



a full block and covered by a glass-panelled dome. There are 300 individual shops, and 170,000 square feet of low-rise office space, cafes, trees, billboards, pavements, a 40-foot fountain and 2.5 acres of walkways.

Eaton's expect 100,000 visitors daily at the new Centre. It will contain almost the full range of merchandise stocked by Canada's largest department store chain.

Oil and gas resources estimated

The challenges and potential of Canada's oil and natural-gas resources are outlined in two reports released on March 17 by Energy Minister Alastair Gillespie. They complement the book *An Energy Strategy for Canada; Policies for Self-Reliance*, published in April 1976, and are entitled *Oil and Natural Gas Resources of Canada, 1976* and *Oil Sands and Heavy Oils; the Prospects*.

The former booklet, a geological assessment of Canada's potential oil and gas resources, was prepared by EMR's Institute of Sedimentary and Petroleum Geology, a division of the Geological Survey of Canada, in Calgary. It is a technical study that describes a more sophisticated way of forecasting the probability of oil and natural-gas occurrences in nine sedimentary basins. The area examined is somewhat different from that covered in earlier estimates prepared by the Federal Government.

More gas than oil

The 1976 estimates suggest that there is little likelihood that new discoveries of conventional oil will exceed the crude-oil resources of Western Canada. However, natural-gas prospects are considerably better than those of oil in frontier areas.

The results of the study correspond to the estimates published last year in *An Energy Strategy for Canada*, but deal with specific sedimentary basins and are based on some additional geological information.

Canada's remaining recoverable reserves of crude oil and natural-gas liquids, excluding the oil-sands but including the Lloydminster heavy-oil deposits, are 8.5 billion barrels (as of December 31, 1975).

It is considered 90 percent probable that up to 25 billion barrels of crude oil and other liquid hydrocarbons exist — again excluding the oil-sands. There is a 50 percent probability that some 30 billion barrels exist and a 10 percent probability that there are up to 43 billion barrels.

Canada's remaining known reserves of natural gas, including those found so far in the frontier areas, are about 85 trillion cubic feet. If potential but undiscovered gas is included, it is estimated to be 90 percent probable that more than 229 trillion cubic feet exist. It is 50 percent probable that more than 277 trillion cubic feet exist and 10 percent probable that more than 378 trillion cubic feet exist, about two-thirds of which might be found in frontier areas.

Estimates of potential reflect the present level of knowledge based on drilling and geophysical information. Because the amount of available information varies widely from basin to basin, there can be less certainty in the oil and gas estimates of some areas than of others, and the method of analysis is devised to reflect this. It is inevitable that, with additional exploration, the estimates for a particular basin or region may be revised to show the probability of major finds measurably increased or decreased.

Federal-provincial encouragement

Faced with less-than-encouraging forecasts of anticipated major oil discoveries in Canada's frontier region, the Federal Government has stated its

intention to develop, in co-operation with the provinces involved, policies to stimulate exploitation of these resources to meet Canada's growing crude-oil shortfall.

Technology for the recovery of the oil from the tar-sands and heavy oils may differ for each of the three deposits and, indeed, applications may differ considerably from lease to lease because of differing physical characteristics. With each deposit, however, the problem of "getting the oil out of the ground" is one of major proportions for which the technology is currently in an evolutionary state. Each deposit faces common problems associated with refining and upgrading these asphaltic, sulphurous raw materials and similar economic uncertainties about their effective use in Canadian energy markets.

Bilingual exchange program

Secretary of State John Roberts announced on March 21 a bilingual exchange program involving French- and English-speaking elementary and secondary classes in Ontario and Quebec. The program, which provides for the twinning of classes within the participating school boards in the two provinces, will enable students to visit and live in each other's homes two weeks at a time in each community for a total of four weeks in the summer and one week at a time in each community for a total of two weeks in the winter.

Students will have an opportunity to learn each other's language and culture in a total immersion situation augmented in each case by supplementary linguistic and cultural enrichments.

Seven school boards will participate in the 1977-78 program with 8,768 students, and 12 school boards will take part the following year, involving some 11,152 students.

The program is to be funded on a cost-sharing basis by the Department of the Secretary of State and the Ontario Government under the terms of the federal-provincial program to promote bilingualism in education. The Secretary of State Department will contribute \$335,670 of the estimated \$671,340 for 1977-78 and \$446,810 of the probable costs of \$893,620 for 1978-79.