Energy, Mines and Resources Canada | Énergie, Mines et Ressources Canada

CANADA - ENERGY

THE NATIONAL ATLAS OF CANADA 5TH EDITION

Produced by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, Ottawa, Canada. Printed 1978.

Research and cartography by the National Geographical Mapping Division, Geographical Services Directorate, Surveys and Mapping Branch.

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ENERGY FLOWS

Scale 1:20 000 000

The map shows net flows of energy products between regions of Canada, and between these same regions and other countries.

Unless otherwise stated, the origin or destination of a flow outside Canada is the United States.

Data from Statistics Canada include Yukon Territory and Northwest Territories with British Columbia.

Only flows exceeding 5 trillion Btu are shown on the map. In addition, to ensure legibility, any value between 5 and 80 trillion Btu is represented by a standard flow 1mm in width.

SUMMARY OF CANADIAN TRADE IN ENERGY, 1974

	EXPORTS in trillions of Btu	IMPORTS in trillions of Btu
Coal and Coke	282	366
Crude Petroleum	1 [illegible]	1 [illegible]
Refined Petroleum Products	258	141
Natural Gas	969	13
Liquefied Petroleum Gases	142	—
Electricity	53	8
CANADIAN TOTAL	**3 [illegible]**	**2 [illegible]**

Sources:
Canada, National Energy Board, 1977, *Annual Report 1976*, Ottawa.
Canada, Statistics Canada, *Detailed Energy Supply and Demand in Canada, 1974*/*Disponibilité et évolution détaillées d'énergie au Canada, 1974*, Cat. 57-207, Ottawa.
——, *Quarterly Petroleum Statistics*/*Statistique trimestrielle du pétrole*, 1976/Preliminary, 1974, Cat. 57-003, Ottawa.
——, Imports, 1974,*SITC*/Importations, 1974 *TCDT*, Cat. 65-003, Ottawa.
——, *Exports by Destination*, 1974/*Transport du pétrole par pipe-lines*, 1974, Cat. 55-201, Ottawa.

COAL AND URANIUM

Scale 1:12 500 000

1976

AREAS OF KNOWN COAL DEPOSITS BY RANK

- Anthracite
- Medium and Low Volatile Bituminous
- High Volatile Bituminous
- Subbituminous
- Lignite
- Areas of Known Coal Deposits too small to be shown at map scale
- Occurrences of Coal in Yukon Territory and Northwest Territories

Note:
Due to variability of data, only dot locations representing occurrences, not actual areas, are shown in Yukon Territory and Northwest Territories.

Coal is readily combustible rock containing more than 50 percent of its weight and more than 70 percent of its volume as carbonaceous material including moisture and mineral matter. Coals are formed by physical and chemical changes of plant remains and are classified according to their rank. For the higher ranks, it is classed on a dry, mineral-matter-free basis. For the lower ranks, it is classed according to its calorific content on the moist, mineral-matter-free basis and is classed according to its calorific (or heat) value.

Anthracitic coal has 14 percent or less volatile material on a dry, mineral-matter-free basis.

Medium and low volatile bituminous coals have between 14 and 31 percent volatile matter on a dry, mineral-matter-free basis.

High volatile bituminous coal has over 31 percent volatile matter on a dry, mineral-matter-free basis, and a heating value of over 11 500 Btu per pound.

Subbituminous coal has a moist, mineral-matter-free heating value of between 9 300 and 11 500 Btu per pound.

Lignitic coal has a moist, mineral-matter-free heating value of between 9 300 and 8 300 Btu per pound.

One Btu per pound equals 2.326 kilojoules (kJ) per kilogram (kg).

URANIUM

- Areas Favourable for Uranium Mineralization

(This includes areas favourable for conglomerate, vein and related sandstone and magmatic/anatectic uranium deposits.)

URANIUM MINES IN PRODUCTION, DEVELOPMENT OR EXPLORATION

A Bouscherie-Kelvin
B Birch Island
C Spanish-American
D Beaverlodge
E Key Lake
F Rabbit Lake
G Cluff Lake and Real River
H Key Lake
J Bancroft
K Mistassini-Kaopatak Bay

MAJOR PAST PRODUCER

L Port Radium

ACTIVE COAL MINING OPERATIONS, 1976

TYPE OF MINE

- Surface Operation
- Underground Mine

The digits following the type of mine represent the 1976 total production of raw coal in thousands of tonnes.

CHIEF MARKETS

Domestic
- Coking
- Thermal Power Generation
- General Industry and Other Uses

Export
- Coking
- Thermal Power Generation

		Domestic	Export
1	Cannelton	18	
		1	6
2	Carbon	266	
3	Drumheller	2 [illegible]	
4	Sparwood	3 [illegible]	
5	Michel	922	
6	Fernie-Elkmont	1 [illegible]	
7	Table Mountain	2 [illegible]	
8	Wabamun	2 [illegible]	
9	Nordegg	26	
10	East Coulee	41	
11	Morrin-Morrin	1 [illegible]	
12	Halkirk	533	
13	Grande Cache	2 [illegible]	
		1 [illegible]	
14	Hinton	1 [illegible]	
15	Cadomin	92	
16	Coleman	1 274	
		535	
17	Edmonton	1 [illegible]	
		1 [illegible]	
		1 347	347
18	Bienfait	1 [illegible]	
19	Mozier	763	
20	Bear Mountain	436	
21	Stellarton	26	
22	Minto-Minto	155	
23	St. Rose	6	
24	Point Aconi	305	
25	Glace Bay	1 [illegible]	
26	Lingan	1 253	

Sources:
Canada, Department of Energy, Mines and Resources, 1974, *The National Atlas of Canada*, Revised fourth edition. Published by The Macmillan Company of Canada Limited, Toronto, in cooperation with the Canada Department of Mines and Resources and Information Canada, Ottawa.
Canada, Department of Energy, Mines and Resources, Energy Policy Sector, 1976, *Electric Power in Canada*/*Énergie électrique au Canada*, 1975, Ottawa.
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Canada, Statistics Canada, 1976, *Statistique électrique*/*Statistique de l'énergie électrique, Volume III*, 1975, Cat. 57-204, Ottawa.
New Brunswick, Canada, Nova Scotia, Atlantic Total Power Projections Committee, 1974, *Atlantic Total Power Projections for the Six Year Period, 1980*, *Board Report and Committee Report*, Halifax.
Ontario Hydro, 1974, *Generating Stations and Municipal Systems Served*, 1974 Map, Toronto.

ELECTRICITY

Scale 1:12 500 000

1976

ELECTRIC POWER STATIONS

Capacity of Electric Power Stations of 100MW or greater (MW (megawatts)): 12 000, 7 500, 3 000, 1 000, 300, 100

Capacity: 100 MW or greater — Hydro, Conventional Thermal, Nuclear

Existing

Projected

Expanding

Capacity: 10 MW up to 100 MW

Existing

Projected

Potential: Tidal Power Sites

POWER TRANSMISSION LINES

230 kV up to 500 kV — 500 kV or greater

Existing

Under Construction

kV (kilovolts)

Note:
Projected power plant capacity still subject to approval not shown.

Due to confidentiality restrictions, several industrial stations (i.e. power plants owned by industries) have not been shown.

Sources:
Canada, Department of Energy, Mines and Resources, 1974, *The National Atlas of Canada*, Revised fourth edition. Published by The Macmillan Company of Canada Limited, Toronto, in cooperation with the Canada Department of Mines and Resources and Information Canada, Ottawa.
Canada, Department of Energy, Mines and Resources, Energy Policy Sector, 1976, *Electric Power in Canada*/*Énergie électrique au Canada*, 1975, Ottawa.
——, *Electrical Transmission Systems and Principal Power Generating Stations, Atlantic Provinces, Quebec, Ontario, Prairie Provinces, British Columbia*, 1973 Maps, Ottawa.
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Canada, Statistics Canada, 1976, *Statistique électrique*/*Statistique de l'énergie électrique, Volume III*, 1975, Cat. 57-204, Ottawa.
New Brunswick, Canada, Nova Scotia, Atlantic Total Power Projections Committee, 1974, *Atlantic Total Power Projections for the Six Year Period, 1980*, *Board Report and Committee Report*, Halifax.
Ontario Hydro, 1974, *Generating Stations and Municipal Systems Served*, 1974 Map, Toronto.

ELECTRIC POWER PLANT CAPACITY

Bracketed values represent total capacity in megawatts.

Hydro | Coal | Oil | Gas | Coal/Oil | Coal/Oil/Gas | Oil/Gas | Nuclear | Unspecified and Other

Notes: All categories with less than 1.9% of total capacity are included in the category of "Other".
The Canadian total includes an additional 412 megawatts not accounted for by the provincial breakdown.

Source: Canada, Department of Energy, Mines and Resources, Energy Policy Sector, 1976, *Electric Power in Canada*/*Énergie électrique au Canada*, 1975, Ottawa.

SOLAR ENERGY

Scale 1:35 000 000

Mean Daily Global Solar Radiation in Langleys for the Year

Langleys: 350 300 250 200

Note: When daily global solar radiation is the amount of direct and diffuse solar radiation received on a horizontal surface, averaged over the year, it varies by a daily basis. Direct solar radiation is more readily usable than diffuse solar radiation. Diffuse solar radiation is scattered radiation such as that scattered by clouds. The amount of solar radiation over a year has a tendency to increase from the poles to the equator. By tilting the collector at steep angles toward the equator makes it possible to intercept more direct solar radiation than a collector that would be collected on a horizontal surface. On the map, solar radiation is measured in langleys - a langley is a unit of energy equal to 1 calorie equivalent to one calorie per square centimetre.

Source: Canada, Department of Transport, Meteorological Branch, 1968, *Climatic Maps/Cartes Climatologiques*, Series 6, Sheet 2, Ottawa.

WIND ENERGY

Scale 1:35 000 000

Annual Average Wind Power Density at 30-Metres Height in Watts/Sq. Metre of Vertical Reference Area

500 400 300 200 100 Exposure Unclassified

Note: The unit used (watts/square metre) shows the average kinetic energy of wind year-round flowing through a vertical reference area (perpendicular to the marine above ground level. This height represents the approximate mid-point of the swept area of large modern wind turbines. Although theoretically it is possible in principle, a maximum of 59 percent of the energy in wind can be converted to power; in practice, due to the limitations of the aerodynamic drag-lift and turbines, is converted less than this maximum.

Source: Terrain, R.J. April 4-5, 1977, "Wind Energy", *A Paper presented at the Third Canadian National Energy Forum*, Halifax, N.S.

HEATING DEGREE-DAYS

Scale 1:25 000 000

ANNUAL TOTAL HEATING DEGREE-DAYS BELOW 18°C

Celsius Degree-Days

12 000 11 400 10 200 9 000 7 600 5 400 4 050 3 000

Note: The delineation of heating degree-day zones is useful in that degree-days are used in estimating yearly fuel or energy consumption. That is, the amount of fuel or energy required to keep the interior of a small building at about 21°C (70°F) when the outside temperature is 18°C (65°F) depends on the difference between 18°C (64.4°F) and the outside temperature during the same period of time. One degree-day would be the difference between 18°C and a mean temperature of one degree less than 18°C. This correlation between fuel or energy requirements and an outside temperature of 18°C is purely empirical and any other value can be used depending on the desired inside temperature. Over the past few decades, 18°C (65°F) has, in fact, been accepted almost exclusively throughout North America.

Sources:
Canada, Fisheries and Environment Canada, Atmospheric Environment Service, 1977, Degree-Days/Degrés Jours 1941 (1970), *Atlantic Provinces*/*Provinces de l'Atlantique*, Cat. No. 1941/70, Downsview, Ontario.
Canada, National Research Council, Associate Committee on the National Building Code, 1975, *Climatic Information for Building Design in Canada*, Supplement No. 1 to the National Building Code of Canada, 1975, Ottawa.
Hare, F. Kenneth and Morley K. Thomas, 1974, *Climate Canada*, Toronto: Wiley Publishers of Canada Limited.

Personal Communication:
Bryant, D. National Research Council, Division of Building Research, Ottawa.

ENERGY CONVERSION TABLE

One trillion (10^{12}) British thermal units (Btu) is the energy equivalent of:

39 370	short tons of anthracite coal
38 100	short tons of Canadian bituminous coal
34 500	short tons of Canadian subbituminous coal
29 850	short tons of Canadian lignite coal
25 125	short tons of lignite coal
0 819	tonnes of uranium (when used in non-breeder reactors)
126 582	tonnes of peat
24 390	tonnes of petroleum from oil sands, oil shales
172 325	barrels of crude petroleum
167 785	barrels of motor gasoline
178 145	barrels of kerosene
171 800	barrels of diesel fuel oil
171 600	barrels of light fuel oil
159 048	barrels of heavy fuel oil
244 200	barrels of refinery gas/fuel
244 200	barrels of liquefied petroleum gases
1 000 000 000	cubic feet of natural gas
293 083 000	kilowatt hours of electricity

Metric Conversions:

1 short ton	=	1 055.06 joules (J)
1 million Btu	=	1 055.06 million gigajoules (GJ)
1 trillion Btu	=	1 055.06 teracjoules (TJ)
1 short ton	=	29 306 megajoules (MJ)
1 kilowatt hour	=	3 600 000 joules
1 short ton	=	0.907 185 tonne (t)
1 cubic foot	=	0.028 317 cubic metres (m^3)

Note:
Because of the variety of sources used in preparing this map sheet, some quantities are expressed in non-metric units of measurement. In keeping with the Canada Oil & Gas Operations Conversion (Crude) (SI) units, a conversion table is provided for the assistance of the reader.

Sources:
Canada, Statistics Canada, *Detailed Energy Supply and Demand in Canada, 1974*/*Disponibilité et évolution détaillées d'énergie au Canada, 1974*, Cat. 57-207, Ottawa.
World Energy Conference, 1974, *Survey of Energy Resources, 1974*/*Enquête sur les ressources énergétiques, 1974*, New York: United States National Committee of the World Energy Conference.

PRIMARY ENERGY PRODUCTION AND CONSUMPTION

ATLANTIC PROVINCES (1 546); QUEBEC (2 [illegible]); ONTARIO (351); MANITOBA (76); SASKATCHEWAN (565); ALBERTA (5 914); BRITISH COLUMBIA, YUKON TERRITORY and NORTHWEST TERRITORIES (857)

ATLANTIC PROVINCES (512); QUEBEC (1 500); ONTARIO (2 426); MANITOBA (250); SASKATCHEWAN (332); ALBERTA (867); BRITISH COLUMBIA, YUKON TERRITORY and NORTHWEST TERRITORIES (835)

PRODUCTION — CONSUMPTION

Coal | Crude Petroleum | Natural Gas | Liquefied Petroleum Gases | Electricity (hydro, nuclear)

All values are trillions of Btu.

Note:
Production equals the net quantity of coal, crude petroleum, natural gas, liquefied petroleum gases, electricity from hydro and nuclear sources, produced in Canada.

Primary energy includes coal, crude petroleum, natural gas, liquefied petroleum gases, and electricity from hydro and nuclear sources.

Due to graphic limitations, production values of less than 27 trillion Btu and consumption values of less than 22 trillion Btu have not been shown.

Consumption equals the total of primary energy consumed in Canada, plus the total of net stocks, imports and exports of secondary energy products derived from coal, crude petroleum and liquefied petroleum gases.

As Canadian energy exports exceed imports, production is greater than consumption.

PRIMARY ENERGY PRODUCTION AND CONSUMPTION BY TYPE, 1974

TYPES OF PRIMARY ENERGY	PRODUCTION Trillions of Btu	PRODUCTION Percent	CONSUMPTION Trillions of Btu	CONSUMPTION Percent
COAL	402	4.2	522	5.5
CRUDE PETROLEUM	3 907	40.5	5 098	53.5
NATURAL GAS	3 204	33.2	1 676	17.6
LIQUEFIED PETROLEUM GASES	226	2.8	79	1.2
ELECTRICITY (hydro, nuclear)	767	9.5	723	10.8
CANADIAN TOTAL	**9 557**	**100.0**	**6 711**	**100.0**

Source: Canada, Statistics Canada, *Detailed Energy Supply and Demand in Canada, 1974*/*Disponibilité et évolution détaillées d'énergie au Canada, 1974*, Cat. 57-207, Ottawa.

NOTE:
The dividing line in the area between Greenland and the Canadian Arctic Islands has not been officially established jointly by the agreement between the Government of the Kingdom of Denmark and the Government of Canada dated December 21, 1973 in relation to the delimitation of the Canadian Continental Shelf of April 29, 1958 and the Danish Continental Shelf of December 9, 1968 (Hedegaard line) and the discussion of the natural resources of the continental shelf.

WORLD ENERGY CONSUMPTION

Scale 1:200 000 000

- DEVELOPED NORTH AMERICA
- CENTRALLY PLANNED COUNTRIES
- DEVELOPED WESTERN EUROPE
- OTHER DEVELOPED COUNTRIES
- DEVELOPING ASIA AND OCEANIA
- DEVELOPING CENTRAL AND SOUTH AMERICA
- DEVELOPING AFRICA

<82.1 million metric tons of bituminous coal equivalent, or 1% of world energy consumption in 1974.

>38.7 million people, or 1% of world population in 1974.

Note:
THE DESIGNATION OF COUNTRIES AND TERRITORIES EMPLOYED ON THIS MAP IS DESIGNED FOR PURPOSES OF THEMATIC MAPPING AND THEREFORE DOES NOT REFLECT THE VIEWS OR INTENTIONS OF THE GOVERNMENT OF CANADA ON INTERNATIONAL ISSUES OF RECOGNITION, SOVEREIGNTY OR JURISDICTION.

The designations "developed", "centrally planned", and "developing" countries are used for convenience and do not necessarily express a judgment about the stage reached by a particular country or territory in the development process.

Areas groupings are based on those used in *World Energy Supplies, 1950-1974*.

TABLE I

ENERGY PRODUCTION AND TRADE, 1974

	WORLD TOTAL (in millions of metric tons of coal equivalent)	CANADIAN TOTAL	CANADIAN PERCENTAGE OF WORLD TOTAL
A. ENERGY PRODUCTION			
Crude Petroleum	4 048.3	136.1	3.3
Natural Gas	1 674.7	97.7	5.8
Coal	2 913.9	164.5	5.7
Electricity (hydro, nuclear)	395.0	37.6	13.5
TOTAL PRODUCTION	**9 031.9**	**435.9**	**4.8**
B. ENERGY TRADE			
Crude Petroleum and Products			
Exports	2 940.7	70.6	2.8
Imports	2 766.6	65.1	2.4
Natural Gas			
Exports	147.6	36.2	24.5
Imports	147.2	0.3	0.1
Coal			
Exports	222.9	11.0	5.0
Imports	224.4	12.9	5.7
Electricity (hydro, nuclear)			
Exports	11.9	1.9	15.9
Imports	12.0	0.3	2.5
TOTAL EXPORTS	**3 235.1**	**128.8**	**4.0**
TOTAL IMPORTS	**3 150.2**	**78.6**	**2.5**

Note: Liquefied petroleum gases are included with figures for crude petroleum.

TABLE II

ENERGY RESOURCES, 1974

	WORLD TOTAL (in millions of Btu)	CANADIAN TOTAL	CANADIAN RESOURCES AS % OF WORLD TOTAL
A. NON-RENEWABLE: proved, recoverable			
Crude Petroleum	3 751 200	44 100	1.2
Natural Gas	1 831 500	91 000	5.0
Coal	15 [illegible] 000	1 [illegible] 200	10.0
Uranium	791 000	152 200	19.5
B. NON-RENEWABLE: additional resources			
Oil shale, oil sands	8 603 800	2 172 900	25.2
Coal	226 462 000	2 375 000	1.1
Peat	1 676 800	1 600	0.1
Uranium	2 478 200	433 000	17.6
C. RENEWABLE: (potential annual production)			
Hydraulic Resources	33 400	1 800	5.5

Note:
Table **I** shows proved and economically recoverable energy reserves. It shows that Canada has a very large proportion of world energy resources in Canada. Only uranium available at less than $25 (1974 US dollars) per kilogram is shown. The Btu values for uranium in this table and in Table **II** are based on the equivalent energy of uranium consumed.

Table **II** shows resources which were not economically recoverable in 1974. It must be emphasized there is no assurance that these 'resources' will ever be recoverable. The table excludes petroleum and natural gas because estimates of additional resources vary greatly. Uranium listed in Table **II** includes estimates of additional resources up to $50 (1974 US dollars) per kilogram, as well as all resources available at $25 to $50 (1974 US dollars) per kilogram. Thorium resources have been excluded.

Table **C** is restricted to the hydro-electric potential of rivers. Comprehensive data is unavailable for tidal, geothermal and other renewable forms of energy.

Sources:
United Nations, 1976, *World Energy Supplies, 1950-1974*, Tables 2, 5, 15 and 23, New York.
World Energy Conference, 1974, *Survey of Energy Resources, 1974*/*Enquête sur les ressources énergétiques 1974*, New York: United States National Committee of the World Energy Conference.

PETROLEUM AND NATURAL GAS

Scale 1:7 500 000

1976

- Oil Fields
- Gas Fields
- Oil Sands Deposits: surface minable; non-surface minable
- Potential Petroleum Basins
- Oil and Products Pipelines
- Natural Gas Pipelines
- Proposed Oil Pipelines
- Proposed Gas Pipelines
- Bathymetric Contour (depth in metres)

GAS PROCESSING PLANTS
capacity in millions of cubic feet per day
- 1 - 19
- 20 - 99
- 100 - 299
- 300 or greater

GAS REPROCESSING PLANTS
- 1 - 299
- 300 or greater

OIL REFINERIES
capacity in barrels per day
- 1 000 - 24 999
- 25 000 - 99 999
- 70 000 or greater
- Out of Operation

OIL SANDS PROCESSING PLANTS
production capacity in barrels of synthetic crude oil per day
- 1 000 - 99 999
- 100 000 or greater

Note:
Only oil sands deposits with less than 150 feet of overburden are considered to be surface minesite under present economic and technical conditions.

Potential Petroleum Basins are areas of sedimentary rocks in which petroleum accumulations are considered possible.

Gas Reprocessing (or sweetie) plants are designed to remove liquefied petroleum gases and other products from pipeline gas.

The symbol for a pipeline may represent several closely aligned pipelines.

Sources:
Alberta, Energy Resources Conservation Board, 1977, *Alberta Oil Sands Technology and Research Authority Application under the National Energy Board Act of Interprovincial Pipeline Limited, May 1977*, Calgary.
——, 1976, *Reserves of Crude Oil, Gas, Natural Gas Liquids, and Sulphur, Province of Alberta, December 31, 1975*, Calgary.
Amin, "Nizar (UK) Pipeline Link Between Canada-US Under Construction" in *PropanerCanada*, Vol. 4, No. 3, Calgary: Canada Wide Media, 1977, Pages 12-17, Calgary: Sanford Earth Publishing (Alta) Ltd.
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Canada, National Energy Board, 1975, *Report to the Governor in Council on the Application for Approval of Pipeline Facilities under the National Energy Board Act of Interprovincial Pipeline Limited, May 1975*, Ottawa.
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Ontario, Ministry of Natural Resources, Mineral Resources Branch, 1976, *Petroleum Drilling and Production Summary* (1974 Totals).
Q & A Pipe Line Co. Ltd, 1977, Q & M Pipe Line Project, Calgary.
Saskatchewan, Department of Mineral Resources, 1976, *Petroleum Production Statistics*, Saskatchewan, Revised to December 31, 1975, Map, Regina.
Transmission Pipelines (New Brunswick) Limited, 1977, *An Application by Transmission Pipelines (New Brunswick) Limited for Approval under Part III of the Act for Leave to Construct Pipeline Facilities*, March 1977, Toronto.

Personal Communication:
Canada, Polymer Corporation (Holdings) Ltd, Calgary: Luup, W.G. Department of Energy, Mines and Resources, Mineral Development Sector, Ottawa.
Santa Fe Pacific Pipelines Inc., Calgary: Lee, Jim, Production, Geological Survey of Canada, Ottawa.

Additional Information Supplied by:
Canada, National Energy Board, Engineering Branch: Canada, Department of Energy, Mines and Resources, Energy Policy Sector.

Maps Supplied by:
Polar Gas Project, Toronto: Canada, Department of Energy, Mines and Resources, Energy Policy Sector.

PROJECTED ENERGY DEMAND, 1980-1990

PER CAPITA DEMAND, 1980-1990

Primary Energy: High Growth Case, Low Growth Case
Total Secondary Energy: High Growth Case, Low Growth Case

Note:
The graphs depict the two cases of the High-Price Projection of Energy Demand given in *An Energy Strategy for Canada: Policies for Self-Reliance*. The high growth case of this projection assumes certain demographic and economic variables will have the same values as in the 1966-1974 period. The low growth case assumes that the rates will be lower than those experienced in the 1966 to

Both of these growth cases are based on the following assumptions about energy prices: oil prices become equivalent to the current international oil price ($13 in 1975 dollars); coal and electricity prices increase at the same rate as oil prices; natural gas prices increase at a rate equivalent to the late 1970's. After 1980, all energy prices increase at the general rate of inflation.

The difference between the primary and secondary energy totals for a given year is mainly attributable to the energy loss when primary energy is converted to electricity. Note that primary energy is valued at 10 000 Btu per kilowatt hour, whereas all end-use energy is valued at 3 413 Btu per kilowatt hour.

The "total secondary energy" category includes non-energy use of fuels, as for example in the production of petrochemicals. Non-energy use accounts for 10% of total secondary energy demand in all the projections illustrated here.

The data in the graphs do not take into account explicit conservation measures.

Sources:
Canada, Department of Energy, Mines and Resources, 1976, *An Energy Strategy for Canada: Policies for Self-Reliance*, Ottawa.
——, 1977, *Energy Demand Projections: A Total Energy Approach*, Report EP 77-4, Ottawa.

ENERGY CONSUMPTION BY TYPE AND SECTOR

TRANSPORTATION | DOMESTIC and FARM | COMMERCIAL | INDUSTRIAL | NON ENERGY USE, LOSSES and ADJUSTMENTS | ENERGY SUPPLY INDUSTRIES

CANADA (255.0); ATLANTIC PROVINCES (215.3); QUEBEC (232.2); ONTARIO (261.3); MANITOBA (237.7); SASKATCHEWAN (256.5); ALBERTA (429.8); BRITISH COLUMBIA, YUKON TERRITORY, NORTHWEST TERRITORIES (348.5)

Millions of Btu per Capita

TYPE OF PRODUCT

- Motor Gasoline
- Heavy Fuel Oil
- Light Fuel Oil
- Diesel Fuel Oil
- Turbo Fuel
- Kerosene
- Other Petroleum Products
- Natural Gas
- Electricity
- Coal and Coke
- Liquefied Petroleum Gases
- Product values which equal less than one trillion Btu per month

Btu - British thermal unit
bbl - barrel
mmcf - millions of cubic feet
MWh - thousands of kilowatt hours

CANADIAN TOTALS FOR ENERGY CONSUMPTION BY TYPE AND SECTOR, 1974

CONSUMPTION BY TYPE

Type	Trillion Btu	Natural Units
PETROLEUM PRODUCTS		
Motor Gasoline	1 104	211 381 737 bbl
Heavy Fuel Oil	684	106 770 803 bbl
Light Fuel Oil	605	106 [illegible] 000 bbl
Diesel Fuel Oil	323	56 728 625 bbl
Turbo Fuel	125	23 104 845 bbl
Kerosene	97	17 025 466 bbl
Other Petroleum Products	144	27 870 981 bbl
TOTAL	3 [illegible]	5 [illegible] bbl
NATURAL GAS	1 512	1 511 772 mmcf
ELECTRICITY (hydro, nuclear and thermal)	912	267 297 552 M kWh
COAL AND COKE	264	9 042 477 tons
LIQUEFIED PETROLEUM GASES	92	22 466 878 bbl
CANADIAN TOTAL	**5 957**	

CONSUMPTION BY SECTOR

Sector	Trillion Btu
TRANSPORTATION	1 519
DOMESTIC and FARM	1 176
COMMERCIAL	768
INDUSTRIAL	1 753
NON-ENERGY USE, LOSSES and ADJUSTMENTS	121
ENERGY SUPPLY INDUSTRIES	623
CANADIAN TOTAL	**5 957**

Sources: Canada, Statistics Canada, *Detailed Energy Supply and Demand in Canada, 1974*/*Disponibilité et évolution détaillées d'énergie au Canada, 1974*, Cat. 57-207, Ottawa.
——, *Estimated Population of Canada by Province at June 1, 1974*/*Population estimative du Canada par provinces le 1er juin, 1974*, Cat. 91-201, Ottawa.

GROWTH OF PRIMARY ENERGY CONSUMPTION, 1960-1974

Trillions of Btu

	Coal	Crude Petroleum	Natural Gas	Liquefied Petroleum Gases	Electricity (hydro, nuclear)	Total
1974	635	3 598	1 476	72	3 711	
1973	633	3 513	1 608	82	3 526	
1972	618	3 271	1 [illegible]	[illegible]	3 219	
1971	646	3 160	[illegible]	[illegible]	3 [illegible]	
1970	674	3 092	1 [illegible]	[illegible]	3 452	
1969	622	2 914	1 176	106	3 271	
1968	649	2 781	1 [illegible]	[illegible]	3 267	
1967	606	2 633	[illegible]	[illegible]	3 084	
1966	615	2 498	[illegible]	[illegible]	4 483	
1965	626	2 364	813	[illegible]	4 236	
1964	594	2 225	[illegible]	[illegible]	3 966	
1963	589	2 090	[illegible]	[illegible]	3 502	
1962	533	1 961	[illegible]	[illegible]	3 442	
1961	527	1 895	[illegible]	[illegible]	3 357	
1960	530	1 812	[illegible]	[illegible]	3 161	

PERCENT OF TOTAL CONSUMPTION: (in 1960) (in 1974)

TYPES OF PRIMARY ENERGY

- COAL 16.9 9.5
- CRUDE PETROLEUM 57.3 53.5
- NATURAL GAS 14.6 25.0
- LIQUEFIED PETROLEUM GASES 0.3 1.2
- ELECTRICITY (hydro, nuclear) 10.9 10.8

PER CAPITA CONSUMPTION (millions of Btu) 176.5 256.5

Note: Primary energy includes coal, crude petroleum, natural gas, liquefied petroleum gases, and electricity from hydro and nuclear sources.

Consumption equals the total of primary energy consumed in Canada, plus the total of net stock removals and net imports of secondary products derived from coal, crude petroleum and liquefied petroleum gases.

Sources:
Canada, Statistics Canada, *Detailed Energy Supply and Demand in Canada, 1974*/*Disponibilité et évolution détaillées d'énergie au Canada, 1974*, Cat. 57-207, Ottawa.
——, *Estimated Population of Canada by Province at June 1, 1974*/*Population estimative du Canada par provinces le 1er juin, 1974*, Cat. 91-201, Ottawa.

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Final design by A.E. Winder assisted by P.T. Sedlock, R.J. Medaglia and B.W. Crumie.