Rufus Z. Smith, *Transporting Natural Gas from the Arctic: The Alternative Systems* (Washington, D.C.: American Enterprise Institute, 1977); subsequent events have only reinforced his case.

to pull its weight in the effort to make the West less dependent on OPEC. Once this is accomplished, the United States will again be in a favorable position as the natural market for Canadian gas and hydroelectricity and to a lesser extent for oil. At present, however, the conflict is still escalating, and there is little the United States can do about it.

Although equally influenced by domestic considerations, the energy situation in Mexico differs in many respects from the one in Canada. The hydrocarbon discoveries of the 1970s have propelled Mexico into the front rank of the world's oil provinces, not far behind Saudi Arabia. Moreover, the fields discovered in the south-eastern states of Chiapas and Tabasco are unusually prolific and closer to major markets than the Persian Gulf. For a country hard pressed to find employment for its rapidly growing population and financing for its industrial development, these discoveries could not have come at a better time, the more so since they coincided with a steep rise in the world price of oil. Mexico therefore had and has strong incentives to forge ahead with the development of its hydrocarbons. Between 1973 and 1980 its oil production quadrupled and its gas production doubled.

Nevertheless, Mexican energy policy has also been influenced by the country's longstanding distrust of the United States aggravated by the shortsighted tactics of the Carter administration. Anxious to keep domestic gas prices down to their prevailing uneconomic level, the United States in early 1978 rejected a reasonable offer of natural gas, only to find in 1980 that it had to pay twice as much.[26]

If exported, Mexico's gas will normally go to the United States, but another possible use is in the production of fertilizer and petrochemicals, where Mexico is building massive capacity. In fact, Mexico plans that the bulk of discovered and prospective hydrocarbons be consumed at home. Moreover, Mexico is determined to diversify its oil exports even if this means obtaining a lower price

[26]One stumbling block in 1978 was the Mexican demand for parity between the prices of gas and residual fuel oil. The issue of parity has also led to a breakdown in American negotiations with Algeria, a major exporter of liquified natural gas. This is not the place for a full discussion of this somewhat technical matter. Suffice it to say that in the United States, where the transportation demand for oil products dominates the heating and steam-raising demand, gas is not a close substitute for oil since it cannot be used for transportation; consequently, there is no economic justification for parity. In countries where transportation demand is less important, it may be reasonable to expect parity in *delivered* prices. This in turn means that the gas price *at origin* will be lower than the price of oil there (assuming that the same country exports both) because gas is costlier to transport. There is no economic case for parity at origin.

than could be had in the United States. While the disagreements over gas exports to the United States have done nothing to improve relations across the Rio Grande, they are not of major importance to U.S. energy supplies in the long run.[27]

Enough has been said about energy policies in Canada and Mexico to make it clear that the idea of a "North American energy market" has no basis in reality. Presumably such a concept would involve guaranteed U.S. access to exports from its contiguous neighbors in return for some promise of nondiscrimination in pricing and exploration. It would make considerable sense from an economic point of view but would also require an unlikely reversal of long-standing political sentiments in all three countries. The best the United States can hope from its neighbors–particularly from Canada–is an improved climate for domestic energy production. In the case of Mexico, our main concern must be that the present expansion-minded policy will not be reversed by later administrations.

Implications for U.S. Foreign Policy

By way of a summary the following conclusions can be stated:

1. In dealing with OPEC the main emphasis should be on further weakening the cartel's market power by encouraging energy production and discouraging energy consumption in non-OPEC countries outside the Soviet sphere.

2. There is little prospect of a meaningful political agreement with OPEC or with its Arab members; the efforts of Europe and Japan to seek such an agreement should have no support from the United States.

3. The security of the Persian Gulf is of vital concern to the industrial countries. It is threatened at least as much by internal forces as by the Soviet Union and requires additional military preparedness, possibly including the construction of permanent offshore facilities in or near the gulf. The financing of these efforts by a "security fee" levied on oil movements should be considered.

4. In the Third World the West should assist energy development as much as possible; at the same time, it should seek to

[27]Since Mexican exports are likely to be limited by strong domestic demand, the often-raised question of Mexican membership in OPEC is not even of academic interest. These exports, of course, will be at world prices–strongly influenced by OPEC–but Mexico will hardly be interested in any production controls on which OPEC may agree in the future.

undermine the political links between OPEC and the developing countries.

5. It is not in the overall interest of the United States and its allies to facilitate oil and gas exploration in the Soviet Union. European countries should be discouraged from becoming dependent on Russian energy supplies.

6. The United States and its allies should make new efforts to arrive at a common policy on nuclear power based on a realistic appraisal of its economic prospects.

7. Because of political obstacles, a "North American energy policy" is not a realistic goal, but the United States has a strong interest in the adoption of more rational energy policies by Canada.

8. The International Energy Agency merits continuing support as a mechanism for coping with emergencies; it may also be useful for coordinating long-term policies but should abstain from tactical recommendations.