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## The 26th Party Congress

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# Nuclear energy and manpower: keys to new U.S.S.R. policy

by Rachel Douglas

If West German military officials are right to say that a growing economy is the best measure of a nation's defenses, then the most important strategic decision of the 26th Communist Party Congress of the Soviet Union, held in Moscow in late February, has been largely ignored in the West. While American industry wavers between "sunset" and "sunrise" and questions whether it has a future at all, the Soviets have adopted an economic strategy based on "an infinitely developing nuclear power industry."

The Soviets have decided that nuclear-powered, high-technology industry is indispensable for economic health and defense. Implementation of the resulting policies will guarantee that the U.S.S.R. remains a superpower in the decades ahead.

President Leonid Brezhnev and Prime Minister Nikolai Tikhonov gave the party congress the core of a development plan for 1981-1990, which will determine the remainder of the century. Its main theme is raising labor productivity.

Increased per capita energy throughput in the economy, industrialization of agriculture by creation of farm-factory administrative units or "agro-industrial complexes," a possibly temporary shift to slightly higher rates of growth for consumer industries than for the producer goods sector—these are the Soviet measures to offset an expected dip in the number of young people entering the work force during the 1980s, due to the ripple effect of World War II.

There are two keys to labor productivity in the Soviet plan: technology and the living standard.

The attempt to stabilize and then raise the Soviet living standard means that for the first time the Five Year Plan is to result in a consumer goods growth rate (27-29 percent) exceeding that of producer goods (26-28 percent). For high-technology industrial growth, Brezhnev proposed "a regrouping of scientific forces," while Tikhonov emphasized the improvement of scientific research and development for economic applications.

The result of this combined approach, Tikhonov projected, should be a rise in labor productivity of 17-20

percent during 1981-85, accounting for "no less than 85-90 percent of the growth of national income."

### Energy: nuclear power and Siberia

The pivot of the Soviet economic strategy is its energy program, which, Tikhonov stressed, is under Brezhnev's personal supervision. It is the only advanced sector energy policy, besides that of France, in which nuclear power is without question the main factor for growth.

Already in the 1981-85 period, nuclear and hydroelectric power will provide over 70 percent of the 23 percent planned increase in electricity production for the entire U.S.S.R., and 100 percent of that increase for the populous industrial areas of European Russia.

In an article published on the eve of the party congress excerpted below, Academy of Sciences President and party Central Committee member A. P. Aleksandrov described the energy program as a phased structural improvement of the power industry aimed at creating an "infinitely developing nuclear power industry."

In the first stage, the Soviet Union will reduce domestic use of oil for power generation. Today oil is burned to generate one-half of Russia's electricity, but by the year 2010 it will be phased out and used only as a raw material for the petrochemicals industry.

To compensate, the Soviets plan a sharp increase in their very successful natural gas extraction industry, centered in the abundant fields of the West Siberia growth region, and a recovery in the coal mining industry. The radical change in the structure of fossil fuel production appears in the five-year growth percentages:

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|         | Oil | Gas   | Coal |
|---------|-----|-------|------|
| 1966-70 | 45  | 54    | 8    |
| 1971-75 | 39  | 46    | 12   |
| 1976-80 | 23  | 41    | 2    |
| 1981-85 | 3-7 | 35-47 | 7-12 |

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One oil-replacing technology mentioned by Aleksandrov is unique to the Soviet Union: use of nuclear power plants for heat production only or for joint production of heat and electricity. Either version can replace combustion of petroleum for urban heating purposes, one of its least efficient uses.

Aleksandrov stressed that the U.S.S.R. will be able to remain a net exporter of oil to Eastern Europe and "certain other countries" for at least 30 years, and longer if special extraction technologies are employed.

But the planned *increase* in Soviet power production will come entirely from coal, with the application of advanced technologies like magnetohydrodynamics (MHD), hydroelectric and nuclear sources.

In the 11th Five-Year Plan (1981-85), the Soviets will receive the first return on one of the major investments of this century: the gigantic Atommash plant in Volgodonsk, which is the world's first "assembly line" for nuclear reactors. Under construction since 1972, Atommash is a year behind schedule, but nevertheless will complete its first reactor late this year or early in 1982 and subsequently turn out eight of its 1,000-megawatt units each year. By 1985, the contribution of nuclear power to electricity production in the Soviet Union will be 14 percent (1975: 2.5 percent; 1980: 5 percent; 1990: approximately 20 percent).

The next stage of nuclear power development outlined by Aleksandrov will be to build more fast breeder nuclear reactors (the U.S.S.R. has two in operation already; the U.S. has none), which produce more fuel than they burn, and to create fission-fusion hybrid reactors with a faster rate of producing plutonium.

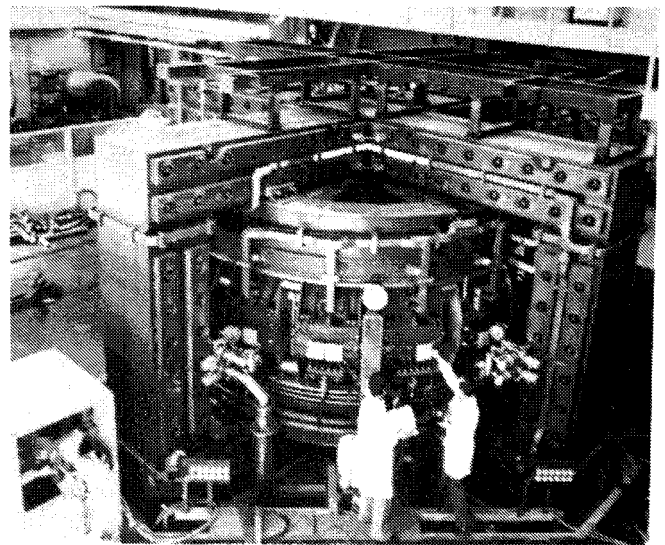
In parallel, the Soviets' thermonuclear fusion power R&D program will be intensified—with critical impact on defense technologies as well as the future economy—even as America's is on the chopping block.

## Science and industry

A flaw which could retard Soviet scientific and economic progress was evident in several reports at the party congress: a pragmatic demand that science be exclusively the handmaiden of industry. In the past, leadership demands for the proven practicality of any scientific research project have put a crimp in Soviet work at the frontiers of knowledge.

In the current state of the Soviet economy, such limitations could prove very damaging.

The watchword of Moscow's technology policy is "efficiency," and the urgency with which this word was pronounced from the party congress podium by Brezhnev, Tikhonov, and every local leader or industry minister who spoke, was obvious. The reason is that the past five years saw Russian industrial output slip from a five-year growth rate of 36 percent in 1971-75 down to 24 percent in 1976-80, a decline registered even more



*A Soviet tokamak experimental fusion installation, T-10.*

sharply in key industry sectors like steel (from 21 percent down to 5 percent, with an absolute decline in output since 1978) and cement (from 28 percent down to 2.5 percent, also with a peak in 1978).

In the same period, capital investment *exceeded* its planned growth rate of 26 percent and increased by 29 percent—not because the Soviet Union commissioned more new plants than intended, but because so many projects were not finished. The gargantuan but inefficient Soviet construction industry was devouring investments without a return.

In the next five years, the Soviets will attempt to slash capital investment to the 12-15 percent rate for the entire half-decade. As Tikhonov warned the industry officials and plant managers among the congress delegates, "We have to achieve the planned growth in national income in this five-year plan with a growth of capital investments that is less, in absolute and in relative terms, than in the previous five years," and demanded "decisive struggle against the dissipation of capital investments."

Part of the attempted solution will be to concentrate investments on "reconstruction and technological re-equipping of existing facilities," which Tikhonov said paid for themselves three times as fast as new construction did.

Relying on such technology investment policies to raise productivity can only be a short-term solution, unless there is a re-acceleration of heavy industry growth. If there is not, or if the elevation of the consumer goods sector growth rate above that of producer goods becomes permanent, the Soviet program will falter.

The Soviet planners and party officials who argue otherwise, often the same people who castigate Soviet scientists for insufficient practicality, are following in



*The world's first nuclear-powered icebreaker, produced by the Soviets in 1958 and dubbed the Lenin.*

the footsteps of Nicolai Bukharin, the Russian representative of the British school of Marxist economics whose defeat by Stalin in the 1920s had to precede the huge industrialization effort of the 1930s. To refute the need for heavy industry in Russia, Bukharin in 1928 already claimed that the existing advances in science and technology could substitute for efficiency increases in further industrial expansion.

There are indications, however, that the high-technology direction of Moscow's new five-year plan has opened the door for certain Soviet economists with a superior conception of science.

On Feb. 21, the Central Committee economic daily *Sotsialisticheskaya Industriya* carried an article arguing that a "new, capital-intensive type of socialist expanded reproduction" was on the agenda. The author, Prof. V. Lebedev, is known for a groundbreaking August 1980 article in *Pravda* (see *EIR*, Sept. 2, 1980), where he insisted that discussion of the role of science and technology in the economy must focus on what he termed "the fundamental achievements of science." The developments that count, Lebedev said, are those that create a new dimension for the economy, one not predictable by planners working within an existing technology structure.

At that time, Lebedev offered a novel definition of such breakthroughs as "intellectual credit" extended to all the industrial ministries and firms in the Soviet Union and called them "the most important part of the

intellectual wealth of the entire society." It appears that the Soviet leaders are inclined to adopt this scientific "credit policy" for the rest of the century.

When Academician Aleksandrov addressed the party congress, the first words out of his mouth were "basic research." He submitted that "it is precisely fundamental achievements that lead to the most significant transformations in technology and open up new areas of human activity."

In Tikhonov's report on the 11th Five Year Plan, another of Lebedev's proposals appeared: the creation of "scientific production associations." This applies not merely to the R&D department of a single plant or industry, but to the formation of large research centers for areas of potential breakthroughs: a "nuclear technology center" and a "biosynthesis center" were suggested by Lebedev in August.

### **With East-West trade, or without?**

Tikhonov's report formally endorsed "stable, mutually beneficial ties with the capitalist countries," including in economic relations. Soviet newspapers tell how the new five-year plan is in the hands of French and West German businessmen, under study with an eye toward new joint projects and trade.

But the Soviets are also studying how they would adjust to reduced imports from the West.

Academician V. Koptuyg, who heads the unique science and planning center in Novosibirsk, the Siberian

branch of the Academy of Sciences, recently told the West German business paper *Handelsblatt* that the promise of Western investment in Siberia had not been realized. American participation had all but evaporated, while the West German and Japanese roles had shrunk to one or two large projects. Therefore, said Koptyug, Siberian scientists were projecting alternate development plans for implementation without Western technology.

The effect of the American trade embargo and overall contraction of East-West trade has been to spur the Soviet quest for efficiency-creating innovations.

The American grain embargo, although the Russians made up most of the margin with purchases elsewhere, helped inspire a Soviet decision to loosen private farming regulations early this year. As a result, the Soviets avoided a repeat of the mass slaughter of livestock that occurred after the 1975 crop disaster. The prospect of reduced grain imports also prompted Moscow to stress the "agro-industrial complex" model even more than intended at first, meaning that the embargo has accelerated the mechanization of Soviet agriculture.

Brezhnev called for corresponding efforts in other areas of technology, demanding study of "why we at times . . . spend a great deal of money buying from abroad the kind of equipment and technology which we are quite capable of producing ourselves, and often with higher quality." This inspired Electronics Industry Minister A. I. Shokin to read to the party congress from the American *Electronics* magazine: "Its technological base and the qualifications of its technicians enable the Soviet Union to produce integrated circuits of almost the same quality as the United States. . . . The circuits we were given probably do not reflect the Soviet Union's top technical standard. . . . The integrated circuits in use in the U.S.S.R. for its own needs may be technically more sophisticated." Shokin commented that he had "no grounds for denying these conclusions."

The Soviets' girding to proceed without East-West trade reflects their dim evaluation of the international situation as well as their concern for their own economy. They are responding not only to political signals but to Western economic collapse.

A significant policy tendency in the U.S.S.R. still welcomes Western decline and seeks further international destabilization on the principle that what's bad for the United States is good for Russia.

Others, including some leading lights of the 26th Party Congress, think otherwise. Not long after the incident at Three Mile Island, Academician Aleksandrov said he hoped the United States would pursue a vigorous nuclear power program because the absence of such an American strength would increase the danger of world war.

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## Documentation

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# Dr. Aleksandrov outlines the Soviet growth program

*In an article called "Energy Prospects," carried in the daily Izvestia on Feb. 21, physicist A. P. Aleksandrov outlined the shifting Soviet energy structure for the rest of the century. Aleksandrov is president of the U.S.S.R. Academy of Sciences and a member of the party Central Committee. The following excerpts from his article were translated by the Foreign Broadcast Information Service.*

The very complex task of supplying our huge, rapidly developing national economy with energy must be resolved reliably and with a long-term view. It is not possible to resolve this task by traditional methods—that is, by increasing the extraction of oil, gas, and coal. It is necessary to substantially change the structure of their consumption and to make wide use of nontraditional energy resources.

The point is that in this century the growth of the power industry in all industrially developed countries and here in the U.S.S.R. has taken place on the basis of a sharp relative increase in the extraction and consumption of oil and, in part, of natural gas and a relative fall in the proportion of coal. Oil now accounts for about 50 percent of the country's fuel and energy balance, while coal accounts for only about 25 percent. . . .

The limited nature of reserves of oil in large-scale deposits now being exploited and the tendency for the cost of this oil to increase make it necessary, in examining long-term prospects for the power industry, to change its structure in such a way as to substantially increase the relative proportion of coal in the fuel and energy balance, to approximately maintain the proportion of natural gas, to substantially reduce the proportion of oil for fuel and in the late 20th century to go over to using oil mainly as a feedstock material for the chemical and microbiological industries.

The entire shortfall in the fuel and energy balance must be covered . . . by substantially extending the proportion of nuclear power, using thermal neutron and fast breeder reactors and, in the future, thermonuclear power. . . .

Naturally, it will also be necessary to expand the utilization of other types of energy resources—solar, geothermal, water and wind power—but it is probable