

the future use of coal in Canada must have as a guiding principle that the environment will not suffer. The federal government's support of coal developments in Canada will be predicated on this principle — it must be if we are to secure from the U.S. a substantial reduction in emissions from their coal-based thermal power industry.

Another important matter is reclamation. I would like to compliment the Canadian coal industry on the progress in reclaiming old sites. I am also pleased with the active role you have taken in the coal mining research centre in Alberta. The financial support from the Alberta/Canada energy resources research fund, and your support of the centre, will contribute to solutions to these problems....

Introducing new technologies

The federal government is prepared to assume a large proportion of the technical risk in the introduction of new technologies, up to the point of commercial use. The technologies of interest in the near-term include fluidized-bed combustion and coal-in-oil combustion.

...The federal government has agreed to financially assist the construction of a pilot-scale preparation plant for a mixture of coal, oil and water for fuel use, in Dartmouth, Nova Scotia.

If the experiment proves successful, the movement of the plant to the Cape Breton coal-producing area is likely. This would provide a welcome boost to the economy of that area.

In co-operation with the Department of National Defence, we are planning the replacement of a heating plant unit at the armed forces base at Summerside, Prince Edward Island, with fluidized bed combustion technology. We believe this technology will allow the use of the higher-sulphur Cape Breton coals in an environmentally acceptable way.

The new unit will also use wood chips, to take advantage of the forest resources of the island not now being worked to their full potential. Canadian process design teams are involved and equipment will be manufactured in Canada.

With the Nova Scotia Power Commission, we are examining the possibility of erecting a large, 150-megawatt plant. This would use atmospheric pressure, fluidized-bed combustion. We are actively considering locating it at Point Tupper, where it could use Nova Scotia coal, in units of a size to be of interest to utilities in Canada and abroad.

A mission of coal experts from the Commission of the European Communities (EC), visited Canada from September 14-26 and participated in the Canadian Conference on Coal. The delegation, led by the EC's director for coal Dr. Karlheinz Reichert, studied Canada's use of coal, coal-related technology and Canadian policies of foreign investment in coal-extraction undertakings. The group also met with industry representatives in Calgary and Ottawa.

A federal discussion paper released at the conference indicated that coal now provides about 9 per cent of Canada's domestic primary energy supply, a smaller proportion than in other countries with large coal resources. Forecasts are that coal use could rise to 12 per cent of Canada's domestic primary energy supply by the year 2000, perhaps to as much as 18 per cent if new coal utilization and conversion technologies are employed. Exports are also expected to increase substantially, especially for thermal grades of coal.

In other parts of Canada, development of new coal-using technologies would not directly displace imported oil.

We are prepared in principle to share with provinces the technical risk in the development of these technologies. We are anxious to maintain an important energy option for Canada: the production of electricity from abundant lower-rank coals at the lowest possible costs. It may be necessary to embark upon demonstration projects to make this option more attractive to power companies....

International co-operation

International co-operation in the development of coal technologies will become more important particularly as the expensive demonstration level is reached. Canada has endeavoured to participate in as many international projects and especially those mounted by the International Energy Agency as are appropriate to our needs. We welcome the formation of the high level group for energy technology commercialization which has been established within the IEA.

In co-operation with the provinces interested in coal, we are negotiating an improved agreement on coal technology with the United States Department of Energy.

As you are well aware, the possibility of liquid energy from coal is a hot topic worldwide. Canada is proud to be world leader in synthetic oil production. Our current production capacity is about 175,000 barrels a day. Synthetic oil already accounts for about 10 per cent of our oil supply. This has come about, of course because we have the extensive oil sands and heavy oils of Alberta and Saskatchewan.

What then of coal liquefaction in Canada? The situation is complicated, and I would be rash to make any sweeping pre-

dictions. An interesting twist is that coal could well be used in the extraction and processing of bitumen. Coal could serve as a make-up fuel to produce the steam necessary for the *in-situ* oil recovery plant at Cold Lake, Alberta by the Esso Resources group....

In the energy research laboratories of my department, we have developed an improved hydrocracking process for upgrading bitumen and heavy and residual oils. The process has reached the stage where licensing has been arranged with Petrocan. They are making arrangements with others interested in its development.

We now see further opportunities for this process of interest to the coal industry. It appears possible to treat coal and bitumen together in the process which we think will lead to significant advantages as compared to liquefying coal alone. This could be particularly significant in achieving high utilization efficiencies in the expensive high pressure equipment needed. We are currently assessing the process and are examining ways for its demonstration. There might also be opportunities for more conventional coal liquefaction. Our resources are large enough to support a number of synthetic fuel installations.

Exporting liquified coal

Other countries are not in such a fortunate position. There have been enquiries and proposals about the possibility of producing liquids from coal at Canadian sites, for total or partial use in other countries.

...The federal government is prepared to examine proposals for the production of liquids from coal in Canada on a case-by-case basis. We are prepared to negotiate terms for the export of the liquid product to other nations as exceptions to the

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