British research councils

Budgets on a shoestring

PROFESSOR Bill Mitchell, new chairman of the largest British research council, the Science and Engineering Research Council (SERC), presented the organization's annual report last week. Sir John Kingman, who was chairman until the end of September, says in the report that the severe financial pressure of recent years has resulted in losses sometimes "out of all proportion to the money saved", particularly in the lack of provision of operating costs for big-money facilities. "The truth of the matter is that the United Kingdom is trying to maintain its science base on the cheap", said Kingman.

Mitchell, taking a more optimistic line than his predecessor, congratulated Kingman on "coping so well in difficult circumstances" but said that the work described in the report was not that of a "demoralised science and engineering community". But like Kingman, he stressed the role of basic research in making discoveries of "economic significance".

One new source of money in the science arena is a joint Ministry of Defence (MoD)/SERC programme. SERC welcomes the influx of money (MoD and SERC will each provide 50 per cent). Projects will be subjected to peer-review in the normal way, and will be restricted to unclassified fields. SERC will assess the scheme next year and "reconsider" if any of its conditions are not met.

The highlight of 1984 was the production of the first neutrons by the Spallation Neutron Source (Rutherford Laboratory, near Oxford) in September. At the Synchrotron Radiation Source (Daresbury Laboratory, near Manchester) the "wiggler" beamline enabled the first enzyme crystal, phosphorylase *b*, to be monitored as it performed its catalytic reaction. Unexpected order-disorder transitions have been found and people are queuing up to use the device which measures 40,000 reflections per second.

In 1984 the Isaac Newton, Jacobus Kapteyn and Carlsberg Meridian Circle telescopes began operation, the Active Magnetron Particle Tracer Explorer satellite was launched and the Anglo-Australian Telescope has allowed the most distant galactic objects yet known to be seen. But the Royal Greenwich Observatory may soon stop participating in the international time determination programme (see *Nature* 31 October, p.754); SERC has decided to support observational astronomy at the expense of other projects.

Engineering science has received increased financial support during the past 10 years so that it now makes up 20 per cent of SERC's budget. SERC is reviewing the effectiveness of its engineering programmes and will decide whether to shift priorities again, or even whether to change its own name (to STRC, T for

technology) in February 1986. Similarly, SERC is reviewing its position on chemistry research, an area that has lost ground in the past three years.

Another controversy caused by government cuts is the question of British membership of the European Organization for Nuclear Research (CERN). Reduced money to SERC has coincided with an increased subscription to CERN and it is likely that some experiments will stop completely, damaging Britain's reputation as a reliable partner in international collaborations. The decision is in the hands of the government, at present considering the recommendations made to it

Soviet plan

More goods, more science

THE "Draft Basic Guidelines" for the Soviet Union's Five-Year Plan (1986-90) are, as usual, not so much a detailed economic programme as a manifesto eulogizing the Soviet way of economic life. The preamble extols the progress in the "scientific and technical revolution" during the past five years. It says that nuclear power now accounts for one tenth of all Soviet generating capacity and that the Soviet Union, "which earlier took first place in the world in terms of oil extraction", now holds a similar position with regard to natural gas. Free textbooks are now provided in schools, the housing problem is "being consistently solved" and the natural wealth of the eastern and northern regions of the Soviet Union are being opened up at an "accelerated rate".

The guidelines for the future present a somewhat less happy picture. The "supreme goal" in the next five years and for the remainder of the century is the "steady upsurge of the standard of living" of the Soviet people by raising the efficiency of production. In pursuit of this aim, the food programme (Brezhnev's last legacy to the Soviet people) is to be implemented to ensure the "scientifically substantiated norms of rational consumption", while there is a package of measures to improve the health service. There have been complaints in the Soviet media about poor performance in the health service, perhaps because the energetic anti-alcohol campaign led to the neglect of other aspects of health.

The emphasis on the citizen-consumer reveals, perhaps, how much this sector has been neglected in previous plans. Production of non-food consumer goods is to be increased by more than 80-90 per cent, and the "volume of services" delivered will, according to the forecasts, be more than doubled. But other targets, too, are set equally high — gas extraction at 60-80 per cent more than in the current quin-

quennium and nuclear power increasing between five and sevenfold. In industry, there is to be a general inventory of "fixed production capital", and more than one third of it renewed. The opening up of Siberia and the far east to industry is to continue, although there is now increased emphasis on environmental protection.

In science, the role of the Soviet Academy of Sciences as co-ordinator of research is to be "enhanced", as also will be the role of the academies of the union republics. The draft plan speaks of utilizing the scientific potential of the higher education system, and expanding the research and development work in the universities. There is to be closer interaction between the research facilities of the academies, the universities and the specialized institutes of the production sector, and "progressive new forms" of research organization will be sought.

Several scientific fields are listed for special development, including theoretical and applied mathematics, information science, cybernetics, particle, nuclear and solid-state physics, micro and quantum electronics and also research into nuclear and non-traditional energy sources. The "scientific principles" of catalysis, chemical technology and biotechnology are to be "elaborated" and the mass production of personal computers is to be "organized". The supply of modern instruments, materials and other necessities to research facilities will be "substantially improved".

The guidelines are nevertheless unclear about the relative roles of pure and applied science, saying that the "fundamental task" of the current plan is to "strengthen ties between science and production", while, at the same time, "priority significance" is to be given to fundamental research which "predetermines the attainment by social production of a qualitatively higher level". **Vera Rich**