Soviet collapse. "Our institute was an island of capitalism in a sea of socialism," says Simon Eidelman, a senior research physicist at INP. However, the institute has not totally abandoned its socialist roots: All the money flowing into INP—be it from the government, Western foundations, or industrial contracts—is divided more or less equally among the staff.

In the mid-1980s, at least one top scientist in Novosibirsk was canny enough to foresee the rapid dissipation of state funds for science. At the beginning of *perestroika* in 1986, physical chemist Renad Sagdeev set out to create the International Tomography Center (ITC), an institution for medical research using techniques such as nuclear magnetic resonance and magnetic resonance imaging (MRI). "Our idea was to organize a scientific institution without a state budget," says Sagdeev—the first of its kind in the Soviet Union.

Sagdeev persuaded Bruker Analytische, a German company that produces medical imaging machines, to donate 1 million marks toward the building, which was finished in late 1992. Since then, ITC's work has won funding from the Russian government's Foundation for Basic Research, ISF, INTAS, and France's Ministry of Foreign Affairs. However, the bulk of ITC's budget comes from selling MRI machines, mass spectrometers, and other equipment in Russia and abroad.

Some foreign companies, meanwhile, have opted to bankroll specific labs rather than whole institutes. A matchmaker for these collaborations is Science Applications International Corporation (SAIC), a U.S. company that has sealed $25 million in deals in Russia since it launched an initiative here 3 years ago. SAIC helps U.S. companies find Russian collaborators and carry out the paperwork and legal details. The companies then manage the collaborations themselves and own the results. According to SAIC program manager Linda McCabe, U.S. firms have a chance to employ, "at very little expense, some of these very talented scientists."

With the help of SAIC, a team of scientists at the Institute of Thermal Physics in Novosibirsk is now working for Hewlett Packard to develop technology for ink jet printers. And a consortium of South Korean companies led by Samsung and Daewoo has invested in two computer labs at the Institute of Automation and Electrometry.

The next generation

Novosibirsk's remoteness, a bane during the harsh Siberian winter, has one advantage: As a place, it is harder for scientists to get away from. And that may help the city to eventually rival Moscow's scientific dominance. Novosibirsk's institutes have lost proportionally fewer top scientists than many Moscow-area institutes, and the city claims to have retained more young scientists. Despite the interest in business during *perestroika*, says ICG geneticist Nikolay Kolchanov, starting about 3 years ago, "I was surprised to find that we had regained a high level" of competence in the student body at Novosibirsk State University (NSU). Compared to Moscow, says Parmon, "we have a lot more students who have stayed with science." Perhaps the biggest wild card for Novosibirsk's future is whether those talented students will stay.

Despite the uncertainty, many Novosibirsk scientists share an optimism about the future. "I've told my son, 'You can go wherever you like after you graduate,' " says ISF official Natalia Baranova, whose son is an economics major at NSU. "But he doesn't want to leave Academgorodok," she says. Adds BIC chemist Yuri Aristov, "I prefer the manner of life here. ... I've spent a lot of time abroad, and all I can say is that there's a special spirit for doing research here that I haven't found anywhere else."

–Richard Stone

ENERGY RESEARCH

Fusion Advocates Scramble for Scraps

Managers of the fusion program at the Department of Energy (DOE) say they are just looking for a practical way to salvage a program whose budget fell 32% this year, to $244 million, and could well drop further next year. But to U.S. fusion advocates, the department is running up a white flag. So last week, when DOE asked members of its Fusion Energy Advisory Committee to help design a program acceptable to Congress that would cost between $200 million and $275 million a year, several panelists argued that the department instead should be fighting for a bigger slice of the federal pie.

"We're getting killed in this game between the department and Congress," said Marshall Rosenbluth, a physicist at the University of California, San Diego. And Joseph Gavin, a retired aerospace executive, called DOE's approach "a fundamental error," saying it would only encourage Congress to make further cuts. A $200 million program would do "deep damage" to the field, noted Stewart Prager, a University of Wisconsin physicist who served on a presidential panel that has recommended annual funding of at least $320 million (*Science*, 23 June, p. 1691). "It's too high a price to pay for the budgetary savings involved," Prager said in a briefing to the panel.

But DOE officials insist that the only way to keep the fusion program intact is to come up with a plan that Congress will accept. They note that last summer Representative John Myers (R–IN), who chairs the House Appropriations Committee panel that oversees the department, said he envisions a 1997 fusion budget of $204 million. "There has to be change [in the program], and it has to be dramatic," says Martha Krebs, DOE assistant secretary for energy research. Adds her deputy, James Decker: "It's an issue of what is credible. Greater than $275 million is probably not going to be credible."

The change that Krebs has in mind would scale back the U.S. program from a concerted attempt to develop fusion technology to a modest research effort. DOE officials say the cuts planned by Congress would kill a planned $742 million Tokamak Physics Experiment at Princeton Plasma Physics Laboratory designed to demonstrate continuous use of a tokamak. And Krebs warned that it would be difficult to go beyond early designs for the $10 billion International Thermonuclear Experimental Reactor, a project with Europe, Japan, and Russia to show the feasibility of fusion as a commercial power source.

Nevertheless, DOE does not want to pick a fight with a Congress committed to trimming federal spending. DOE officials want the results of the advisory committee's review by mid-January, before the president's 1997 budget plan goes to Capitol Hill, and their charge to the panel is a clear sign that the Administration's request will not exceed $275 million. Proposing a bigger budget could cede control of the program to Congress, Krebs told reporters. At the urging of the panel's chair, University of California, San Diego, engineer Robert Conn, the members reluctantly agreed to take on the task of describing the features of a smaller program.

The greater challenge for fusion advocates is to bolster their political standing. This year's budget debate revealed that the program has few politically powerful friends in Washington. A last-minute attempt by DOE Deputy Secretary Charles Curtis to restore $50 million wound up with $15 million, but several program advocates complain privately that DOE officials had failed to back earlier lobbying efforts.

DOE managers counter that they can't carry fusion's water alone. "The community has to ask itself what base of support it has," Krebs told the advisers. "If it broadened [its appeal] in the scientific community, then I think it might have a chance." Rush Holt, assistant director of the Princeton lab, ruefully agrees that the community's attention to research has left little time to meet with politicians who foot the bill. Now the goal is to save as much science as possible.

–Andrew Lawler