million, which is a rise of 17 per cent, and a Social Sciences and Humanities Research Council (SSHRC) budget of $41.7 million, which is a rise of 16 per cent. The longer term budgets of the three Councils will be assessed in the context of total financial requirements by the Government over the coming years.

The budget increases for the Councils are only part of the Government's total research and development expenditure increase for 1980-81. The total increase in research and development in the natural sciences, including the NSERC increase, is $155 million.... Nevertheless I will be working for a greater financial commitment; I believe that an expenditure close to $190 million would be the appropriate one and I am relatively confident that further increases in the Government's commitment for the year 1980-81 will take place. Some of the highlights of the present increased expenditure commitments in addition to the NSERC increases are: $9 million for the *Anik-C* and *Anik-D* satellite programs; $10 million for renewable energy and conservation measures; $19 million for the Enterprise Development Program of Industry, Trade and Commerce; and $4 million for the operation of the TRIUMPH facility at the University of British Columbia....

The Ring

TRIUMF, the large cyclotron facility at the University of British Columbia, was one of the programs given increased funding by the Government during 1980-81.

Provincial interest

In the provinces, science and technology is receiving increased attention. Provincial research councils have been created, discovery and other industrial research parks are springing up in several places. Financing is improving through the use of oil and lottery revenues, particularly for medical research. All this points to a marked increase in the provincial participation in research and development and I welcome it.... I believe, though, that it means that we must improve the means for consultation and co-ordination between the two levels of government. I would welcome the opportunity to discuss with my provincial counterparts university research and industrial technological development as they relate to both national and provincial interests.

Highly-qualified manpower

The 1.5 percent target has significant implications for highly-qualified manpower especially in the applied sciences and engineering as well as business administration and management. Studies by my Ministry suggest that a target of 1.5 per cent by 1985 would imply a potential shortfall of research-trained personnel of between 3,000 and 4,000, largely in the applied fields of study.

In addition to the research and development thrust, there are other developments in the Canadian economy that will result in increased highly-qualified manpower personnel requirements.... As the level of industrial research and development increases, an employment spin-off effect would occur as new products and processes move through development into production. This will result in additional requirements for high-qualified manpower in the applied sciences, engineering and administration, and will exacerbate the supply shortfall associated with the target....

The Science Council in its report *University Research in Jeopardy* has pointed to real problems of supply. The size of the 18-24 age group will shrink by about 20 per cent by the end of the decade, due to the sharp decline in the birth rate during the 1960s. It is expected that the university age group will not start to increase again until the mid-1990s.... There will likely be fewer students qualified to enter postgraduate study, reduced mobility of faculty, and few new appointments. Budgets will be constrained by lower enrolments and a more senior academic salary structure.... Thus at a time when there are increasing demands on the universities, the university system is entering a period of instability and restraint....

Opportunities presented

Science and technology are bringing about many changes in Canadian society – our communications system, our food system and our energy supply, for example, are undergoing rapid transformation. Enormous opportunities are also being presented for our creative talent in economic, social and cultural endeavours. The universities educate and train many of these key people and through the five-year plans of the Councils and in other ways the Federal Government will give the encouragement and support that is needed to turnaround our research and development picture.

The Government is committed to raising the research and development consciousness of Canada. It is a time for a concerted effort amongst the policy makers, the scientists, the industrialists, the administrators and the managers to make the right choices about the direction and effectiveness of that increased research and development effort....