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NORTH ATLANTIC COUNCIL

CENTRAL CHROMO

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ECONOMIC COMMITTEE

SOVIET OIL POLICY

Note by the French Delegation

The USSR, which ranks second in the world economic power league, is entirely self-sufficient in energy and raw materials. In 1973, it produced 424 million tons of oil. Output is rising steadily at 6% per annum and will total 480-500 million tons around 1975 and over 600 million tons in 1980. By 1975, therefore, output will be on a par with United States output in 1971 (470 million tons). For many years, the USSR has held its place as the second-largest world producer(1) after the United States, with a fairly constant percentage (15-20%) of total world output.

It also ranks second, behind the United States, in oil refining, with 13% of world refining capacity(2), which means that it can export refined products as well as crude oil.

In terms of proven reserves, it is second only to Saudi Arabia and its 10 milliard tons represents 12-15% of world reserves(3). 40% of the world's likely oil-bearing areas are located on Soviet territory. Its estimated reserves are at least equal to Saudi Arabia's (150 milliard tons) and, at the rate of consumption in 1975-1980, could make it self-sufficient for between 150 and 200 years.

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- (1) See Annex A.
 - (2) In 1971, world refining capacity totalled 2,500 million tons, 28% of which was in North America (22% in the United States), 28% in Western Europe, 15% in the Soviet world (13% in the USSR) and 6.6% in Japan.
 - (3) See Annex B.

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Its oil activity (production of crude and refined oil) is equal to 80% of United States activity but its consumption is only a third as great(1). Its reserves are considerably larger than those of the United States, nor is it beholden to any other country, which gives it a very high degree of security.

An unchanging export policy

The USSR, which has more than enough for its own requirements, exports one quarter of its production, or just over 100 million tons in 1972, two-thirds in the form of crude oil and one-third in the form of refined products(2). There has been virtually no change in this export percentage since 1965 (between 25 and 27% of total output). Since 1969, there has been very little variation in the volume of deliveries to the Free World (43-45 million tons per annum), whereas deliveries to the socialist countries are rising steadily (50 million tons in 1970, 60 million tons in 1972, or 60% of the total).

Moscow's hold on the socialist countries

In the five-year period 1966-1970, the USSR supplied 135 million tons of petroleum products to the COMECON countries(3) and this figure will be twice as high (256 million tons) in the period 1971-1975. At this rate, deliveries meet 80-90% of the petroleum requirements of the countries concerned(4). Deliveries are effected primarily by the Friendship Pipeline, the Druzhba, the capacity of which was recently increased from 40 to 100 million tons per annum by the laying of a second line(5).

This Soviet hold, energy-wise, on the Central European countries, which is as great for petroleum as for natural gas, gives Moscow a powerful lever with which to influence the attitudes of these countries(6).

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- (1) In 1970, USSR: 250 million tons; United States: 763 million tons. In 1980 (forecast) 460 million tons; United States: 1,200 million tons.
 - (2) See Annex C, Soviet oil exports.
 - (3) Council for Mutual Economic Aid.
 - (4) Other than Rumania, which does not obtain supplies from the USSR.
 - (5) See the charts showing "Routes for crude oil deliveries to the Eastern countries" and "the Druzhba".
 - (6) As regards 1974, deliveries to the COMECON countries are proceeding as anticipated, without any price increase.

Weaknesses in the system

There are, however, certain weak points in this flourishing situation which stem from the USSR's internal energy imbalance and oblige Moscow to have recourse to the industrialized countries to speed up the harnessing of Siberia's resources.

Four-fifths of the Soviet Union's needs arise, and will continue to arise, in European Russia, west of the Urals, whereas four-fifths of its potential wealth lies in Western and Eastern Siberia, thousands of kilometres from the centre of consumption. As regards oil, Siberia produced 0.95 million tons in 1965, 31 million tons in 1970 and at least 85 million tons in 1973. There is every likelihood that in 1975 output will reach 125 million tons, or a quarter of total Soviet output, and between 250 and 280 million tons in 1980 or almost half of the total.

Extraction and transportation difficulties(1)

The oilfields in European Russia (Volga, Caucasus and Ukraine) are now producing at maximum capacity. Output in the Urals and in Byelorussia is rising, although very slowly. It is becoming increasingly difficult to work the oil-bearing strata, which now lie at a very great depth (over seven kilometres in some places). The new oilfields (Mangyshlak peninsula, on the Eastern shores of the Caspian, and particularly the lower Ob basin-Tyumen) are making an increasing contribution to output. Mangyshlak oil has a very high paraffin content, which complicates transport and processing. Below 40°C, it takes on a honey-like consistency, which means that it must be carried either by rail or by specially equipped pipeline(2). Its extraction entails the injection of heated sea water into the stratum and special paraffin-removing processes have to be used during refining.

In contrast, the huge reserves on the lower Ob (Tyumen) lie at a shallow depth and are easier to work. However, the extreme weather conditions, particularly in the North, slow up prospection and drilling.

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- (1) See chart showing Soviet oilfields and pipelines.
(2) A re-heating furnace at 80-kilometre intervals between Mangyshlak and Kuibyshev.

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The principal obstacle is the shortage of transport. The geographical, energy and demographic imbalance in the USSR is coupled with an imbalance in transport. Three-quarters of the population reside west of the Urals and are served by 80% of the country's means of communication, whereas four-fifths of the energy reserves lie east of the Urals, in the Siberian wastes.

45% of the country's oil is still carried by rail(1), whereas for natural gas, a recently-discovered source of energy, this form of transport is unsatisfactory. During the period 1965-1970 the emphasis has been placed on gas pipelines: 25,000 km were laid in five years, bringing the total network to 65,000 km. On the other hand, only 4,000 km of oil pipeline were built, instead of the scheduled 12,000 km, bringing the network up to 32,000 km. Now that the primary network of gas pipelines has been laid, it will be possible to expand the oil pipeline system to relieve the burden on the railways. A point to be noted is that in view of the Soviet Union's shortage of wide diameter pipe, it is more advantageous for it to build oil pipelines: the transport of oil requires a fifth of the pipe needed for the transport of an equivalent amount of natural gas. In 1973, there were two oil pipelines linking Tyumen and Bashkir with European Russia, which meant that Siberian crude oil could be fed into the Druzhba. The oil pipeline network is now 40,000 km long (expected to be 59,000 km by 1974), and the gas pipeline network 80,000 km long (95,000 km in 1975). The total length of these networks is almost as great as that of the Soviet rail network, which is the longest in the world (135,000 km).

The need for aid from the industrialized countries

These gigantic achievements are partly dependent on Western technology and, in particular, on the supply of wide-diameter pipe, which is not manufactured in sufficient quantity in the USSR. The Soviet Union's production is a little over one million tons of wide-diameter pipe (1,020 mm and over) a year, which makes just under seven million tons for the period 1971-1975, as compared with the requirement for 12-13 million tons for the same period. It must therefore import five to six million tons of wide-diameter pipe if the plan is to be carried through.

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- (1) 63% of the items transported in the USSR are carried by rail.

The USSR is trying to concentrate on the production of pipe for oil pipelines(1) and to obtain gas pipelines from the industrialized countries in exchange for the delivery of natural gas(2). This explains the interest shown by the industrialized countries, which are on the market for energy, in the natural resources of Siberia. It seems very likely that, after negotiations which have lasted over two years, the Japanese will be building an oil pipeline between Irkutsk and Nakhodka. The Americans, for their part, perhaps in conjunction with the Japanese, are to build the Irkutsk-Pacific Ocean gas pipeline. The Americans, who have a hand in oil activity in the Tyumen, reportedly want to build the gas pipeline link between Tyumen and Murmansk, where a methane port would be built.

Oil in the context of the energy policy

In view of the extremely close links between oil, natural gas and the transport of energy, the USSR's oil policy should be considered in the context of the country's overall energy policy. Trends in the fuel balance and the changing pattern of internal consumption give an idea of the main features of the oil policy.

The fuel balance

The proportion of oil(3) in Soviet energy production (30.5% in 1960, 35.8% in 1965, 37.9% in 1970) is rising steadily and totalled 41.8% in 1971. The proportion of oil plus gas rose from 38.4% in 1960 to 61.3% in 1971. Oil consumption, which was four times as high as gas consumption in 1960, was only twice as great in 1966.

Under the Five-Year Plans, it should have been only 50% higher than gas consumption in 1970 and about equal in 1980.

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- (1) For reasons of cost-effectiveness, the dimensions of pipe for gas pipelines are steadily increasing (up to 2,520 mm in diameter) and the pipe must be built to specific advanced technical standards (resistance to pressures of 75 atmospheres).
 - (2) Contracts in 1969 and 1971 with the FRG, in 1971 and 1972 with Italy, France and Finland.
 - (3) See Annex D: proportion of oil and gas in the Soviet fuel pattern (1960-1980).

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However, the situation has hardly changed since 1966. While oil output has steadily expanded, as planned, the production of natural gas has invariably fallen well short of the forecasts. Thus, although the proportion of oil plus gas in the Soviet fuel pattern should be 65% in 1975 (as compared with the planned figure of 67%), the proportion of oil will be higher than forecast.

The imbalance may be due to the under-estimation of oil requirements; however, it stems primarily from an excessive consumption of petroleum products, which should have been replaced by natural gas. This explains the need to open up the oil fields, and particularly the natural gas fields in Siberia.

Internal consumption

The relative imbalance in energy was aggravated by the fact that the Russians were slow to understand the importance of oil in the chemical industry (fertilizers, synthetic textiles, plastics). They are disturbed by the requirements with which they are now faced and are striving to keep them down. This is one of the reasons why the development of road transport and automobile traffic is so slow in the USSR. The roads only recently (1962) overtook the inland waterways in the USSRs transport pattern (in 1970, 5.5% of the overall traffic went by the inland waterways and 6.5% by road).

Despite the progress made so far, output is so limited that the total number of lorries is growing only very slowly. Notwithstanding the spectacular leap forward in the automobile industry, only one Soviet citizen in seventy will have a private car in 1975(1). For many years to come, motor traffic will account for only a small part of the country's petroleum requirements and will be a very minor source of concern to its leaders.

Greater flexibility in oil policy

The Soviet leaders are, however, concerned at the growing requirements of their privileged customers, the European socialist countries and, in order to offset any delay in the opening-up of Siberia, they are encouraging a certain,

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- (1) United States: one for every two inhabitants.
Western Europe: one for every four or five inhabitants.

controlled, diversification of their "partners'" imports from the Near and Middle East.

Contrary to popular belief, this greater flexibility in Moscow's oil policy in no way affects its hold, energy-wise, on the COMECON countries(1). Some of these countries will be importing a growing volume of non-Soviet oil but since the Soviet Union, too, will be sharply boosting its own deliveries, the percentage of non-Soviet oil imports which, for the period 1971-1975, will run at about 10-15%, will rise to only 15%-20% between 1975 and 1980.

The GDR and Bulgaria will continue to receive 90% of their oil from the Soviet Union, Czechoslovakia 85% instead of 95%, and Poland 80% instead of 90%. On the face of it, the proportion received from this source by Hungary will drop from 80% to 65% because of the increase in imports from Iraq. But this is only one facet of the Soviet Union's insidious penetration of the Middle East oil producing countries. Moscow was behind the nationalization of Iraqi oil and the development of the Rumaila deposits. To provide outlets for Iraqi oil, which was being boycotted by the Western countries, it imports 2 million tons a year(2).

The Soviet Union has no need of this oil and re-exports it through the Druzhba to Central Europe, and particularly to Hungary, which it has been encouraging since 1969, along with other COMECON countries, to invest in the "friendly" producer countries.

To help the flow of Arab oil to Central Europe, the Soviet Union registered no objections to the decision to construct, between 1974 and 1976, the "Adria" pipeline(3), which will connect the Yugoslav port of Bakar on the Adriatic to the Yugoslav refineries and will then be extended to Czechoslovakia and Hungary and, at a later date, to Poland. The line will carry oil from Iraq, and especially Iran, mainly for the benefit of Yugoslavia.

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- (1) See Annex E "Volume and percentage of oil imports by the Socialist countries from the USSR and the Middle East in 1970-1975" and Annex F "Exports of Near and Middle East oil to the Socialist countries".
 - (2) Altogether, the Soviet Union imports 6 million tons of crude oil a year, of which 2 million tons come from Egypt, 2 million from Iraq and 1 million from Algeria.
 - (3) See Note d'Information No. 5601/SGDN/CER/C/DR of 28th November, 1973 ("The Adriatic Pipeline and Oil in the Socialist Countries").

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It is worth remarking that Rumania, which imports crude for refining, imports none whatsoever from the Soviet Union and gets most of its supplies from Iran. Through the controlled diversification of supplies to its socialist "partners", Moscow is thus able to practice a more flexible oil policy, husband its own resources and compensate for any delays in the opening up of Siberia(1).

It is still too early to gauge the effects of the rise in the price of Middle East oil on the economies of certain satellite countries. Even before the OPEC decision, some COMECON members (Rumania, Poland) had introduced restrictions on consumption. These measures are bound to be made more stringent if there is a rise in the cost of the 10% to 15% of oil supplies which do not come from Russia.

The latter is continuing deliveries at the rate provided for in the Five-Year Plan (a 100% increase between 1971 and 1975), without putting up its prices. Only if the development of Siberia goes ahead very fast will it be possible for Moscow to step up deliveries enough to offset the difficulties created for some of the satellites by the policy of the Middle East producing countries.

Quite apart from the current ups and downs of the oil situation, the Soviet Union is pursuing an oil policy commensurate with its world-wide ambitions and its vast natural resources. It is seeking to speed up the extraction and movement of its Siberian resources so as to maintain a two-fold flow of exports; this, it hopes, will enable it to preserve its hold over the COMECON countries in the energy and economic fields, and, at the same time, to earn hard currency from the industrialized countries, which can supply the technology needed to harness the country's oil and natural gas reserves.

The tapping of Siberian resources will require extensive aid from major industrialized countries of Europe, and above all from the United States and Japan. Unless this aid is forthcoming, the Soviet Union will be obliged to cut back its exports around 1980. It is with this in mind that the Government is seeking to restrict domestic consumption and to diversify supplies to its "socialist customers".

The achievement of these aims appears to require some measure of continual political and economic stability in the world so that the Soviet Union, with the help of the capitalist countries, can devote time and capital to exploiting the natural resources on which its future depends.

NATO,
1110 Brussels.

(1) See Annex G: USSR requirements and resources (1975-1980) in the context of Siberian development.

ANNEX A

MAIN CRUDE OIL PRODUCERS

(1972 figures, in millions of tons)

COUNTRY	OUTPUT	%
United States	527.4 (470 in 1971)	25
USSR	394.0 (424 in 1973)	18
Saudia Arabia	285.9	13.5
Iran	252.3	12
Venezuela	168.2	8
Kuwait	151.0	7.5
Nigeria	89.7	4.5
Canada	86.4	4.5
Iraq	70.2	3.5
Indonesia	53.7	2.5
<u>TOTAL</u>	<u>2,078.8</u>	<u>100%</u>

ANNEX B

INVENTORY OF PROVEN OIL RESERVES

(in millions of tons, beginning of 1973(1))

COUNTRY	RESERVES	% OF WORLD RESERVES
Saudia Arabia	23,000	26
USSR	10,500	12.5
Kuwait	10,300	12.5
Iran	8,700	10
United States	5,300	7
Iraq	5,000	6
Libya	3,500	4.5
China	2,800	3
Abu Dhabi	2,000	2.5
Venezuela	2,000	2.5
Algeria	1,750	2
Canada	1,200	1.5
Indonesia	1,200	1.5
Miscellaneous	6,000	8.5
<u>TOTAL</u>	<u>83,250</u>	<u>100%</u>

(1) The figures are only estimates since the concepts of proven, certain, probable and estimated reserves can be interpreted in different ways

ANNEX C

SOVIET OIL EXPORTS

Exports to the Communist Countries
(in thousands of tons)

	<u>1970</u>	<u>1971</u>	<u>1972</u>
Czechoslovakia	10,466	11,810	12,866
GDR	9,342	10,378	11,480
Poland	8,142	9,550	11,066
Bulgaria	7,050	7,959	7,949
Cuba	5,987	6,444	7,025
Hungary	4,759	5,055	5,529
Yugoslavia	2,740	2,880	3,398
North Korea	838	699	398
North Vietnam	353	375	192
Mongolia	260	267	297
	<u>49,937</u>	<u>55,417</u>	<u>60,200</u>

Exports to the Free World

	<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
(Italy	10,735	10,194	9,002	8,430
(Finland	8,083	6,223	8,567	8,627
(FRG	5,801	6,300	6,092	6,195
(Sweden	4,678	4,818	4,569	4,363
(France	2,656	2,549	4,539	3,078
Europe (Belgium	758	1,275	2,038	2,516
(Austria	668	1,053	1,128	767
(Denmark	534	377	861	772
(Switzerland	539	445	805	822
(Holland	-	1,444	1,631	2,433

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ANNEX C

		<u>1969</u>	<u>1970</u>	<u>1971</u>	<u>1972</u>
Other	(Japan	2,201	2,713	2,284	1,011
Countries	(Egypt	1,019	1,639	1,604	1,442
of the	(Greece	850	928	1,011	909
Free and	(Morocco	633	699	868	934
Third	(Ghana	540	515	598	625
World	(India	488	252	473	378(1)
	(Miscellaneous	<u>3,040</u>	<u>1,886</u>	<u>2,985</u>	<u>1,828</u>
	<u>TOTAL</u>	43,223	43,310	49,055	45,130

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- (1) This figure should be multiplied tenfold for 1974 since, during Mr. Brezhnev's recent visit to India, an agreement was signed for 1974 covering the delivery of 4.5 million tons of oil, including 1.5 million tons of refined product.

ANNEX D

Proportion of Oil and Gas in the
Soviet Fuel Pattern

(as a percentage)

Year	Oil	Gas	Oil + Gas	Oil by comparison with Gas
1960	30.5	7.9	38.4	80
1961	32.4	9.7	42.1	76
1962	34.2	10.9	45.1	75
1963	34.8	12.4	47.2	73
1964	35.1	13.9	49.0	71
1965	35.8	15.5	51.3	69
1966	36.7	16.5	53.2	68
1967	37.8	17.4	55.2	68
1968	39.3	17.9	57.2	68
1969	39.9	18.7	58.6	68
1970	(plan)(37.9) achieved 41.1	(18.9) 19.1	(56.8) 60.2	(66) 68
1971	41.8	19.5	61.3	68
1975	(plan)(43)	(22.1)	(65)	(66)
1980	(plan)(37.7)	(30.9)	(68.6)	(54)

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ANNEX EVOLUME AND PERCENTAGE OF OIL IMPORTS BY THE SOCIALIST COUNTRIES FROM THE USSR AND THE MIDDLE EAST

	Production	Total imports	Imports from USSR	% of total imports	Imports from Middle East	Percentage of total imports
FRG						
1970	60,000 tons	10.3 m.t. (1)	9.2 m.t.	90%	Iraq, Egypt 1.1 m.t. in 1971	10%
1975	60,000 tons	18 m.t.	16 m.t.	90%	Iraq, Egypt Saudi Arabia 2 (?)	10%
POLAND						
1970	430,000 tons	8 m.t.	7 m.t.	90%	Syria, UAR 1 ditto + BP +	10%
1975	1.4 m.t. (forecast but unreal- izable: 370,000 tons 1973)	18 m.t.	14 m.t.	80%	Iran 1 + 3	20%

(1) m.t. = million tons

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	Production	Total imports	Imports from USSR	% of total imports	Imports from Middle East	Percentage of total imports
CZECHOSLOVAKIA						
1970	210,000 tons	9.7 m.t.	9.4 m.t.	95%	Iran 0.3	5%
1975	210,000 tons	18 m.t.	15.5 m.t.	85%	Iran, Iraq, Venezuela (refined) 2.5	15%
	probably less (195,000 tons in 1972)					
BULGARIA						
1970	338,000 tons	5.6 m.t.	4.7 m.t.	90%	Algeria, UAR 1	10%
1975	338,000 tons or less: 248,000 tons in 1972	12 m.t.	10 m.t.	90%	Lebanon + Iraq Iran, Libya 2	10%
HUNGARY						
1970	2 m.t.	4.3 m.t.	4 m.t.	80%	Iraq, Syria	
1975	2.4 m.t.	10 m.t.	6.5 m.t.	65%	0.2 Iraq, Syria	20%
1980	(plan) (possible)		10 m.t.		3.5	35%
ROMANIA						
1970	13.3 m.t.	Refined 15 million tons in 1970; consumed 8 million tons; imported 2 million tons from Iran; 2.4 million tons in 1973, then 5 million tons per annum from 1975				
1975	14.3 m.t.					

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	Production	Total imports	Imports from USSR	% of total imports	Imports from Middle East	Percentage of total imports
YUGOSLAVIA						
1970	2.8 m.t. (consumed 7 m.t. in 1970 and 12 m.t. in 1975)	4.9 m.t.	2.7 m.t.	50%	1970 2 m.t. incl. 550,000 tons Iran and 600,000 tons Iraq	80%
1975	4.5 in 1975 (doubtful)	7.5 m.t.	3.5 m.t.	50%	3 m.t. from Iran, Iraq, Libya (1 m.t. per annum)	40%
1980	6.5(?)	16(?)m.t.	4(?)m.t.	25%	12(?) Iraq- Iran	75(?)

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ANNEX F

EXPORTS OF NEAR AND MIDDLE EAST OIL TO THE SOCIALIST COUNTRIES (INCLUDING YUGOSLAVIA)

- 1970: 8 million tons
- 1975: 23 million tons) (forecast)
- 1980: 40 million tons)

Origin of oil: Iran, Iraq, Syria, Libya, Egypt

Importers in 1975:

GDR	2 million tons	(probable figure)
Poland	4 million tons	(probable figure)
Czechoslovakia	3 million tons	(probable figure)
Bulgaria	2 million tons	(probable figure)
Hungary	3.5 million tons	(probable figure)
Rumania	5 million tons	(probable figure)
Yugoslavia	3.5 million tons	(probable figure)

ANNEX G

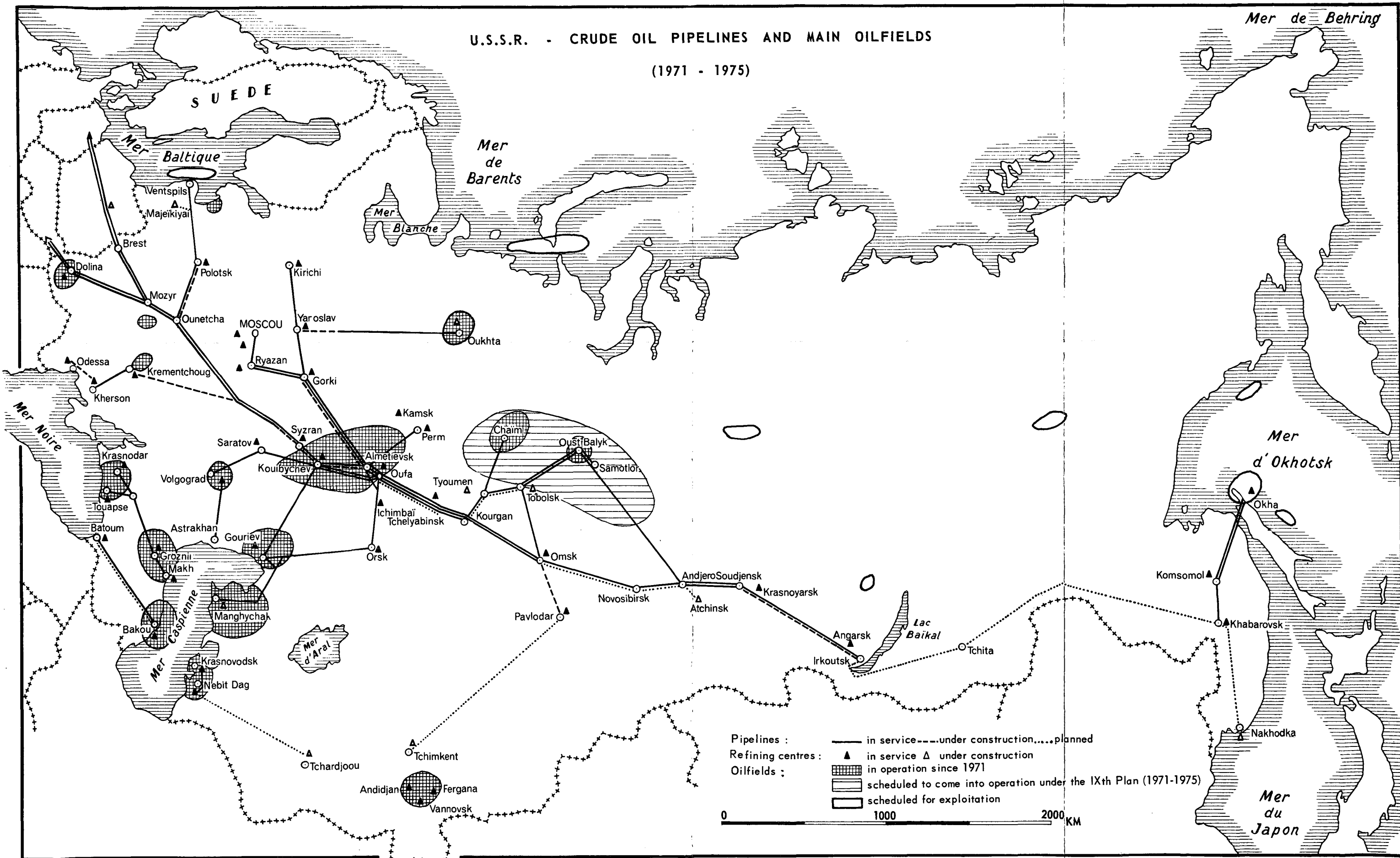
USSR REQUIREMENTS AND RESOURCES (1975-1980)
(in millions of tons)




	1975		1980	
	Requirements	Resources	Requirements	Resources
<u>Assumption 1:</u>				
Success of the "Siberian venture"	350	480	450	600
<u>Assumption 2:</u>				
Failure of the "Siberian venture"	350	450	450	500

On Assumption 2, in 1980 the USSR would still cover its own needs very largely but would be obliged to abandon its policy of exporting to the COMECON, Third World and Free World countries (50 million tons available, as against 130 to 150 million tons necessary).

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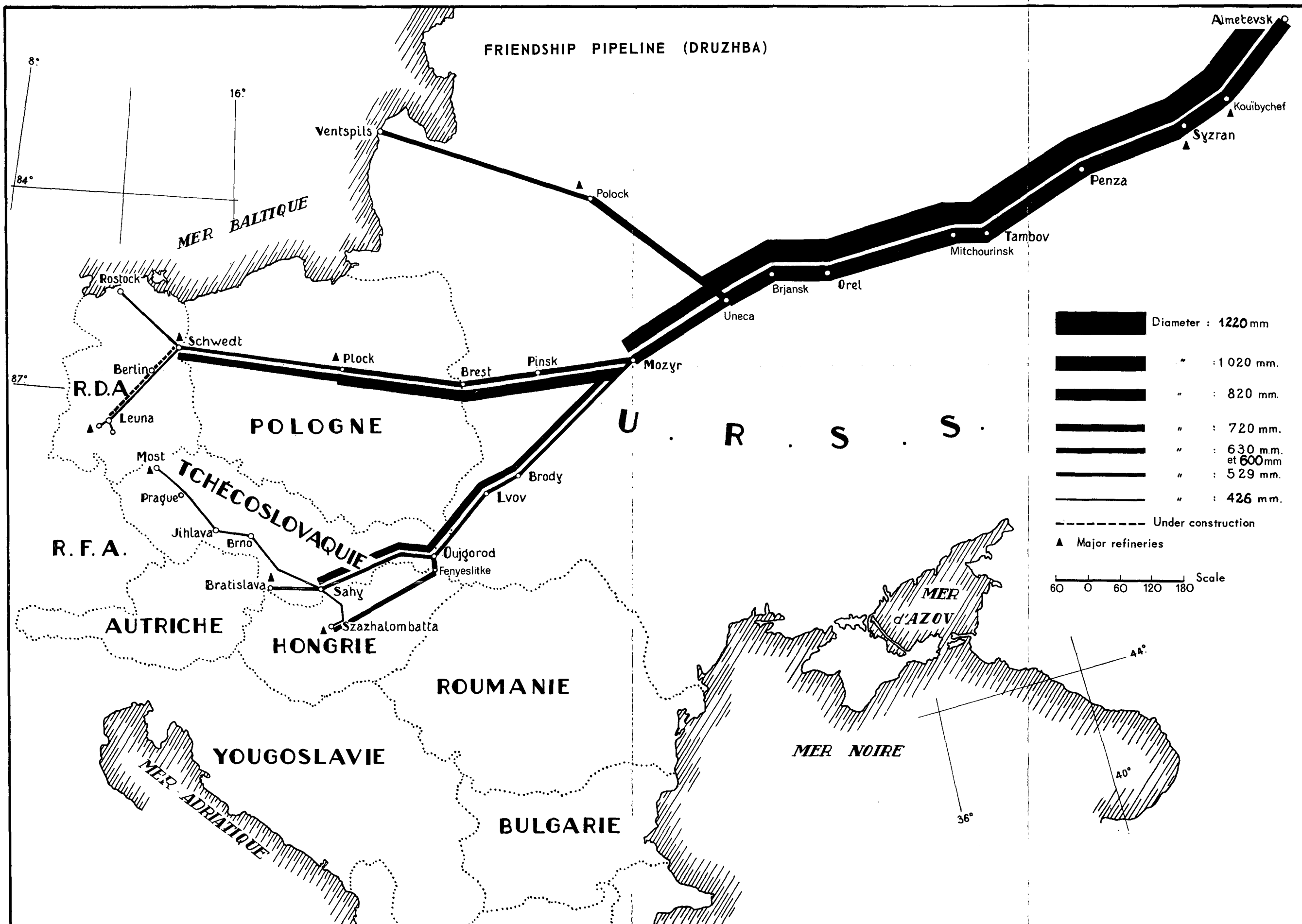
U.S.S.R. - CRUDE OIL PIPELINES AND MAIN OILFIELDS
(1971 - 1975)



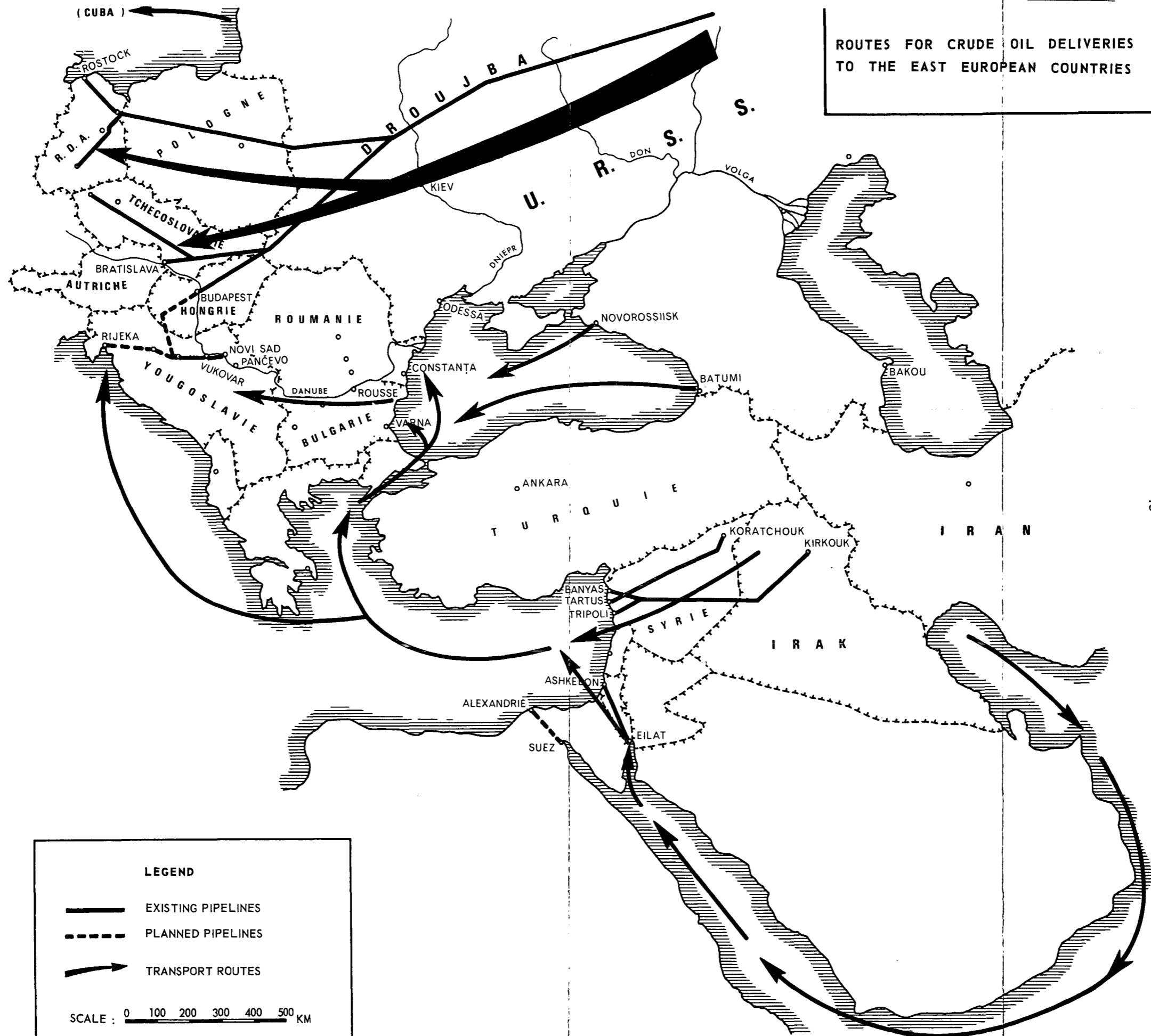
Pipelines : — in service - - - under construction planned
 Refining centres : ▲ in service Δ under construction
 Oilfields :  in operation since 1971
 scheduled to come into operation under the IXth Plan (1971-1975)
 scheduled for exploitation

0 1000 2000 KM




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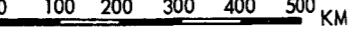


ROUTES FOR CRUDE OIL DELIVERIES TO THE EAST EUROPEAN COUNTRIES



LEGEND

-  EXISTING PIPELINES
-  PLANNED PIPELINES
-  TRANSPORT ROUTES

SCALE :  KM