

says. Biryukov says that generally, in the past, "a company was left to monitor itself. Nobody paid any attention."

Izvestia and *Pravda* articles have put much of the blame on the agency which until recently was in charge of environmental protection, the State Committee for Hydrometeorology. The agency has now been re-

stricted to its traditional role of monitoring the atmosphere and climate.

The Soviet Union also lacks modern technology to control pollution, Biryukov noted. Importing Western technology is severely hampered by that fact that it is expensive and that the ruble is not an exchangeable currency. What controls the Soviets have

built are often not put to good use.

So the new committee headed by Morgun has its work cut out. It is charged with presenting the Central Committee with a comprehensive set of environmental laws next year that balances ecological protection with the country's economic needs. Officials say that one of their jobs now is to sort out which of the old laws to keep and decide what new ones are needed. The atmosphere of discussion "is like a giant pot boiling," said a committee spokesman. The committee also has been assigned the important task of planning better use of Soviet natural resources and designating protected areas.

The committee already has ambitious plans. Sokolovskiy said that before industry, for example, undertakes a major project, the committee must consider a detailed analysis that is like an environmental impact statement in the United States. The committee also will decentralize its regulatory authority. The Moscow staff will total only 450, Sokolovskiy said, and will rely heavily on regional officials for enforcement. (So far, there are only about 100 on the Moscow staff.)

In a major reform, the committee plans to provide local officials with fresh incentive to use their regulatory stick. Sokolovskiy and Biryukov said that local governments, for the first time, can keep the money generated from penalties and fines they impose for pollution. Under Hydromet, this money was funneled into the national budget, which discouraged local enforcement, Biryukov explained.

The committee's regulatory clout with the government's industrial and mining ministries, which are under heavy pressure to improve production, is untested, however. Morgun is viewed as a potentially effective leader because of his important political ties as a former party leader in the Ukraine, Gorbachev's native republic. And Biryukov proudly points out, in the committee's new headquarters a few blocks from the Kremlin, that the committee was created with the strong backing of the Central Committee and the Council of Ministers at a time when reducing the size of the bureaucracy is a priority.

When asked whether the state committee, for example, could order the ministries in charge of car manufacturing to install catalytic converters on Soviet cars, Biryukov said, "I think the state can order [the installation of] converters. We have the right to stop production." But he added quickly, "It's not simple. We'll try to use economic incentives [penalties] to encourage conversion. I don't know when cars will have converters."

The Soviets intend to expand their cooperation on global environmental matters,

Glasnost: Soviet Computer Lag

Public expressions of gloom appear to be deepening in the Soviet Union over the slow rate of development of its computer industry, and consequently the country's growing lag behind the West in key fields of computer technology, particularly personal computers.

Igor Bukreyev, first deputy chairman of the U.S.S.R. State Committee for Computer Technology and Information Science, said in a radio interview last year that the nation was "4 to 5 years behind" the West in producing the software needed to operate the 1 million personal computers which it planned to have in the hands of users by 1990.

Earlier this month, during a press conference in Moscow in which he described Soviet computer policy as being in an "alarming situation" as a result of an excessively bureaucratic approach and the lack of a "unified technology policy," Bukreyev is reported to have said that he now feels computer technology in the Soviet Union to be "7 to 10 years" behind, and, as a result, "virtually incapable of competing with its foreign counterparts."

Bukreyev's statements came shortly after a joint session of the science and technology commissions of two legislative bodies of the U.S.S.R. Supreme Soviet in Moscow had discussed nationwide efforts to boost the production and use of computers throughout the economy, one of the top domestic priorities of Soviet leader Mikhail Gorbachev.

Some Western observers who have been tracking what is often perceived as an ever-widening computer gap between the Soviet Union and the West claim that the country's inability to keep pace with global trends in scientific and technological advances is the result of concern that widespread access to information technology could undermine the power of the Communist Party.

The Soviets themselves blame the delays that are being encountered in implementing their plans less on their political system than on the inflexibility of the government's administrative machinery—a principal target of Gorbachev's attempts to introduce perestroika—and a shortage of the necessary research and development funds.

According to Igor Glebov, for example, chairman of the Supreme Soviet's Science and Technology Commission, different ministries and organizations are producing various types of personal computers which are incompatible with each other, "and this will, of course, in future create very great difficulties in developing this area."

Glebov said in a radio interview that, even though the Soviet Union already had 300,000 trained computer programmers, they did not have the necessary equipment at their disposal, and their productivity was therefore low. It was necessary, he said, that the state committee for computer technology be given adequate financial resources "in order both to set tasks and to develop work in the sphere of scientific research and experimental design work."

At his press conference, Bukreyev, the committee's first deputy chairman, said that major efforts had been made to set up special centers selling games programs in towns throughout the country—it is planned to build about 200 of these within the current Five-Year Plan—and that computer teaching centers were proving to be "very popular."

However, the "urgent task" he said, was to create a software industry and give programming the status of an industrial technology. "The mass production of personal computers and the software for them has to begin, the training of experts for different branches of the national economy has to be organized, and professionally oriented data banks have to be set up," he said.

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