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## **EUROPE**

February 28, 1957

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# THE EUROPEAN OIL CRISIS

The European oil shortage and the need to spend extra dollars for Western hemisphere oil imports have now lasted for nearly four months. So far the overall effects of these developments on the Continent's economy have not been serious. Industrial production and total transportation have not registered any marked decline and the dollar reserves, though declining, have not reached the danger point in any of the affected countries. Obviously, this situation cannot continue indefinitely. Oil accounts for about 20 per cent of Western Europe energy needs. Even a 20% reduction in oil consumption, which is the level of the present cut-back, means a 4% reduction in total energy consumption. By shifting the bulk of this reduction to non-essential activities it is possible to reduce its overall effect somewhat. But the health of a modern industrial economy depends to an overwhelming extent on an ever-growing supply of energy. In the case of Europe the increase is at least 3% per year. Thus, any decline in its energy supply is bound to lead to industrial stagnation, if continued over an extended period. This applies particularly to oil whose share in the total energy sector is growing much more rapidly than that of any other fuel.

The same applies to dollar losses. Britain and France are postponing the full effects of these losses by drawing on their quotas in the International Monetary Fund. But these transactions only mortgage the future when the amounts will have to be paid back, some with interest. Thus, try as it may, in the foreseeable future the economic welfare of the Continent is dependent on an ever-increasing supply of oil from the Middle East.

## Western Hemisphere Emergency Shipments

At the moment, the threat of a worsening of the oil shortage has receded as a result of the recent refinery cut-backs in the U.S. which frees an additional 200,000 b/d of crude oil for Europe, plus the 211,000 b/d allowable increase in Texas for March. However, during the latter part of January and early February the situation looked a good deal less comforting than it does now. In fact, during the entire first three and one half months (November to mid-February) of the European oil shortage, the official MEEC goal of 500,000 b/d of crude oil was reached for one single week only. Even if fuel oil, distillate and kerosene shipments, of which Europe also has an immediate need, are included, the 500,000 b/d figure was reached only a few more times in those fifteen weeks.

On a monthly basis, U.S. emergency oil shipments to Europe from the Gulf coast consisted of the following quantities (in thousands of barrels daily):

	<u>Crude Oil</u>	<u>Gasoline</u>	<u>Other Products</u>
November 1956	252	33	136
December 1956	322	72	183
January 1957	156	71	201
<u>Feb. 1-3 1957</u>	<u>181</u>	<u>59</u>	<u>200</u>
Nov. 1 - Feb. 13	237,000 b/d	57,000 b/d	167,000 b/d

The unfortunate aspect of this table is the sharp rise and sustained high level in gasoline shipments, despite the fact that Europe has made it quite clear that it has no need of this particular product in the present emergency. Europe's refineries produce regularly a gasoline surplus despite their relatively low gasoline yield (22%, compared with 48% in the U.S. in 1956). Furthermore, gasoline is the one item which can be cut back fairly substantially without seriously harming the European economy. This was done immediately after the outbreak of the Suez crisis so that Europe's current gasoline supply of 87% of normal requirements is actually some 10% more than would be needed to fill all demands under the prevailing, mild rationing system.

If the tankers which carried this daily load of nearly 60,000 bbls of gasoline to Europe in those three and a half months, would have been used to ship crude oil or fuel oil instead, the threat of a major oil shortage which had faced the OEEC Petroleum Industry Emergency Group (OPEG) (the agency responsible for pooling and distributing all oil products during the present emergency) would never have looked quite so grim.

### Fuel Oil Shortage

Of course, the fuel oil situation is still far from stabilized. In contrast to the U.S. where residual fuel oil accounts for no more than 20% of total oil consumption, in Europe the figure was 42% last year. Furthermore, largely due to the inability of the European coal industry to increase its output, the continuing shift from coal to oil is expected to cause an annual increase in residual fuel oil consumption of at least 15% over the next few years. This means a visible increase of a sizeable magnitude every single month which makes it, of course, impossible to prevent a rise in demand for even a very short period. Thus, of all products, residual fuel oil is the one least able to stand a cut-back. Yet, even now, with the recent sharp improvement in oil deliveries from the Western Hemisphere, there is still a 21% shortage. Since 73% of the daily inland consumption of more than 700,000 bbls of heavy fuel oil is used directly by industry, such a shortage would undoubtedly have a serious effect on the level of industrial output were it not for the drawing down of local stocks. Naturally, this supplementary source of fuel oil will not last indefinitely.

The end of the peak heating season, which should come in less than two months, will improve the situation only slightly since heating accounts for only 11% of heavy fuel oil inland consumption. Furthermore, overall heating oil consumption is currently exceptionally low since Europe's winter, up to now, has been the warmest in 50 years, an important positive factor in the present situation. (However, a sudden cold wave could well bring about a sharp deterioration in the supply of distillate oil, 25% of which is used in home and commercial heating)

Thus, the real effect of the oil shortage on the economy of Europe depends mainly on the state of fuel oil supply, both from abroad and from domestic refineries. As Mr. J.M. Rathbone, President of Jersey Standard, said, it should therefore be the aim of the U.S. oil industry to supply 100% of Europe's need for distillates and heavy fuels, otherwise the European economy will "slip backward". So far, this has not happened (in Britain the 10% fuel oil reduction has affected the jobs of only 5,000 industrial workers up to now), but the possibility can

not be discounted. In this connection, the recent request of ODM Director Arthur Flemming that crude oil shipments from Venezuela be shifted to Europe instead of the U.S. East coast "for the remainder of the emergency period" is significant since Venezuelan crude yields, of course, a much higher quantity of residual fuel oil per barrel than most U.S. crudes.

### Oil Help To Europe Must Be Continued

The various measures currently under foot in the U.S. to increase oil shipments to Europe should obviate the necessity of any further consumption restrictions in Western Europe. However, the view, expressed in some quarters in this country, that the oil shortage in Europe is "just a newspaper crisis" is not borne out by the available data which show clearly that Europe could not get along oil-wise without concerted outside help until the Suez Canal and the Iraqi pipelines are open again. The following figures show clearly the extent to which Europe normally relies on oil shipments via Suez and the Middle East pipelines:

#### OEEC AREA OIL SUPPLIES, Jan.-June 1956 (in million of barrels daily)

Middle East Imports		
via Suez*	1.25	
via pipelines	<u>0.70</u>	1.95
Other Imports		0.52
Domestic Production		<u>0.19</u>
		<u>2.62</u>

\* incl. 0.04 million b/d from Indonesia

Europe relies for 73% of its gross oil needs on shipments via the Suez Canal and the Middle East pipelines. Since the trip around the Cape of Good Hope is nearly twice as long as via Suez, the same number of tankers which normally uses the Suez route can only deliver about 700,000 b/d to Europe while the Canal is blocked. If we add to this the tankers normally plying between the now shut Iraq pipeline terminals and the OEEC countries, the total would be about 850,000 b/d. If we further add Western Europe's regular share on liftings from the terminal of the still-open Tapline, the OEEC area's total current oil shipments from the Middle East, in the absence of any outside help or rerouting of oil traffic, would amount to 1.1 million b/d, compared to 1.95 in the first half of last year. Thus, unless the loss can be made up from elsewhere, Europe would now be faced with an oil deficit equal to about 35% of current indicated gross demand.

The fact that the actual oil shortage amounts to only 20%, despite the growth in demand since the first half of last year, is due entirely to the innumerable and unique make-shift arrangements, tanker reroutings, near-cessation of Middle East oil shipments to the Western hemisphere and assorted other coordinated activities of the MEEC and OPEG. Without these, Europe would now be in the midst of a very drastic oil crisis. It is there-



fore incorrect to conclude from the success of the emergency measures, so far, that no emergency exists. Europe will need substantial oil help from the U.S. and Venezuela until normal oil shipments from the Middle East are again at least partially possible.

## REOPENING OF CANAL AND PIPELINES

This elusive event could theoretically come about sometimes in March when the Suez Canal is supposed to be open for tankers with a draft of up to 25 ft. On the basis of Canal traffic in the first half of 1956, this would mean a resumption of 11.5% of normal south-north tanker traffic. One third of the traffic would consist of ships of up to 25 ft. draft which could go through the Canal fully loaded; the other two thirds would be tankers of 25 to 28 ft. draft which would have to travel slightly lighter. Tankers with a draft of more than 28 ft. would still be better off to carry a full load around the Cape. The real improvement, however, would come in north-south traffic since about 80% of all tankers normally using the Canal have a draft of less than 25 ft. when in ballast. Of course, this assumes that the width of the channel will allow the larger tankers to go through. If these assumptions are correct the partial opening of the Canal would bring about a net increase in oil deliveries to Europe by over 200,000 b/d.

This could easily coincide with the partial repair of the Iraqi pipelines to the point where they could carry 220,000 b/d, or 40% of normal capacity. This would mean a net addition of 140,000 b/d, since it would entail the rerouting back to the Mediterranean service of tankers now going around the Cape. It would, of course, take some time to bring about all these shifts but within a month after the partial re-opening of the pipelines and the Canal, Europe would get about 350,000 b/d more oil from the Middle East than it does now, provided the U.S. and Canada do not increase their imports of Middle East oil above the present low level of 25,000 b/d.

If at the same time the existing emergency flow of oil from the Western hemisphere is maintained at the level scheduled for March, Europe's oil shortage would nearly disappear. On the other hand, if the Canal and the pipelines remain fully closed, even the current increase in shipments from the Western hemisphere would leave a gap between oil demand and supply of some 12 to 15% in Europe in March and afterwards.

The answer to which of these two events will happen lies, of course, in the present political situation in the Middle East which indicates that President Nasser may well refuse to open either the Canal or the pipelines, which he controls by virtue of his military and political alliance with Syria, to commercial traffic until the Gaza strip and Gulf of Aquaba disputes are settled to Egypt's satisfaction. Thus Western Europe as well as the oil exporting states in this hemisphere are faced with an almost complete impossibility of engaging in any sort of planning beyond the space of a few weeks since no one can foretell at this moment whether the oil shortage in Europe will remain at the current level for an extended period, will shrink to nearly nothing within the space of just a few weeks or will grow to much larger proportions. This last possibility could easily happen if hostilities

break out anew in the area and the Tapline which crosses four Arab countries and runs very close to the Israeli border is damaged.

## ECONOMIC AND POLITICAL REACTIONS TO THE OIL SHORTAGE

The present uncertainty is, of course, very dangerous for the health of the European economy. Already signs begin to appear that business expansion projects are being postponed, pending settlement of the oil shortage. Such key industries as motor vehicles and accessories as well as the entire motor vehicle service trade are already feeling the full brunt of an economic decline.

### Balance of Payments Effects

Furthermore, both France and Britain are still losing gold and dollars as a result of their oil purchases from the Western hemisphere which, up to now, have not been financed by any U.S. government loans, though Britain may soon start to draw on a \$500 million Export-Import Bank credit established for this purpose. It is estimated that the direct oil loss stemming from the Suez Canal and pipeline blocking is costing France about \$20 million a month. Since she has at the same time exceptional food import requirements because of crop failures, she is now losing gold and dollars at the rate of \$50 million per month. This has reduced her total gold and dollar reserves to the disturbingly low level of \$1.25 billion.

In order to slow down the decline, France is now drawing about \$40 million a month from the International Monetary Fund. However, the total which she can automatically draw in this manner is not very large, consisting of only \$262.5 million, or one half of the total quota which she paid into the Fund. As a further cushion to her reserves France has therefore obtained a \$100 million loan from a group of private U.S. banks for the specific purpose of dollar oil purchases.

Britain is losing an estimated \$30 million a month as a result of special payments for dollar oil. In addition, further dollar payments were incurred by her in December and January on Western hemisphere oil purchases for re-export to Western Europe. Since intra-European trade balances are settled 75% in dollars and 25% in credits under European Payments Union rules, this meant that the U.K. was financing 100% of the dollar cost of some European oil imports but was being reimbursed only 75% in dollars. Fortunately, this practice ceased largely (but not completely) in February when Shell and several other big oil companies in Germany and France who normally pay for their oil imports in sterling started to pay dollars for the oil obtained for them in the U.S.

The U.K. balance of payments is also affected by the fact that current U.S. oil prices are considerably higher than pre-Suez Middle East prices so that in the three months since the shift of oil purchases from the Middle East to the Western hemisphere, the volume of oil imports has dropped considerably more than their value which is only slightly below the monthly pre-Suez figure.

Altogether, the oil purchases and other dollar expenditures incurred as a result of the Suez affair are expected to reduce the U.K.'s balance of payments surplus for the year ending in June 1957 from a previously expected \$850-1,000 million to zero.

### Political Repercussions

Naturally, there are political repercussions to all this. One of them is a growing antipathy to the United States in general but to the U.S. oil industry in particular. Editorial after editorial in non-Communist British and French newspapers charged the U.S. oil industry with being the only beneficiary of the present situation since it has provided it with the chance to raise prices. One large London daily wrote last month, for instance, "hundred thousands of workers can lose their jobs because British industry is at present faced with another possible sharp fall in the supply of fuel oil. The blame for this should be laid upon the oil kings of America." The criticism reached its peak late in January after Texas had refused to raise its February allowable. It has since subsided in view of the higher March allowables as well as the latest figures released by the OEEC which show clearly the extent of oil aid given to Western Europe by the United States.

However, the ubiquitous Soviet propaganda machine is now trying to cash in by injecting a new theme, namely that American oil companies want British-French power in the Middle East to decline so that they can take over the oil interests of these two countries. This theme is hammered home in almost every Soviet propaganda broadcast beamed to Western Europe. A typical broadcast quotes an article in the Soviet newspaper TRUD as saying "the interest of oil monopolies are the compass guiding the policy of the United States in the Near East. American monopolists are trying to appropriate the oil riches of the Arab countries. Utilizing the weakness of their rivals, their West European allies, they intend to become the sole, sovereign masters of the rich oil resources of the Near East."

Another, beamed to France, says "while U.S. and other Western propaganda continues to proclaim the solidarity of the Western allies, the U.S. oil magnates, passively encouraged by the U.S. authorities, get a stranglehold on their U.S. partners in the Atlantic Bloc. What a moving demonstration of Atlantic solidarity."

So far, the Soviet theme has not been picked up by many non-Communist newspapers though there is no lack of articles or editorials on the subject of "U.S.-British oil rivalry" in the Middle East. Even the conservative Financial Times points to Britain's diminished share in Middle East oil, compared to 30 years ago, as evidence of the fierce rivalry between the two countries in that respect.

Probably, the end of the oil crisis will also bring an end to the sniping against American oil interests. But at the moment, the combination of higher U.S. oil prices, Texas' refusal to increase its allowable for two months straight and the public revelation of tie-in sales to Europe of unneeded gasoline has made the U.S. oil industry almost as convenient a scape goat for all ills in Western Europe as it is in Washington. The undeniable

fact that the U.S. oil industry has, so far, saved Europe from a major economic setback has unfortunately been largely overlooked in the recent avalanche of hostility.

## EURATOM AND THE COMMON MARKET

However, the present situation has not only brought about frustrated sniping and impatient waiting for two small Middle East powers to find some sort of modus vivendi. A much more positive approach is to be found in the twin projects of Euratom and the Common Market, both of which were given a strong impetus by Western Europe's sudden confrontation with the cold facts that its economy had come to depend to an unhealthy degree on foreign supplies, be it the Middle East or Texas.

Of the two projects, Euratom faces considerably fewer obstacles since there are as yet no vested interests in the field of atomic energy. Briefly, Euratom is to be a sort of supra-national Atomic Energy Commission for the six member countries of the European Coal and Steel community. It is to have exclusive control of the purchase and sale of atomic energy within the Community and over all patents in the field of nuclear science. It has also the right to inspect any plant using fissionable material, including those producing atomic weapons. However, actual production of fissionable material would not fall under the direct jurisdiction of Euratom, though all fissionable materials, used for non-military purposes, are to remain the sole property of Euratom.

### Atomic Energy for Europe

Euratom's contribution to Europe's energy shortage will not be felt for many years. By 1962, the six member countries expect to have a total atomic power capacity of 3 million kW, equivalent to 7.5 million tons of coal per year or about 1.5% of the total energy consumed in the six countries in that year. By 1975 atomically produced power is expected to account for the equivalent of about 35 to 40 million tons of coal. This will still fill only about 5.5% of total energy needs, or 1/7 of the contribution to energy to be made by oil at that time.

Of course, as with any new technological process, once the initial difficulties are overcome, progress could be much faster than can be presently foreseen. A perfect example of this is Britain's atomic energy program which in 1955 officially aimed for 12 power stations with a total capacity of 1 to 2 million Kw (4 to 5 million tons coal equivalent) within the next ten years. By now this program has been so expanded, both in number of stations (from 12 to at least 18) and in capacity of each station, that by 1965 atomic energy will produce some 60 to 75 million Kw, or the equivalent of 16 to 20 million tons of coal.

If the Euratom countries are able to make equally radical upward revisions in their atomic energy program, the present goal for 1975 may be greatly surpassed. There is certainly no lack of economic or political incentive to create this new indigenous source of energy and with the pooling of the technological and scientific resources of five of the world's most



advanced countries it is not unreasonable to expect much progress. Furthermore, Britain's advanced experience may well be made available to Euratom under a special arrangement by which the U.K. would become associated with the project.

However, no matter how rapid the progress in atomic power will be, it will not compete with oil or European domestic coal in the foreseeable future. The only area of actual competition between atomic energy and oil in the next two decades is electricity generation. In 1955 this sector accounted for only 2% of the total oil consumption in the six Coal and Steel Community countries.

Between 1955 and 1975 electricity output in these countries is scheduled to rise by 223%, or from 76 to 224 million tons of coal equivalent, under current plans. Since waterpower, which now accounts for just over one third of total power output, can increase by only 65%, due to the natural limitations on usable sites, and since coal and lignite production will rise by a very small percentage during this period, the bulk of the increase must come either from oil, imported coal or atomic energy. The importation of coal, however, is kept to a minimum because it involves dollar expenditures. Therefore, the share of oil in fueling the electricity output of the Euratom countries in 1975 will be a multiple of what it is today even if the contribution of atomic power should be three times as high as is now foreseen. Such a development would affect the coal rather than the oil consumption of Europe's power stations.

#### The Customs Union Plan

Euratom's twin project, the Common Market, may still have some tough sledding ahead before its ratification by the various national legislatures. Unlike Euratom, this project has to fight on all sides against vested interests. Special subsidies, protective tariffs, "equalization" taxes and similar devices of benefit to the legion of special interests groups exist in every one of the six countries. To get all of these to renounce their built-in protection over the next twelve to fifteen years and form one single tariff wall around the entire area is the ambitious aim of the Common Market. One major sector, agriculture, has already been guaranteed special treatment in form of fixed minimum prices throughout the area. Other groups clamor for similar privileges.

Nevertheless, the project is about to come into existence. If it is ratified by all six national legislatures by July of this year, the first 10% tariff reduction between the Six would be made on July 1st, 1958. According to the draft statutes, the 12 to 15 transition years before a full customs union comes into existence would be divided into three periods of at least four years each. During each of the first two periods, tariffs would be reduced by 30% from the present level, while the remaining 40% cut would come in the last period.

The choice of which tariffs are to be reduced in each period would be left to the individual countries. Meanwhile, a new common tariff for the entire area would come into existence and all existing trade restrictions

between the six countries would end. The new common tariff would be computed on the basis of the mathematical average of the current tariffs of the six countries for each item. However, in deference to the low tariff countries Belgium and Holland, all tariffs of over 2% on raw materials and over 3% on semi-manufactured goods would be ignored in computing the average. The first step to establish a common tariff towards the outside world is to come at the end of the first 4-year period when the average formula is to be applied to all tariffs which by then differ by less than 15%.

### Oil In The Common Market

In the oil trade this particular provision would assure a continuation, at least into the second period, of Germany's high duty on crude oil which protects its very high-cost domestic oil production. Germany's duty rates are approximately \$25.00 per ton on Middle East oil and \$15.00 to \$20.00 on Venezuelan crude. On a percentage basis this is over 150% in the case of Venezuelan oil, compared to virtually free entry of crude oil into the other five countries. Except for this instance, the current difference in tariffs and other taxes on finished oil products between the six countries is not quite so significant (though still somewhat of an obstacle to inter-regional trade.)

This means that the effects of the Common Market on the European oil industry will be less than on many other branches of the area's economy. Intra-European shipments of finished oil products are already carried on on a large scale between the six countries, as well as the rest of the OEEC area, in order to balance refinery output and demand between these countries. In the first six months of 1956 the six Common Market countries exchanged the following quantities of finished oil products with each other:

#### INTRA-COMMON MARKET TRADE IN OIL PRODUCTS

(Jan. - June 1956)

	I M P O R T S		E X P O R T S	
	(Thousand tons)	(\$ million)	(thousand tons)	(\$ million)
France	235	8.0	114	3.8
Germany	688	20.6	47	1.8
Italy	28	0.5	143	4.4
Belgium/Lux.	659	21.5	613	16.5
Netherlands	470	14.4	1,358	39.2
	<u>2,080</u>	<u>65.0</u>	<u>2,275</u>	<u>65.7</u>

(The slight difference between total import and total export figures is due partly to the time lag between arrival and departure of shipments and partly to the inclusion of certain specialty oil products in only some of the above figures)

On a value basis, the above figures represent one third of the total oil products imports and one sixth of the total oil products exports of the six countries. There is every reason to assume that a dropping of trade barriers will result in an increase in these intra-Common Market oil shipments. An illustration of this is provided by Belgium and the Netherlands which already have a customs union and whose oil products trade with each other is therefore on a considerably higher level than with any other

European country. The already existing common coal and steel market of the six countries also illustrates this point: While the overall value of trade between the six countries rose by 45% between 1952 and 1955, it went up 70% for the products of the coal and steel industry!

The Common Market would create an economic unit whose level of industrialization and standard of living is second only to the U.S. and whose population is about equal to ours. The total oil consumption of this unit is currently about 1 million b/d (disregarding temporary restrictions caused by the Suez crisis). This would make the Common Market the free world's largest oil-consuming "country", except for the United States, and it would increase its oil consumption at an annual rate at least twice that of our country.

Of course, an even bigger economic unit would come into existence if, as seems likely, Britain and the Common Market form a Free Trade Area. Under such an arrangement existing tariff barriers between Britain and the Common Market countries would gradually disappear but Britain's tariffs towards all other countries would not be affected by it. In this way Britain would be able to retain her system of Imperial Preference. In order to make the plan even more palatable to the overseas Commonwealth countries who do not wish to see their large agricultural exports to Britain hurt by duty-free agricultural shipments from the Continent, Britain would probably insist that all agricultural products, which account for 90% of all imports from the Commonwealth, be exempted from the Free Trade Area. Besides Britain, active interest in forming a Free Trade Area with the Common Market has also been shown by Austria, Switzerland and the Scandinavian countries.

The last major stumbling block that had to be overcome before the six prime ministers could put their signatures on the Common Market draft treaty on February 20th was the question of the inclusion of the overseas territories of the member countries. Under the present arrangement, these territories will be included into the Common Market for a five-year provisional period. During this period the six countries are to invest a total of \$582 million in their overseas possessions and the latter will enter the Common Market step by step, as the European investments in them rise. For the oil industry this could be of particular importance in view of the inclusion of the Dutch West Indies with their big export refineries into the Common Market.

## FRENCH AFRICA JOINS THE COMMON MARKET

The main significance of the tentative inclusion of the overseas territories lies in the fact that it may save France's tottering African possessions. France alone is neither economically nor politically able to hold on much longer to her African empire. Yet, she has reason to believe that some of these territories, particularly the Sahara desert, contain some of the world's richest mineral deposits. Thus, by finally winning her argument that the overseas territories be included in the Common Market, France has achieved two purposes: (1) the burden of financing her African possessions are to be shared by the other countries (nearly 90% of the \$582 million overseas investments will be spent in French Africa, with France

contributing less than half of the total) and (2) the maintenance of the political status quo in French Africa will from now on be a European rather than a French problem since all six countries will have a direct stake in it. France's most powerful argument in selling this idea to her five partners was the probable existence of large-scale oil deposits in Algeria. At this moment the vision of a large-scale oil production in a territory controlled directly and exclusively by Western Europe was enough to overcome the other countries' understandable reluctance to become entangled in France's troubles with her Arab subjects. Now that France has the backing of other major European countries she is less likely than ever to grant full political independence to Algeria and thereby, perhaps, create another Middle East oil state, politically dominated by Egypt.

### Sahara Developments

Instead, France is now speeding up the economic development of the entire French Sahara region. To achieve this purpose the French government has just created a Joint Organization for the Sahara Regions which will have supreme economic authority throughout the 1.4 million sq. miles of French Sahara, regardless of political boundaries. Thus, it will take in southern Algeria, and the northern part of the French Soudan and Niger (French West Africa) and of Chad (French Equatorial Africa). In these areas the Joint Organization will function as an entirely autonomous body, headed by a Delegate General, nominated by the French Cabinet, and a High Commission comprising representatives of the local peoples, regional government and Metropolitan France.

Though the functions of this body are to be along economic lines only, the governor-generals of the territories in which the Sahara is located will be entitled to hand over a considerable part of their administrative power to the Sahara Delegate General for the purpose of economic development. The Delegate General may also, with the approval of the French Government, negotiate for foreign loans and the participation of foreign entities in Saharan enterprises.

The Sahara development scheme and the extension of the Common Market to the overseas territories have fired France's expectations as few other plans in the recent past. As French Premier Guy Mollet told the Council of the Republic after the final passage of the Sahara development bill, "Millions of tons of oil will be produced within a few years. The Sahara, along with atomic energy, is one of the foundations of our independence."

### Oil Search in the Sahara

Mollet's forecast of African oil production was not merely political talk. Responsible French oil experts have made equally optimistic statements. Pierre Guillaumat, president of the Government's Petroleum Research Bureau, has stated that France's third Five Year Oil Plan (1956-1960) will result in the discovery of 700 million bbls of oil and in a total production of 180,000 b/d by 1961, equal to one quarter of her oil needs estimated for that year. M. Guillaumat expects the biggest share of this increase to come from the Sahara which by the end of 1959 should have a daily oil production of at least



80,000 b/d. Meanwhile, a member of the French Senate who has just returned from an inspection trip of oil exploration sites in Africa, reports that in about 15 years the Sahara alone will be able to supply all of France's oil needs. An even more optimistic estimate comes from the French Assembly where M. Bichet reported on behalf of the Committee for Industrial Production and Energy that the French Union would become a net oil exporter within ten years. This would have to mean a total production of at least 1.3 million b/d by 1967, compared with the present output of about 30,000 b/d for the French Union, of which 25,000 b/d comes from the Parentis field.

Whether the Sahara can really supply such huge quantities of oil is, of course, still a subject of speculation. However, the fact that it contains a number of excellent oil-bearing areas is now established. In fact, according to the manager of the state-owned Nat'l Company for Algerian Petroleum Search and Exploitation (SNREPAL), it is probable that the whole Sahara is an oil-bearing region.

Serious oil exploration in the region started in 1945. Since that time approximately 400,000 square miles of territory was explored. At present three organizations account for most of the oil activities in the Sahara: the Algerian-owned SNREPAL, the Compagnie Francaise des Petroles (Algeria) and the Company for Sahara Petroleum Research and Exploitation (CREPS), owned 65% by SNREPAL and 35% by Royal-Dutch Shell.

#### Northern Sahara

In the northern parts of the Sahara the CFP(A) and SNREPAL have formed an association which together holds 14 exploration permits covering a total area of 97,000 square miles. This association has drilled so far seven wells in the Western zone, ten in the central zone and three in the eastern zone of the Northern Sahara. Petroleum indications have been found in each one of these zones. The most important of these has been SNREPAL's discovery late last year at Hassi Messaoud, 60 miles south-east of the town of Ouargla, in eastern Algeria.

The one well completed so far has shown a daily producing capacity of 2,500 to 3,000 bbls. Total oil deposits of the field have not yet been determined but, according to one French source, unless at least 150 million bbls. can be established it may not be worth while to undertake commercial exploitation of the field which would entail the construction of either a 240-mile pipeline to the Tunisian port of Gabes or, if France wants to avoid a terminal on foreign territory, a 360-mile pipe to the Algerian coast.

Except for Hassi Messaoud, the most promising oil indications in the northern Sahara have been found in the central zone by both SNREPAL and the CFP(A), particularly east and north-east of the towns of Berriane and Guerrara. In the western zones of the Northern Sahara both SNREPAL and CFP(A) have found oil indications in devonian rock but no commercial deposits.

#### Southern Sahara

In the southern Sahara the only company presently active is CREPS which has been successful both near the Libyan border and in the central zone.

In the first of these CREPS employs now 600 men in both the Edjele field where, so far, seven wells have been drilled and the more recent discovery at Tiguentourine, 40 miles northwest of Edjele, where the second well is now drilling. The quality of the Edjele oil is similar to Saudi Arabian oil and the output per well is estimated at 450 b/d. The first Tiguentourine well had a test flow of nearly 700 b/d. Unfortunately, both fields lie in territory extremely unfavorable for commercial exploitation. They are 450 miles from Gabes, Tunisia, and 650 miles from the Algerian coast. To build a pipeline to Gabes would cost approximately \$85 million and to the Algerian coast at least \$120 million.

The final decision of whether to undertake commercial exploitation will therefore be postponed until the extent of the finds has been ascertained. However, indications are that France will go ahead with the project. Meanwhile, at least one uncertainty about the discoveries has been settled. A long-standing border dispute between France and Libya, involving the entire Edjele field, was finally decided last December in favor of France. In exchange, the French agreed to withdraw their garrison from the adjoining Libyan province of Fezzan.

In the central part of the southern Sahara CREPS has found considerable quantities of natural gas near In Salah. Again, the difficulty lies in the geographic location of these deposits since an 800-mile pipeline would be necessary to bring the gas to the coast.

#### Gabon Oil Developments

Outside of the Sahara, recent oil finds in French Africa have been reported from Gabon, French Equatorial Africa. These finds culminate 24 years of search and exploration by the Societe des Petroles d'Afrique Equatoriale Francaise (SPAEF) at a total cost of nearly \$60 million. The first producing well was found at the end of 1955 just outside Port-Gentil on the Atlantic Coast. Its production is very small, yielding only 25-30 b/d but its excellent location right outside the port city makes it commercially usable.

The next discovery came in February 1956 when oil in modest but commercial quantities was found in the Ozouri field, 25 miles south of Port-Gentil. This field has at present six producing wells and commercial production is just starting. Transportation is by means of barges. After Ozouri came the Pointe-Clairette discovery last July, directly north of Port-Gentil. This is the largest of the three fields. Its commercial production started in January after the completion of a provisional pipeline to the Atlantic Sea terminal Cap Lopez.

Present plans are for the departure of the first oil tanker filled with Gabon oil in March, the completion of a 30,000 storage tank by May (to be doubled by October) and the installation of a permanent 5-5/8" pipeline from Pointe-Clairette to Cap Lopez by June. By that time, total output of all currently existing Gabon fields will amount to about 6,500 b/d, with eventual production from these fields estimated at 20,000 b/d.

SPAEF has now nine drilling rigs in Gabon and expects to spend

about \$25 million in the course of 1957, compared to \$17 million last year. Its officials have expressed the belief that the area contains other and larger oil deposits than the ones located so far.

### The French Union's Oil Exploration Budget

France's optimism about the chance of large-scale oil finds in the French Union is reflected in her oil exploration budget for the period 1956-1960. During these five years, total public and private expenditures for oil search will amount to at least \$700 million, compared to \$560 million for the previous ten years. The geographic apportionment of the sums for 1956 and 1957, as listed below, shows the growing importance of the Sahara in the country's private and public oil program:

	<u>1957</u>	<u>1956</u>
Metropolitan France	\$ 57.00 million	\$ 42.00 million
Sahara	67.00 "	53.00 "
North Africa (excl. Sahara)	6.00 "	00.00 "
Other Overseas areas*	33.00 "	22.00 "
	<u>\$163.00 million</u>	<u>\$117.00 million</u>

\* mainly French Equatorial Africa

A large part of this year's increase in exploration expenditures in the Sahara is due to the planned doubling of CFP(A)'s financial capital and its drilling equipment. As a result, drilling activities in the Sahara which rose from 125,000 ft. in 1955 to 229,000 ft. last year, will show another very sharp increase in 1957. At the same time, drilling in the non-Saharian parts of North Africa have shown a very marked decline between 1955 and 1956. This is undoubtedly due largely to the political and military instability in the area and the recent granting of independence to Tunisia and Morocco which has caused French investors in these two countries to adopt a very cautious attitude. In the Sahara, on the other hand, such political qualms seem to have been brushed aside and private and public investment funds for oil and other minerals are now flowing in at a record rate.

### NEW OIL ROUTES FROM THE MIDDLE EAST

Europe's sudden spurt of interest in Africa's oil possibilities is symbolic of the Continent's attempt to free itself from the Middle East oil stranglehold. Concomitant with the African venture, Europe is increasing its own exploration activities and is looking for other foreign sources of oil, including increased buying from the Soviet Bloc. Yet, none of these measures are likely to make much of a dent in Europe's need to rely on Middle East oil.

The only thing that Europe can do is to find alternate routes for its Middle East oil imports which would break the transportation monopoly of Egypt and Syria. This is being undertaken throughout the continent both by building tankers of over 45,000 dwt and by the increase of oil ports to accommodate ships of this size. At the same time the pipeline project from

Iraq (and perhaps Kuwait) to the Turkish port of Iskenderum seems to head towards early realization while France has about decided to finance the building of an 18" pipeline from the Israeli port of Elath on the Gulf of Aquaba to the Mediterranean. The project which has French government endorsement will reportedly be underwritten by Lazard Frères and other French banking interests.

These projects, if carried out, will probably end the Suez Canal's quasi-monopoly position as an oil tanker route but it would not necessarily make it obsolete for oil traffic, even in the distant future when the bulk of the world's tankers will be over 45,000 tdw (nearly 30% of all dw tonnage now on order is already in that class).

In the first place, even the super-super tankers will still want to use the Canal when travelling in ballast. In the second place, if it should be possible to expand the Canal to a size where it could accommodate even fully-loaded tankers of 75 to 85,000 dwt it would obviously be more advantageous for such tankers to use the Suez short-cut rather than go around the Cape. Assuming a speed of about 17 knots, a tanker of this size could make 11 round-trips a year by using the Suez Canal both times, compared to only 8 if it uses the Canal only when in ballast. The savings would therefore be considerable.

The question of whether such an expansion program of the Canal can or should be undertaken is almost completely a political one. Its total cost is estimated at about \$500 million. In view of the vast increase of Middle East oil shipments to Europe (and perhaps also to the U.S.) expected over the next two decades such an expense may be well worth for the world tanker owners or charterers.

On the other hand, the amount could also be used to build an additional 45 tankers of the 85,000 dwt size or a 400,000-500,000 b/d pipeline from the Persian Gulf to Turkey.

The final decision will therefore depend to an overwhelming degree on how certain the prospective investors can be that political events will not rob them of the fruits of such an investment in the form of unilateral control of the Canal and the setting of its toll rates. Here again, a united European bloc is more likely to obtain and enforce the necessary safeguards than any single country.