Energy conservation 13.2

A policy paper — *Energy conservation in Canada: programs and perspectives* — in 1977 outlined potential measures to increase the efficiency of energy use. Given the right combination of circumstances, the average annual growth in energy use could be about 2% by 1990.

If, in 1990, the mix of energy sources were the same as that prevailing in 1975, estimates indicate that annual primary energy consumption could be reduced by: petroleum, 1.29 quads (equivalent to the annual output of five Syncrude-size oil sands plants), or about 95 390 m^3 (600,000 bbl) a day of crude oil; 0.51 quads of natural gas (equivalent to about 20% of total Canadian production in 1975); as well as 0.79 quads of electric power, equivalent to the annual output of 13 Pickering-size nuclear plants; and 0.21 quads of coal equivalent to 7.7 million tonnes of bituminous coal. [Note: 1 quad = 1 quadrillion Btus (10^{15} Btus) = 172 million bbl of crude oil.]

This is not a forecast of energy demand since many economic, social and technological changes may occur by the 1990s. Further conservation savings are possible in some sectors; however, these were not considered since they could not be quantified with sufficient accuracy. Since 1972, primary Canadian energy demand has risen at an average annual rate of 2.8%.

In an industrial energy conservation program, 14 task forces represent specific sectors of industry. They set energy efficiency targets, exchange information on conservation and maintain liaison with the federal government.

In the public sector, the federal government's internal conservation program resulted in an energy reduction of about 9% in 1977-78 with the estimated saving over $25 million.

In January 1977, assistance programs were undertaken in Prince Edward Island and Nova Scotia because of their high dependence on foreign oil for power generation. Included were grants for home insulation, energy audit buses, and industry consultation and grant programs. Based on the success of the insulation program, a $1.4 billion national home insulation grant program began in September 1977. In 1977, a special R&D fund of $1.5 million was created to improve energy efficiency in industrial processes.

A federal-provincial energy bus program assists industry and commerce to identify areas of energy waste and allow remedial action. It uses mobile computer-equipped energy audit vehicles staffed by engineers and technicians performing on-site energy audits. The Prince Edward Island and Nova Scotia programs were carried out in August 1977 and the program was expanded to cover New Brunswick, Quebec, Ontario and British Columbia in July 1978, Newfoundland and Saskatchewan in January 1979 and Alberta in September 1979. On average, these audits have resulted in a 20% energy saving.

The first edition of *Measures for Conservation in New Buildings 1978* prepared by an associate committee on the national building code was published by NRC. While not mandatory for private sector construction, these measures are applied to all new federal government building construction, and have received general acceptance at provincial and industry levels.

A number of steps have been taken by the federal government to conserve energy. Fleet average performance standards for new cars for 1980 and 1985 have been introduced to ensure that total gasoline consumption in Canada in 1985 will be below the level of 1976 even though more cars will probably be on the roads. Provincial governments were urged to adopt a 90 km/h (kilometres an hour) speed limit on most highways and to impose higher registration fees for heavy or large-engined cars. A surtax of $100 on automobile air conditioners was imposed. Graduated weight taxes for cars and station wagons ranging from $30 to $300 are in effect for cars over 2 000 kg (kilograms). Most auto makers and dealers display automobile fuel economy ratings. The federal government collects an excise tax on gasoline, partly to encourage thrift.

Federal sales taxes have been removed on a wide range of energy conserving and renewable energy materials and equipment. Accelerated capital cost allowances are available for specified waste energy recovery. A program of energy labelling for appliances has been initiated.