

CONTINUING BENEFITS OF NUCLEAR R&D

*Historically,
the cost of electricity from
Ontario's nuclear reactors
has been less than that for
coal-fired plants.*

Government support for R&D constitutes a long-term investment in future technology which private industry, dependent on short-term return on investment, is not able to make. There is ample evidence to show that the benefits still to be realized by government investment in nuclear science and engineering R&D in Canada will be at least as significant as those already achieved. The consequences of not supporting this R&D would be to reduce our industrial competitiveness in both nuclear and non-nuclear sectors. On the other hand, supporting nuclear science and engineering R&D will result in economic, environmental, safety, political and diplomatic, strategic, and technological advantages for Canada in the future, and will allow the government to make choices not available to countries without nuclear R&D.

ECONOMIC DEVELOPMENT

Maintenance of a high living standard and sustained wealth creation for Canadians require the assurance of an adequate, reliable, diverse and competitive energy supply. Nuclear electricity has contributed significantly to Canada's energy supply through the effective use of nuclear R&D funding. Canada's CANDU reactors have produced more electricity per R&D dollar spent than reactors of any other country with a significant nuclear power program. The contribution of nuclear electricity to GDP was some \$28B to 1998, while government support to that date was \$5.8B. Nuclear generation currently provides 12% of Canada's electricity and about 48% of Ontario's. By using nuclear fuel, Ontario has saved more than \$18 billion in avoiding costs of imported fossil fuel. Historically, the cost of electricity from Ontario's nuclear reactors has been less than that for coal-fired plants, and studies show that electricity generation from existing nuclear plants and from new plants will continue to be competitive.

As existing CANDU plants age, they continue to need R&D support to ensure safe and economic operation and to cope with unexpected events. The speedy resolution, by AECL and the utilities, of problems that emerged at the Darlington and Point Lepreau Nuclear Generating Stations demonstrates the importance of this R&D support in protecting these major capital investments. Maintaining and extending the lifetime of