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Energy substitution program to reduce oil use

Canada is, and will continue to be, in an enviable position with regard to its over-all supply and distribution of various forms of energy, said Minister of Energy, Mines and Resources Marc Lalonde during a speech to the Pipeline Contractors Association in Montreal on May 15. Excerpts from the speech, in which the Minister announced the Government's goal of a 10 percent reduction in oil use within a decade, follow:

...We have a relatively abundant supply of electrical energy, a surplus of natural gas, and we rely on imported oil for only 15 per cent of our net energy requirements. We are a net exporter of energy — not a net importer — and last year on the balance of payments we had a \$4-billion surplus on all international trade in energy....

At present, we in Canada use oil for about 25 per cent of the total energy requirements of our commercial and industrial sectors, and for about 40 per cent of the energy consumed in the non-farm residential area.

This rate of oil usage varies a great deal, of course, from one part of the country to another, depending partly on the extent to which consumers have a real choice among several fuel alternatives.

In Alberta, where natural gas is readily

accessible to most consumers, oil is used for only about 5 per cent of residential and commercial energy requirements. In Ontario about one-third of total household energy requirements are now being met by oil, and the comparable figure in the Ontario commercial sector is about 20 per cent. In Quebec over half of all residential and commercial energy consumption is fed by oil, and in British Columbia the proportion is about one-quarter in both sectors.

The pattern of energy use which now exists in Canada reflects historic costs and the influence of past incentive policies. At one time, it may have made a great deal of sense to develop an energy system that allowed Canada to export large amounts of oil and gas from the West and import large amounts of oil to the East. That time is past. It is no longer in my view sensible to perpetuate such a system.

If we were to replace all of the oil that we now import with energy we now export, we would still have energy to spare for the export market.

For most parts of Canada a substitution of oil by other forms of energy now makes economic sense. For the country as a whole it has become a strategic imperative.

I am therefore announcing...that as a general goal the Federal Government intends to begin working immediately towards a reduction in the residential, industrial and commercial use of oil to 10 per cent of their net energy requirements.

Obviously, this goal can be attained more quickly in some parts of the country than in others. I am confident, however, that through the policies I am about to announce and others that will follow



Marc Lalonde

Eleven years ago today...

Premier John Robarts of Ontario and Premier Jean-Jacques Bertrand of Quebec signed an historic agreement establishing a permanent Commission for Ontario-Quebec Co-operation to provide public services in the English and French languages and education in the two official languages wherever feasible, and to implement an exchange program between public servants.

soon, we can look forward to attaining this objective in most oil-consuming sectors and areas within a decade.

The stakes are very large indeed. Getting down to 10 percent oil usage would save about 150,000 barrels of oil a day in the residential field, another 150,000 in the industrial sector, and 75,000 in the commercial area. That's a saving of approximately 375,000 barrels of oil each day.

Energy substitution

What is involved here is a massive energy substitution program to allow energy consumers to move away from oil and over to relatively less expensive and more plentiful sources of energy whether that be natural gas, electricity, or other sources such as wood, solar, propane and other liquified gases, coal or biomass.

The potential for this kind of substitution in the residential area alone can be illustrated by citing the situation in Ontario. That province has about two million residences, and about half are now on natural gas while the other half rely on other forms of energy including oil. Of the million not now on natural gas, it is estimated that about a quarter million are in areas now served by gas mains and over 400,000 are within existing gas franchise areas. We are anxious to ensure that this large potential for energy substitution is realized without undue delay.

The nature of any substitution of oil — from oil not only to natural gas, but to electricity and other forms of energy — must be determined not only by local circumstance as it now exists, but as we can alter it by increasing the range of choice open to the consumer, within national energy objectives.

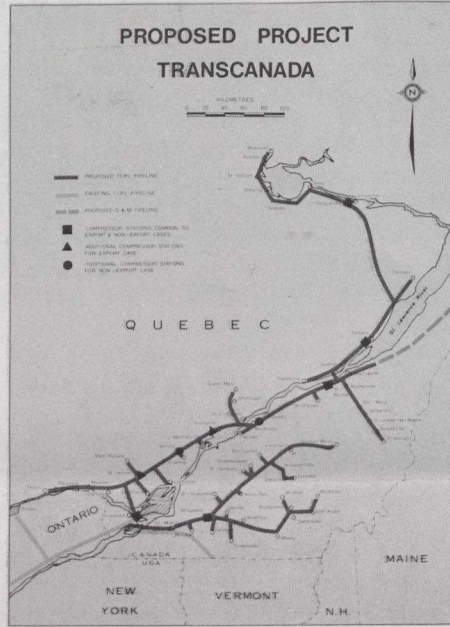
...Natural gas is in surplus supply and already has a price advantage over oil in most markets.

While this is a positive factor in any move to substitution, we are also confronted, of course, with a rather substantial effort of improving and extending the Canadian system of natural gas transmission and distribution....

Natural gas pipeline

The National Energy Board (NEB) has... recommended — and the Government is accepting the recommendation — that the natural gas system be extended beyond Montreal to Quebec City.

As I have indicated, there are some im-



portant financial details to be worked out to ensure the financial viability of this line and maximum penetration of gas into the residential, commercial and industrial markets. These details I hope to finalize in the next two months as part of our oil and gas pricing negotiations. There should, however, be no doubt in anyone's mind that the pipeline will be built and arrangements will be made to ensure this maximum penetration. It is a fundamental principle of our energy policy to ensure conversion from oil in the Quebec market.

In the Speech from the Throne, the Government said clearly that it favours the earliest possible construction of a natural gas pipeline to Quebec City and the Maritimes. This remains the Government's preferred option. However, the NEB has denied the application for the moment of the Trans-Quebec and Maritime Pipeline Company (Q&M) to extend the pipeline beyond Quebec City to the Maritimes. It has cited two reasons:

First, the Board has found that Q&M has not done sufficient environmental work. We would hope that Q&M would proceed as quickly as possible to develop this necessary work to ensure that any extension of the pipeline meets [Canadian] environmental standards.

The Board also found that the Q&M application does not adequately consider potential offshore development....

It is clear that the exploration activity in the Atlantic region in the last year has opened up exciting new possibilities. There is now the real potential that the Atlantic region could be self-sufficient in

both oil and gas as a result of potential discoveries at Hibernia and Sable Island. The Atlantic region at present has an energy system which not only delivers energy which is too insecure but delivers energy which is much too expensive. We must ensure that we do not solve the problem of insecurity by developing an energy system which leaves Atlantic Canada with energy which is even more expensive than the energy sources it has today. It is therefore critical that we choose the most efficient alternative energy sources for Atlantic Canada, that we proceed with the agreement of the provinces, and that together we ensure that the needs of its consumers are met.

We are determined, however, that there be no lessening in our drive to convert Atlantic Canada off oil. By necessity there will be a pause as we take time to examine the effect of these new offshore developments. We are determined that this pause be as short as possible, and to this end we are looking at ways in which exploration at Sable Island and Hibernia can be accelerated. We are also asking Q&M to continue to press ahead with the work required for their application so that the NEB could examine a new application as quickly as possible. We are optimistic that the short time taken in obtaining this new information will not result in a delay in the scheduled deliveries of natural gas to the Maritimes.

Major benefit

In Quebec, the construction and extension of the natural gas distribution network will be of major benefit to consumers in this province, and to the whole Quebec economy. The National Energy Board has estimated capital and operating costs of this system at over \$1 billion, not including the investment that will be made in conversion from oil to gas facilities....

By 1985 this system would be capable of delivering about 69.5 billion cubic feet of natural gas to the Quebec market, rising to 136.5 billion cubic feet by 1990. The Board's estimate is that this will mean a net displacement of fuel oil in the Quebec market of 27,000 barrels a day by 1985, and 52,000 barrels a day by 1990.

I am pleased to note also that the national objective of substitution of oil by other forms of energy is being advanced in British Columbia. My counter-

(Continued on P. 8)

NORAD agreement extended

An exchange of notes, constituting an agreement between the Canadian and United States Governments to extend the current North American Air Defence Command (NORAD) agreement for a year, were tabled in the House of Commons on May 12.

The notes were exchanged in Washington by Canada's Ambassador to the United States Peter Towe, and Sharon E. Ahmad, Deputy Assistant Secretary of State for Canadian Affairs in the U.S. State Department.

The Canadian Government sought the extension to provide an opportunity for the House of Commons Standing Committee on External Affairs and National Defence to express its views on the subject. Because of the recent election, such a review could not be undertaken before the current agreement expired on May 12.

Refugee worker reduces costs

A Canadian relief worker has helped to reduce the cost of food which is distributed to Kampuchean refugees in Thailand.

Soon, most of the food consumed by the 120,000 refugees at Khao-I-Dang camp, 300 kilometres east of Bangkok, may be purchased at a fraction of its former cost because of the efforts of Suteera Thomson.

Dr. Thomson, a Science Council of Canada microbiologist, has just returned from her native Thailand, where she was helping Canadian University Service Overseas (CUSO) become involved in the refugee crisis.

Khao-I-Dang, Thailand's largest refugee centre, is to be broken up into smaller camps and one of those camps will be run by CUSO.

Dr. Thomson, a veteran of community relief projects in Thailand, questioned the United Nations' practice of purchasing food from large Thai companies instead of directly from Thai farmers.

Mechai Viravaidya, director of Community-Based Emergency Relief Services of Bangkok, discovered that onions and garlic could be purchased from local farmers for one-sixteenth the cost that the United Nations was paying for the same goods sold by large distributors.

The United Nations gave the farmers a

far superior price than the large distributors paid and still came out ahead.

Mechai said everyone benefits from purchasing the food directly from farmers, except of course Bangkok businessmen.

The project now may be expanded to include most other foodstuffs consumed at the camp, Dr. Thomson said.

The Thai military has given CUSO 45 acres at Kap Cherng, 500 kilometres northeast of Bangkok, for a camp which will house 10,000 Kampuchean peasants.

The camp will be somewhat unique in Thailand because the staff will be almost exclusively Thai. The medical and administrative personnel at most other camps are European or North American.

Half of the land will be used for agricultural purposes so the refugees can grow some of their own food.

Investment climate more optimistic

Canadian businessmen have become more positive about Canada's investment climate despite the country's economic problems, the Conference Board in Canada says.

In its latest survey of business attitudes and investment intentions conducted in February, 49.5 per cent of survey participants said they consider the present to be a good time to undertake expenditures on new plants and equipment, up from 32.5 per cent in the 1979 fourth quarter.

It said 21 per cent in the latest survey considered the present to be a bad time to undertake capital spending while 30 per cent replied that they were not sure.

Regarding over-all economic conditions, 31.5 per cent predicted a further deterioration, down from 7 per cent who held that view in the 1979 fourth quarter survey. The board said 57 per cent expect economic conditions to remain the same over the coming six months while 11.5 per cent expect an improvement.

Underlying the improvement in attitudes was a recovery in the outlook for sales which had dipped in the 1979 second half, the board said.

Industries reporting a relatively bright foreign sales outlook include forest products, oil, gas and chemicals, machinery and transportation equipment, non-metallic mineral products and construction and real estate. Industries reporting a poor foreign sales outlook include food and beverage, mining and metals and wholesale trade.

Mayors study foreign policy

A group of 12 Canadian mayors from communities in the Northwest Territories and each of the ten provinces recently toured Europe.

The eight-day tour was sponsored and organized by the Department of External Affairs, the NATO Information Service, the Delegation of the Commission of the European Communities in Ottawa and the Department of National Defence.

During their tour abroad, the mayors visited NATO Headquarters and the European Communities Commission in Brussels, Belgium; the Supreme Headquarters Allied Powers in Europe near Mons, Belgium; the Council of Europe in Strasbourg, France; and the Canadian Armed Forces base in Lahr, Germany.

In previous years, similar groups of parliamentarians, high school teachers and journalists from Canadian weeklies have had similar opportunities under this program to familiarize themselves with Canadian international commitments. This is the second time that mayors have been included in the program.

Representative to United Nations



Michel Dupuy (left) Canada's permanent representative to the United Nations, presents his credentials to Secretary-General Kurt Waldheim at the United Nations in New York, May 6. Mr. Dupuy has most recently served as the President of the Canadian International Development Agency, a post he held since 1977.

Garbage fertilizes farm land

In an attempt to reduce energy costs and prevent the further deterioration of agricultural land resulting from heavy use of chemicals, farmers in two southern Ontario communities are planning to turn garbage into rich, organic fertilizer, reports Brian Toller in *Canadian Renewable Energy News*, May 1980.

"We've not been able to restore the soil at the rate we've been using it up," says Joan Lowden, secretary of the Hamilton-Wentworth Federation of Agriculture in Hamilton, Ontario. "We never used to think it would hurt that much, but the soil is compacting."

At least one farmer in the agriculturally-rich Niagara peninsula had no crop last year because the soil is in such bad shape, Lowden said. A lack of humus, the by-product of decomposing organic substances such as manure and corn husks, is the cause of these poor soil conditions, she says.

Meanwhile, municipalities are running out of space for disposing of garbage in land-fill sites, so Lowden and her associates have decided to kill two birds with one stone by composting residential garbage and selling the humus-laden fertilizer to area farmers for \$10 a ton.

Garbage an asset

"We're going to turn it (garbage) into an asset," she explains. "We need it now and we will need it in the future."

The Wentworth Agricycle Co-op will raise the \$200,000 needed to build the composting plant, to be located near Mount Hope, Ontario, 15 miles south of Hamilton.

Township of Cranahe, 85 miles east of Toronto, recently gave a site to Agpro Industries, another co-op set up to build a similar composting plant.

Both plants will rely on a 150-foot solar greenhouse to contain the garbage and promote composting, which will occur at temperatures just below the boiling point. To the solid waste collected from surrounding residences will be added chicken manure, paper and a variety of other organic materials. But industrial and some sewage wastes will not be used because of their high metal and chemical content.

Plans call for handling 50 tons of garbage a day, which should produce 30 tons of compost a week.

Quebec votes "no" to sovereignty-association

In an historic referendum held May 20, Quebecers denied the Parti Québécois government of the province of Quebec a mandate to negotiate sovereignty-association.

The referendum question had asked Quebecers to decide if they would give the Quebec government a mandate to negotiate Quebec's independence, while at the same time maintaining an economic association with the rest of Canada.

The proposal of the Parti Québécois government was defeated by a vote of 2,171,913 (59.5 per cent) against, while 1,478,200 (40.5 per cent) voted in favour. A record number of Quebecers — 84 per cent of the electorate — voted in the referendum, up 7 per cent from the 1976 provincial election.

The "no" side won a majority of votes in all but two regions, Saguenay-Lac-Saint-Jean and Côte-Nord, which represent 5 per cent of the Quebec population. On average the "no" side won 57 per cent of the vote in constituencies with French-speaking majorities. The "yes" side received the same percentage of the popular vote as the Parti Québécois received in the 1976 election.

Provincial Liberal leader Claude Ryan, the leader of the "no" forces supporting federalism, told a victory rally after the vote that the outcome illustrated "the depth of our Canadian roots", and that Quebecers believe that their future lies within a federal Canada. Mr. Ryan claimed a majority in every sector of the population, including the French-speaking voters.

Premier René Lévesque told a rally of supporters that the defeat in the referendum "hurts me more than any electoral defeat". He said that the Quebec people had "clearly given (federalism) another chance" and called upon Prime Minister Pierre Trudeau to make good his promises of constitutional change.

Prime Minister's statement

In a speech to the House of Commons on May 21, Prime Minister Trudeau said of the referendum:

"We strongly hope and believe it signals the end of a long period of uncertainty, of doubt and strained relations between Quebec and the other provinces of Canada and between French and English speaking Canadians. It marks a new beginning. It heralds a period of healing and

rebuilding. By voting for Canada the people of Quebec have recognized that their fellow Canadians are prepared to listen to them, to understand them, and to meet their legitimate aspirations.

"But Quebecers have also shown that they themselves are prepared to hear what other Canadians have to say, to find out what their aspirations are and to help them to realize their dreams. We Canadians are now agreed on a common destination, and that was the fundamental issue. What we must now do is chart a new course and agree on a common itinerary towards that common destination.

"Such is the profound meaning, the only possible interpretation of yesterday's referendum. The majority of Quebec voters have refused to give their provincial government the mandate to negotiate the withdrawal of Quebec from the Canadian federation even though they had been assured over and over again that that could be done while maintaining some form of economic association with the rest of the country. Those voters said no because they put their confidence in Canada....

"On the other hand, we know that a large proportion of those who voted "yes" did so not because they were in favour of independence for Quebec but because they had doubts about our assurances and felt that they would better promote changes by giving tactical support to the Parti Québécois.

"...Altogether, what Quebecers expressed...was a massive support for change within the federal framework. We cannot venture to ignore this will to change which reflects that of all other areas in the country and to fall short of the expectations of Canadians. This is why, on May 14, I solemnly undertook to launch the constitutional renewal and never stop working at it until Canada finally has a new constitution.

"However, we would be deceiving ourselves if we were to believe that it will be easy to keep this commitment. We shall need the constant support of the Canadian people and their representatives within this Parliament. We are also counting on the support of all provincial governments, including that of Quebec. We shall all have to agree on the basic principles underlying our efforts. We have to be receptive to the needs and aspirations of

Federal and provincial reaction to the May 20 Quebec referendum

Federal Opposition leader Joe Clark said that the defeat of the "yes" option was a vote for constitutional change. "Even some of the 'yes' votes were for renewed federalism," he said. "The initiative is now very squarely with the Federal Government.... For our part, we support the convening of a first ministers' conference now. My feeling about Premier Lévesque's response to the defeat was that the Parti Québécois will take immediate advantage of any faltering on the part of the Federal Government on this issue."

Federal New Democratic Party leader Edward Broadbent said he was "absolutely delighted with the outcome of the referendum but added it was clear the vote called for a change in the *status quo*. He said talks on constitutional change should begin this summer and should include the federal and provincial party leaders, not just provincial premiers.

Ontario Premier William Davis issued a strong plea for immediate constitutional talks saying the referendum "does not mark the end of a problem but rather the beginning of a solution". "Although Quebecers have made a welcome decision to deny the Parti Québécois government a mandate to negotiate sovereignty-association, this is based on the conviction that the rest of Canada does not support the *status quo*. ...Now that the momentum for change has been affirmed in Quebec, we must throughout Canada carry the constitutional reform to a successful conclusion."

Alberta Premier Peter Lougheed summed up western political reaction when he said he was pleased that Quebec had rejected sovereignty-association. The premier emphasized that the referendum results represented not only a vote for renewed federalism, but an overwhelming vote for change within the framework of a Canadian state. "The matter is now in the Federal court," he said.

British Columbia Premier Bill Bennett said "the Canadian problem will be the ability of the ten provincial governments and the Government of Canada to sit down and resolve not only those concerns that led Quebec to a referendum but also the concerns of the other parts of the country that have been so eloquently expressed by their premiers. It's going to be a difficult task but a task that is not insurmountable...it's time now for the Government to get on with the job," he added.

Saskatchewan Premier Allan Blakeney called for an immediate first ministers' meeting to discuss constitutional change. "I adopt the view that what Quebec has done is to give federalism another chance. We must therefore be able to show that federalism can respond in a short number of years," he said.

Manitoba Premier Sterling Lyon said he was very happy that Quebec had voted "no" to sovereignty-association but indicated that Quebec should not expect special privileges. He said he thought that the constitution could be amended within two years following a series of federal-provincial conferences.

Newfoundland Premier Brian Peckford said the results present "a golden opportunity to rewrite a new constitution. If we lose this opportunity within the next few months we're back to the same old situation".

New Brunswick Premier Richard Hatfield said that one lesson that could be taken from the referendum is that "independence is not open to anyone because the Canadian people will not let politicians destroy the country. We must work with maturity to resolve the country's problem".

Premier Angus MacLean of Prince Edward Island said "there will still be problems in the country regardless of what constitutional changes are made. No matter how extensive the amendments will be, there will be parts of the country that won't be happy, and we'll have to work to change that".

Premier John Buchanan of Nova Scotia said the referendum results were a vote of confidence in Canada, and now it is time for the provinces to pursue a renewed federalism. "It's very important that a large majority in Quebec has voted this kind of confidence in Canada," he said.

all Canadians, to seek together for methods and mechanisms more effective than those used until now and to be willing to make every effort required to achieve success. For that purpose, I have asked the Minister of Justice to begin immediately a tour of the provincial capitals in order to obtain the views of the premiers on the best way to follow up on their will to change. As for us, our only pre-requisites for change are the two which I outlined in Quebec as early as January 1977.

"First, that Canada continue to be a real federation, a state whose constitution establishes a federal Parliament with real powers applying to the country as a whole and provincial legislatures with powers just as real applying to the territory of each province. Second, that a charter of fundamental rights and freedoms be entrenched in the new constitution and that it extend to the collective aspect of these rights, such as language rights.

"...What we want is to give Canada a new, modern and functional federal constitution which will enable our governments to better meet the needs and aspirations of all Canadians. This new constitution could include, if the people so wish, several provisions in our present organic laws, but, it will also have to contain new elements reflecting the most innovative proposals emerging from our consultations or from the numerous analyses and considered opinions that have flowed in the last few years from the will to change of Canadians.

"...I will be able to consult with the leaders of other parties in Parliament, to communicate with all premiers and advise as to the best means of achieving the renewal of the constitution. As for now, all I can say with certainty is that my government is deeply convinced that the constitutional renewal process must be undertaken promptly...."

Prime Minister Trudeau, in his speech, also announced that Justice Minister Jean Chrétien would begin immediately a cross-Canada tour to speak to every provincial premier about a time-table and agenda for constitutional reform. "We have to act fast now. We'll discuss the whole process," said Mr. Chrétien. "We have some ideas and the premiers have ideas. It's fine to make speeches, but now we have to move to fulfil the strong desire of Canadians for constitutional change," he said.

B.C. tests natural gas cars

The British Columbia government has begun testing to determine if cars can run satisfactorily on compressed natural gas.

B.C. Science Minister Pat McGeer said that running vehicles on natural gas rather than just on conventional oil-derived gas would eliminate Canada's dependence on oil imports, now costing \$16 million a day.

"We have all the fuel requirements to operate personal transportation systems now and far into the future if we only develop the technology to the point where we can use our own resources," Mr. McGeer said.

He said British Columbia has at least a 50-year natural gas supply. If every car in the province was converted to run on the fuel, it would require less than a 40-per-cent production increase and no new pipelines to service them.

A car and van have been converted to a dual fuel system — natural gas and conventional gasoline — for a three-month test. If it proves feasible, Mr. McGeer said, B.C. Hydro and the University of B.C. are considering converting their fleets to the system.

Private cars could be converted in the future by adding two small storage tanks, a pressure regulator and several other

small parts — for \$1,500, or less if conversion kits are mass-produced.

Mr. McGeer said conversion costs could be recovered in two to three years through cheaper fuel costs and less engine wear.

Compressed natural gas would be sold to service stations for about 6.6 cents a litre, compared to the current price for conventional gas of 17 cents a litre, he said.

Inventions for sale

The Canadian Government is ensuring that valuable inventions arising out of government and university research are taken up by industry.

Canadian Patents and Development Limited (CPDL), a Crown corporation, through its inventor's assistance program helps Canadian inventors by assessing the technical feasibility and commercial potential of their products or ideas.

The CPDL chooses the most promising ideas from the more than 250 that are submitted each year, files patent applications on some, licenses the know-how on others and then advertises them to industry through its *Inventions Catalogue*. The catalogue is available by contacting: Canadian Patents and Development Ltd., 275 Slater Street, Ottawa, Ontario, K1A 0R3.

University signs agreement with Islamic group

McGill University in Montreal has signed a letter of co-operation with the Aga Khan Foundation to work together in two areas of major concern to both institutions — the fields of health and Islamic studies.

The McGill Faculty of Medicine is finalizing an affiliation with the 721-bed Aga Khan Hospital and Medical College now under construction in Karachi, Pakistan. This hospital aims to set standards for hospital care in Pakistan and the McGill Faculty of Medicine will assist in planning, equipping and staffing both the hospital and the teaching college. Selected graduates from Pakistan will also be trained at McGill as future faculty teachers. The affiliation with the McGill Faculty of Medicine is the first for the Aga Khan Hospital. Other universities are joining for differing specialties.

The Institute of Islamic Studies at McGill University will co-operate with the Institute of Ismaili Studies in London, England, which is a research organization sponsored by the Aga Khan Foundation. The two institutes will exchange faculty staff and students and carry out joint research into Islamic subjects. The McGill Institute will also receive an annual grant of \$125,000 over a ten-year period to help the institute increase its teaching staff, expand its library of Islamic publications, and offer further scholarships to students in the Islamic field.

The Aga Khan is the spiritual leader of the Ismaili Community, which is spread over 25 countries, mostly in the developing nations of Asia, Africa and the Middle East.

Canadian Armed Forces women to serve at sea

The Canadian Armed Forces, for the first time, is allowing women to serve at sea as sailors.

The two-year naval experiment is part of a five-year Armed Forces test that began early in 1979 to determine the impact of opening up men-only jobs to women. So far 81 of 127 positions have been opened to women, although none of these is classified as a combat or near-combat post.

Eight young women recently became the first female members of the crew of a Canadian naval vessel.

The *Cormorant*, with a complement of 62, is the navy's only non-combatant ship, assigned to carry out underwater repair work on the Maritime Command fleet.

The women are mostly doing clerical or kitchen-duty jobs, jobs that in the past were performed by men.

Two are cooks, another is a mess-hall steward; one is to handle paperwork; others will be dealing with ship's supplies.

But Captain Gilmore Morrison said he intends to get the women as close to near-combat duties as he can. He has no doubt the test will be a success.

The women, all unmarried, range in age from 22 to 29 and come from across Canada.

The opening of new classifications for women in the Armed Forces began in 1970 after a recommendation from the Royal Commission on the Status of Women.



British Columbia Science Minister Pat McGeer with natural gas car.

News of the arts

Cities captured in photographs at Public Archives

An exhibition of photographs of seven major Canadian cities entitled, *City Blocks, City Spaces: Historical Photographs of Canada's Urban Growth, 1850-1900*, is on display at the Public Archives of Canada in Ottawa until July 8.

The exhibit comprises over 200 rare original photographs of Victoria, Winnipeg, Toronto, Ottawa, Montreal, Quebec and Halifax in earlier stages of development. The photographs by photographers such as W.J. Topley, W. Notman and Samuel McLaughlin also include an oversized panoramic view of Toronto in 1856, as well as the earliest known daguerreotype of a Canadian city — a view of Montreal in 1852.

"This exhibit aims to reveal the illustrative function of photographs from their earliest application to the growing urban environment, and is organized by image type — panoramic views, street scenes, close-ups — in order to allow comparison of the views," said Lilly Koltun, exhibit co-ordinator and archivist with



Inauguration of the Dufferin Terrace Quebec, 1879.

the National Photography Collection. "The documentation by these photographs of the attitudes of the contemporary spectator viewing that change is

equally significant in the study of urbanism. These photographs record the image of both the city built and the city idealized," she said.

Public Archives of Canada

Canadians make movie in China

A Canadian doctor who is one of China's greatest heroes will be the subject of a multimillion-dollar epic film to be shot partially in China. It will be first North American movie shot in China.

Two Canadian film-makers signed an agreement with the Chinese People's Liberation Army movie studio recently to shoot the full-length feature film, which will be the most expensive Canadian film ever made.

Producer John Kemeny said the film will be based on the life of Dr. Norman Bethune, a Canadian-born surgeon, who after returning from the Spanish Civil War joined the Chinese Communist Army in 1938 and died treating wounded soldiers in the war against Japan.

The producer declined to give the cost of the film, saying the budget has not been worked out yet. But he said it would be at least twice the amount of the most expensive previous Canadian feature film, which he said cost about \$8 million.

Under the letter of agreement, half the film will be shot on location in China, including several gigantic battle scenes involving the use of 35,000

Chinese extras. Other filming will take place in Canada and Spain.

Kemeny said the army film studio has ready access to the necessary period planes and military equipment, which will



Dr. Norman Bethune, subject of the film, portrayed in a detail from Chinese painting.

be needed in large numbers.

Filming will start early next year in order to utilize both winter and spring scenery, he said. All of the costs will be borne by the International Cinema Corporation of Montreal.

The agreement, which took three years to negotiate, was signed with the China Film Co-Production Corporation, as well as the army's August 1st Film Studio.

Kemeny said the Chinese had approved the script and had agreed to give the Canadians full control over direction, casting and editing.

Film wins first prize

Passages, a film written and directed by Nesy Shapiro of Toronto, has won first prize at the Baltimore International Film Festival.

The half-hour film stars Luce Guilbeault, Cheryl Kenney and David Sutherland. It has been televised by the Canadian Broadcasting Corporation, PBS and is in the collection of the Museum of Modern Art. Miss Shapiro is currently at work on her first full-length feature, *Differences*.

Energy substitution program

(Continued from P. 2)

part in that province...recently announced that public hearings will be held on all aspects of the proposed extension of the natural gas system to Vancouver Island. If approved, this project could as early as 1983 provide natural gas service to a potential market of 450,000 people, about 18 per cent of the British Columbia population....

Commercial and industrial sectors

In the commercial and industrial sectors, in eastern Canada in particular, extensive use now is being made of relatively low-priced heavy fuel oil — the so-called "residual oil" that is a by-product of the refining process.

This residual fuel oil has been the mainstay of the industrial energy market across eastern Canada for decades. But as natural gas becomes increasingly available, it will no longer be sensible to continue to downgrade up to half a refinery's feedstock into this product. Fuel substitutions on the scale envisaged by the Government will require major adaptations on the part not only of consumers, but also by refiners and distributors.

In this connection, I am pleased to announce...that I have secured commitments to install upgrading facilities at three eastern Canada refineries that are major producers of residual oil — the Petrosar and Suncor plants in Sarnia, Ontario and the Ultramar refinery near Quebec City.

The objective is to make better use of available crude oil, meeting market needs for gasoline, aviation fuels, diesel oil and other products, reducing the wastage that is implicit in the current heavy production of residual oil....

The two Sarnia plants have given me

commitments to substantially eliminate their production of residual fuel oil by 1984 and to reduce that output in the interim. The cost of these facilities will be over \$500 million. It will mean that about 35,000 barrels of residual oil a day now being exported to the United States and 10,000 barrels a day now going into the Ontario market will be transformed in Canada to light petroleum products.

Similarly, I have an undertaking from Ultramar Canada to start work almost immediately on upgrading facilities at St. Romuald, Quebec, on the understanding that we will improve its access to Canadian crude. The first stage of this project will involve construction of a catalytic cracking plant at Ultramar's St. Romuald refinery, at a cost of about \$150 million. This will allow an increase in production of other fuel, mostly transportation fuels, and a reduction in residual oil output of over 20,000 barrels a day.

...We have obtained a similar agreement in connection with the Imperial Oil refinery at Strathcona near Edmonton. Imperial has agreed that by 1982 it will be in a position to eliminate its residual fuel exports of 8,000 barrels a day.

About two-thirds of the residual fuel oil produced in Quebec comes from six refineries located close together in Montreal east. We are therefore considering the installation of a central upgrading facility in Montreal capable of handling 50,000 to 80,000 barrels a day of residual oil. A project of that magnitude would require an investment of approximately \$1.5 billion....

The construction of these five installations would provide a capacity to make better use of about 125,000 barrels a day of residual fuel oil, making way for natural gas, providing more efficient use of our total domestic and foreign petroleum supplies, and reducing our dependence on imports.

In terms of volume this is the equivalent of the net addition to our oil supply that would be made by a \$6 billion tar sands plant. Yet through the set of investments I have outlined today we are getting this kind of production at half that cost, and about three years sooner....

The steps I have outlined...will yield an increase in the supply of light petroleum products without depleting our existing reserves. It is an approach from which all parts of the country will gain, both as suppliers and consumers of energy....

News briefs

Lieutenant-General Ramsay Muir Withers will be promoted to general and made chief of defence staff, the military head of the Canadian Forces, the Government has announced. General Withers, 49, now is vice-chief under Admiral Robert Falls, who is leaving to take over as chairman of the military arm of NATO. The Toronto-born general, educated at Royal Roads, Royal Military College and Queen's University, joined the army in 1952, has served in Korea, Germany and Britain as well as in Canada, and in 1978 was made a Commander of the Order of Military Merit.

Imperial Oil Ltd. of Toronto plans a \$100-million expansion over the next four years of its Strathcona refinery in Edmonton. When completed, the refinery's capacity will increase to 200,000 barrels a day from 155,000 barrels. The first and second phases will begin in the fall of 1981 with completion scheduled for a year later.

MacMillan Company of Canada Ltd. of Toronto, a subsidiary of Maclean-Hunter Ltd. of Toronto, and Gage Educational Publishing Ltd., also of Toronto, have agreed to merge. Maclean-Hunter will retain a minority position in the merged company. MacMillan is a publishing and distribution company, while Gage specializes in texts for education levels ranging from kindergarten to university and trade books. A spokesman for Maclean-Hunter said a merger had been sought to enlarge the scope of MacMillan's business.

The Metropolitan Toronto Board of Trade is planning a fall tour of South America covering Panama, Peru, Chile, Argentina, Brazil and Venezuela. The tour party, to number about 100, will leave Toronto October 28 and return November 18.

Dr. A.R.C. Dobell, Surgeon-in-Chief at the Montreal Children's Hospital and Professor of Surgery in McGill's Faculty of Medicine, was recently named vice-president of the American Society of Thoracic Surgeons. Despite the fact that Canadians have pioneered much of modern chest and heart surgery, especially at the Hospital for Sick Children in Toronto, Dr. Dobell is the first Canadian to be chosen to head the world's largest society of chest surgeons. Dr. Dobell will take over as president in January 1981.

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