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20 May 1982

MEMORANDUM FOR: Deputy Director for Intelligence

FROM: [redacted] Director of Soviet Analysis

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SUBJECT: Western Alternatives to Soviet Natural Gas: Prospects and Implications

*Bob*

1. The attached typescript, Western Alternatives to Soviet Natural Gas: Prospects and Implications, was prepared jointly by OGI [redacted] and SOVA [redacted] and is forwarded per your request for talking points in response to the DCI's memo to John McMahon, dated 17 May 1982 (attached).

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2. Each of the five major sections of the typescript can be beefed up with additional details if a longer paper is desired. However, I think the typescript lays out the major points in sufficient detail to be used if an NSC meeting on the subject comes up quickly.

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Attachment: as stated

*More to follow!*

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SOVA/SED: [redacted]

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Western Alternatives to Soviet Natural Gas:  
Prospects and Implications

I. Meeting West European and Japanese energy needs from non-Soviet sources for the rest of this century will require major cooperative efforts by Western governments to make available competitively priced natural gas, LNG, and coal supplies.

A. Although West European demand for gas has softened in recent years, the falloff is expected to bottom out this year and revive as economic recovery begins.

1. We estimate that demand for gas in Western Europe will increase from about 3.6 million b/d oil equivalent in 1980 to about 4.1 million b/d in 1990 and to 4.5-5 million b/d by the year 2000.

2. As domestic West European supplies of gas are depleted or shut in, the import dependence of the region will rise--from 13 percent currently to about 50 percent by the turn of the century. West European industry will come to rely on gas for about one-fourth of its fuel needs, and the residential sector will be even more dependent on gas.

B. Japan's demand for gas is expected to grow more rapidly than its demand for any other major fuel in the 1980s. By 1990 Japan's gas consumption could reach 1.2 million b/d oil equivalent--up from 0.4 million b/d in 1980.

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C. The Soviet Union will be contending for as large a share of these markets as it can get. Moscow has already secured part of the West European gas market for the 1980s.

1. By 1990, West European countries as a group will depend on the USSR for 25 to 30 percent of their gas requirements if the Siberia-to-Western Europe pipeline proceeds as now planned.

2. After 1990, Western Europe will need to contract for additional gas supplies from the Soviet Union or elsewhere. With demand increasing and domestic production expected to fall in the UK and France, the decision by the Netherlands not to renew present contracts for gas exports confronts other West Europeans with a widening gas supply gap.

3. Japanese dependence on Sakhalin oil and LNG would raise Moscow's share of Japan's energy market from almost nothing to about 1 percent in the 1990s.

D. To stabilize or reduce Moscow's share of the gas market in the 1990s, Western governments will have to make major policy decisions on gas field development and distribution schemes (including possible subsidized pricing arrangements) within the next few years.

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1. As Western Europe contemplates additional sources of gas supply, the next two to three years offer a window of opportunity during which projects could be launched that would alleviate the need for additional European purchases of Soviet gas in the 1990s.

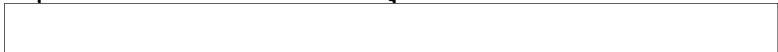
2. Maximizing non-Soviet supplies will depend on assessments of the relative costs of alternative gas supplies.

a. Moscow views gas exports as its best chance of earning additional hard currency in the 1980s and 1990s and will offer prices and supply guarantees that will be highly competitive with alternative sources of gas for Western Europe and Japan.

b. To develop alternatives to Soviet gas, ways will have to be found to finance new development on favorable terms or to encourage consuming countries to pay more for gas from non-Soviet sources than they would have to pay for Soviet gas.

II. For the West European market, a number of alternative gas supply projects could be considered.

A. The Netherlands--currently Europe's largest gas supplier--would be the most reliable and economical source of additional gas.



- [REDACTED]
1. Unless the current conservation policies of The Hague change, however, the volume of Dutch gas available for export in the late 1990s will dwindle from the present 640,000 b/d oil equivalent to less than 170,000 b/d oil equivalent.
  2. Given the large size of proved Dutch reserves, about 10 billion barrels oil equivalent, and the budgetary pressures confronting The Hague, new export contracts might look more attractive if West Europeans were willing to pay some premium for reliability.
- B. Norwegian gas offers a secure, but costly alternative to Soviet gas in the 1990s. Norway could supply an additional 670,000-830,000 b/d oil equivalent, which would cover the bulk of the increase projected for West European demand in the 1990s.
1. Norway's Troll gasfield (Block 31/2) is believed to contain between 1.4 and 2.0 trillion m<sup>3</sup> of gas (8-12 billion barrels oil equivalent)--or roughly the size of the Netherlands' Groningen field.
  2. Given the high cost of developing Norway's gasfields and building major trunklines to the Continent, large additional supplies of Norwegian gas would probably cost 15 to 20 percent more than Soviet gas if no interest rate subsidies were offered for the Norwegian project.

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3. If a triangular gas deal can be arranged--using the UK as a conduit for delivering Norwegian gas to the Continent--substantial savings of time and money could be realized in delivering 170,000-250,000 b/d oil equivalent of gas to Europe beginning in the early 1990s.

a. In the near term, Norway's Sleipner field--with reserves in excess of 200 billion m<sup>3</sup> (1.2 billion barrels oil equivalent)--is the most logical field to link to the United Kingdom.

(1) Exploratory assessment of this field is nearly completed and a development decision will be made in the next one to two years.

(2) The field has a high concentration of carbon dioxide and will probably require a separate distribution system. Because several small fields in the UK sector have a similar problem with carbon dioxide content, a link to the UK would be a logical step.

(3) Because the reserves of the Sleipner complex are distributed among seven reservoirs, at least five platforms would be required to fully exploit the field. The field is located in about 400 feet of water and largely will employ technologies previously tested in North Sea waters. [REDACTED]

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b. Proved gas reserves in the southern sector of the UK offshore waters are 370 billion m<sup>3</sup> (2.2 billion barrels oil equivalent) and substantial additional reserves remain to be proven. British tax policy is an important factor in estimating the future availability of gas from the UK. If tax policies that currently discriminate against development of relatively small fields were to be modified, the profitability of developing the numerous small gasfields in the Southern Basin could be restored.

c. Algerian gas potentially can be produced and delivered to Western Europe at well below the cost of Norwegian gas. An additional 80,000-100,000 b/d oil equivalent could probably be delivered through the existing Trans-Mediterranean pipeline and up to 250,000 b/d oil equivalent through a new pipeline to Spain.

a. Field development costs are relatively low and the feasibility of undersea pipeline connections to Western Europe has been proven.

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b. On the other hand, Algeria's militant pricing policy and its unilateral suspension of gas deliveries to France and the United States in 1980 label it as a potentially unreliable supplier.

D. Proposed gas pipelines from Africa or the Middle East to Western Europe are probably not politically or economically practical at this juncture.

a. Any such pipeline would probably cross several unstable countries and could cost from \$30 to \$60 billion.

b. Supplies from a trans-African pipeline, carrying gas from Nigeria and Cameroon to Western Europe would be subject to disruption in any of the countries crossed and, in any event, would probably face high transit fees.

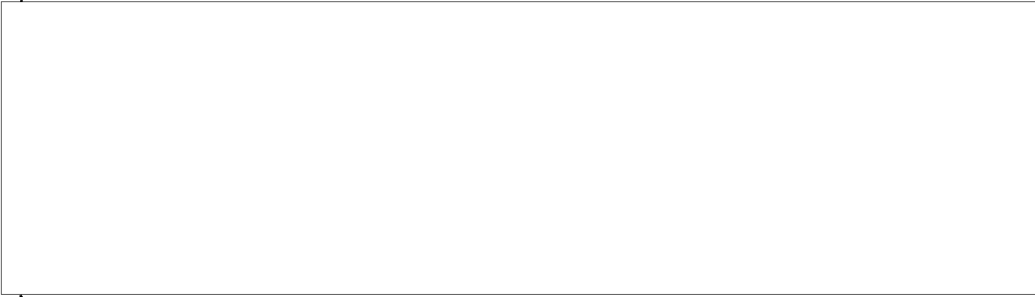
E. All the LNG projects under consideration to supply Western Europe would probably be expensive because of high delivery costs.

a. The demise of the Alaskan gas pipeline could free up 735 billion m<sup>3</sup> of gas reserves (4.4 billion barrels oil equivalent) to support LNG exports to Western Europe or Japan.

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- c. An international consortium has proposed an LNG project to export 5 billion m<sup>3</sup> annually (80,000 b/d oil equivalent) to Western Europe from reserves in Canada's high arctic. If government approvals were granted soon, the project might begin deliveries as early as 1990.
  - d. Ottawa has recently changed procedures used to determine the volume of natural gas available for export. The less restrictive guidelines now in effect will significantly increase the volume of gas available for export. Still, specific project proposals will come under close government scrutiny.
  - e. The delivered price of Canadian LNG to Western Europe is likely to be high--probably in excess of \$6.50 per million BTUs--because of high development and transportation costs.

f. Aside from these options the West Europeans could make greater use of coal to meet their energy requirements in 1990-200. Reasonably priced steam coal is available in large quantities from the United States, Australia and other exporting countries.

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- a. Market studies show that the use of imported coal will grow in the West European utility and industrial sectors.
- b. In the residential sector, coal can provide a greater portion of residential energy needs indirectly through electricity from central generating plants and possibly later through the production of synthetic gas or liquids from coal.

III. Supplying the Japanese market with, say Alaskan LNG in lieu of Sakhalin sources, would probably require a price subsidy to offset the loss to Japan.

A. LNG delivered from Alaska to Japan would probably cost 10 to 15 percent more than gas from Sakhalin because of much higher transportation costs.

B. A swap of US Alaskan crude to Japan in exchange for a comparable amount of Mexican crude (contracted to Japan) would significantly reduce transportation costs for both countries. Such an arrangement might entail a swap of up to 200,000 b/d.

1. Mexico cannot be counted on for greatly increased oil supplies to Japan, although some gains are possible.

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b. With domestic oil consumption growing rapidly, the amount of oil available for export could decline in the latter half of the 1980s unless new reserves are discovered.

2. Mexico's natural gas resources are not large enough to support any large-scale export project.

a. The United States takes all of Mexico's current gas exports, contracted at 3.1 billion m<sup>3</sup> annually (50,000 b/d oil equivalent). The Mexicans believe this amount eventually could be doubled.

b. Although LNG projects have been proposed in the past, Mexico would have little incentive to switch existing pipeline deliveries to LNG exports as long as it were satisfied with the price paid by the US. Moreover, increasing exports by diverting gas from the domestic market would entail a shift back to heavy fuel oil in Mexican industries.

c. For the Japanese, supplies under LNG contracts already arranged may well exceed demand in the 1980s. Tokyo is already dragging its feet regarding a commitment to Australia's LNG project. Although discussions continue with alternative LNG suppliers, the Japanese are not now likely to make further commitments.

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IV. In the absence of a unified Western plan for supplying gas to Western Europe and Japan, the potential gains to the USSR would be large.

A. Under current Soviet-West European contracts Moscow will realize net hard currency earnings of \$15-20 billion (1981 prices) from the single Siberia-to-Western Europe pipeline between 1984 and 1990; beyond 1990 hard currency earnings would be about \$4-5 billion per year.

B. If the West Europeans agree to a second pipeline to help fill the 1990-2000 supply gap with Soviet gas, the level of Western Europe's dependence on the USSR would increase greatly.

1. For the West European continental group as a whole, dependence on Soviet gas would exceed 35 percent by the mid-1990s, assuming that a second line matches the capacity of the first.

2. The factors that led the Soviets to conclude the first Siberian gas deal--huge gas reserves and continued needs for hard currency earnings--almost certainly will lead to a proposal for a second pipeline.

a. Judging by Soviet behavior in negotiating the first pipeline, additional gas supplies would be offered at a base price near the low end of the market.

b. By accepting a relatively low price initially, the Soviets would increase their market

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penetration and still secure hard currency earnings. This would partially counteract an expected falloff in earnings as a result of declining oil exports in the 1990s.

c. If future gas prices were also linked to oil prices, the Soviets could expect to substantially increase earnings over the following years of long-term gas contracts.

C. Moscow probably sees growing penetration of West European and Japanese gas markets as giving it increased influence over political behavior in these countries.

1. Although the Soviets would be reluctant to threaten a gas cut-off because of their growing need for hard currency, Moscow could use its gas exports more subtly in influencing West European decision-making on selected East-West issues.

a. Technical breakdowns in pipeline operation-- which will occur periodically in any event due to weather conditions and poor Soviet maintenance--could be used, for example, to heighten West European awareness of the potential economic costs arising from policy decisions harmful to Soviet interests.

b. The Soviets conceivably could exacerbate European differences with the US over future

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economic sanctions against the USSR or even over more sensitive issues such as NATO force modernization.

2. At the very least, the gas line deal will enhance the USSR's ability to influence the West Europeans on issues which the latter see as peripheral to their own security interests.

a. Moscow will be able to dampen enthusiasm for economic sanctions sponsored by the United States in retaliation for Soviet actions elsewhere.

b. The USSR already has threatened Western Europe with the loss of energy and other projects if it joined in either the Afghanistan or Polish-related sanctions. A substantially expanded Soviet-West European gas relationship would give Moscow even more clout on questions of this sort by the late 1980s.

D. Soviet gains from the Sakhalin project would be less both economically and politically.

1. Hard currency earnings from sales of Sakhalin oil and gas would net Moscow about \$24 billion (1981 prices) over the 20-year life of the project.

a. This estimate assumes production will come from the Chaivo and Odoptu fields. Oil production at the two fields will peak at 80-90,000 b/d in the

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early 1990s, with average oil production on the order of 60-65,000 b/d. LNG production of 3 million metric tons is projected. The price of oil will be \$30 per barrel.

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2. The Soviets would gain little direct leverage over Japanese behavior since the share of Soviet gas in Japan's energy consumption is likely to remain small and Japan's gas needs probably could be satisfied from other sources (e.g., Indonesia, Brunei, Sarawak, Australia, Thailand, Canada, Alaska, Abu Dhabi and Qatar).

V. A viable alternative Western energy package for Western Europe and Japan would rob Moscow of these potential economic and political gains and, in so doing, could bring additional pressure on Soviet leaders to modify existing policies with respect to supporting its satraps in Eastern Europe, expanding its military forces, and enlarging or maintaining its overseas empire.

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A. Without the additional hard currency from the West European and Japanese gas markets, the Soviets would need more than ever to seek additional credits from the West to maintain its hard currency commitments for imports of Western machinery and equipment and agricultural products, and to sustain or increase aid to client states.

B. If credit restrictions were also in effect, the pressure on Moscow to reduce its hard currency spending would be even greater.

1. It is possible that even some Soviet military and foreign policy programs would be squeezed in the latter part of the 1980s if sizable cuts in allocations of foreign exchange had to be imposed. The Soviet economy is so taut--indeed, it is already rrent with widespread shortages--that the repercussions of any substantial cuts in Western imports are bound to spread widely, even to military industries with all their traditional immunity.

2. Moreover, such programs as aid to Eastern Europe, Cuba, or Third World countries, which directly or indirectly use up foreign currency and are already unpopular within the USSR, would encounter greater opposition.

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17 May 1982

MEMORANDUM FOR: Mr. John N. McMahon  
Executive Director

FROM: The Director

SUBJECT: Proposed NSC Meeting for Tuesday, 18 May 1982

1. An NSC meeting on oil equipment has been called for Tuesday. We should provide intelligence briefing on embargo implications and effects in relation to energy dependency and security of alliance and hard currency availability and its value to Soviets.

2. In previous NSC meeting, I set out as intelligence judgment

- extra-territorial application of embargo to compressor and turbine components could not stop but only somewhat delay first leg of Yamal pipeline.
- a more worthwhile objective would be to get an allied commitment to develop Norwegian gas resources and to earmark capital and market needed for second Yamal pipeline to bring Norwegian gas to Europe.

3. The chart on the next-to-last sheet of Tab D of the paper sent by Dr. Ikle, shows that Yamal will make Europe 20% dependent on Soviet gas in 1986 and at the end of the century if Norwegian gas is brought on but without Norwegian gas and Soviet gas instead, there would be 40% dependency in 1995. (K)

4. The main focus of this meeting will probably be on the Japanese request for a quick license to meet Soviet demand for exploratory steps in Japanese joint venture in Siberia and I would support the first of the three options at Tab A of the Ikle package.

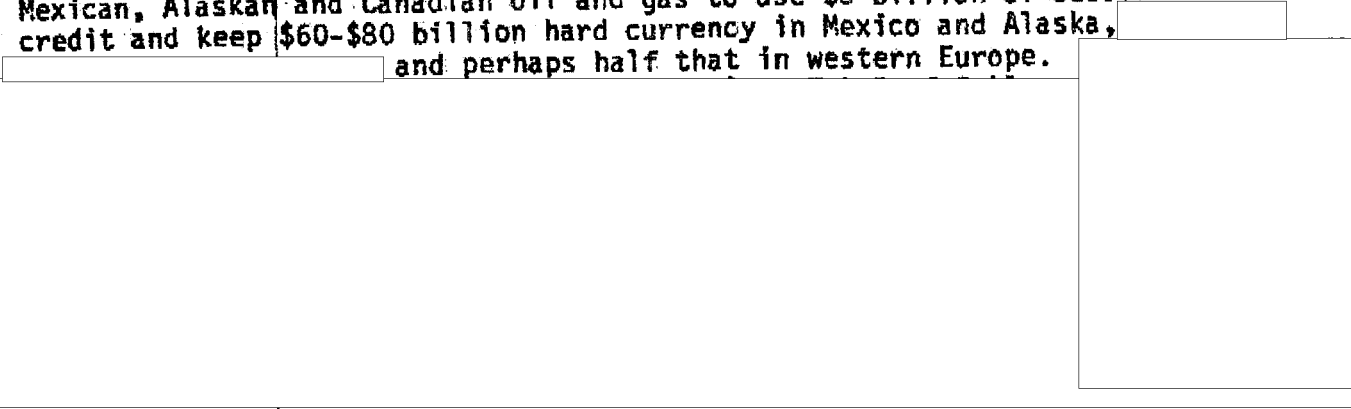
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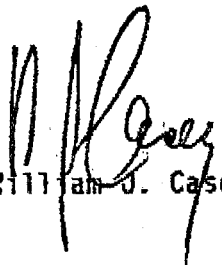
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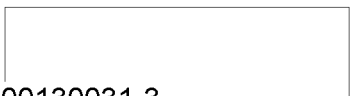
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5. What we need as soon as possible is a big picture paper which will show the energy, security and economic and currency consequences of (a) completion of the Japanese and European gas projects in Siberia, and (b) their replacement by Norwegian development and by a combination of Mexican, Alaskan and Canadian oil and gas to use \$3 billion of subsidized credit and keep \$60-\$80 billion hard currency in Mexico and Alaska, [redacted] and perhaps half that in western Europe.



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