



Annual Industrial Consumption of Energy Survey 2003

Pulp and Paper Industry (NAICS 3221 and 321216)

In all correspondence, quote number below

Si vous préférez ce questionnaire en français veuillez cocher

Reporting Period
January - December 2003

Correct pre-printed information if necessary.

Purpose of the Survey									
The purpose of this survey is to obtain information on the supply of, and demand for, energy in Canada. This information serves as an important indicator of Canadian economic performance and is used by all levels of government in establishing informed policies in the energy area. The private sector also uses this information in the corporate decision-making process.									
Authority									
This survey is conducted under the authority of the Statistics Act, Revised Statutes of Canada, 1985, Chapter S19. Completion of this questionnaire is a legal requirement under this Act.									
Confidentiality									
Statistics Canada is prohibited by law from publishing any statistics which would divulge information obtained from this survey that relates to any identifiable business without the previous written consent of that business. The data reported will be treated in strict confidence, used for statistical purposes and published in aggregate form only. The confidentiality provisions of the Statistics Act are not affected by either the Access to Information Act or any other legislation.									
Data Sharing Agreements									
To reduce response burden and to ensure uniform statistics, Statistics Canada has entered into data sharing agreements with various agencies and government departments for the joint collection and sharing of data from this survey. The information provided in this survey pertaining to individual respondents cannot be divulged, in any way, by the parties with which Statistics Canada has agreements. Agreements exist under Section 11 of the Statistics Act to share information with Nova Scotia, the Institut de la statistique du Québec, the Saskatchewan Bureau of Statistics and Alberta regarding business establishments located or operating in their respective province. These provincial statistical agencies have been established under provincial legislation authorizing them to collect this information on their own or jointly with Statistics Canada. The provincial legislation in those four provinces also contains the same confidentiality protection and outlines similar penalties for disclosure of confidential information as for the federal Statistics Act. Agreements exist under section 12 of the Statistics Act with the Forest Products Association of Canada, the Quebec Forest Industry Association, Natural Resources Canada and Environment Canada with respect to the information provided in Parts A, B, C and D of this questionnaire for all establishments covered by this survey and with the Canadian Electricity Association for Part C. Under Section 12, you may refuse to share your information with any of these organizations by writing to the Chief Statistician of Canada and returning your letter of objection along with your completed questionnaire. Please specify those agencies under Section 12 from which data shall be withheld.									
Completion and Return									
Complete and return within 20 days after reception of this questionnaire. If you require assistance in the completion of the questionnaire, contact the Energy Section at (613) 951-3519 or by fax (613) 951-9499. Statistics Canada advises you that there could be a risk of disclosure during the facsimile or other electronic transmission. However, upon receipt of your information, Statistics Canada will provide the guaranteed level of protection afforded all information collected under the authority of the Statistics Act.									
Certification									
I certify that the information contained herein is complete and correct to the best of my knowledge and belief.									
_____ Signature									
<table border="1"><tr><th colspan="3">Date</th></tr><tr><td style="width: 30px;"> </td><td style="width: 30px;"> </td><td style="width: 30px;"> </td></tr><tr><td style="font-size: 8px;">Day</td><td style="font-size: 8px;">Month</td><td style="font-size: 8px;">Year</td></tr></table>	Date						Day	Month	Year
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Name of signer <i>(please print)</i>	Official position of signer	E-mail address							
Name of contact for further information	FAX _ _ _ _ - _ _ _ _	Telephone _ _ _ _ - _ _ _ _ Extension _ _ _ _							

SPECIAL REPORTING INSTRUCTIONS:

PART A: PRODUCTION FOR THE YEAR

Please report the total production for the year that is ready for sale (whether shipped or inventoried).

Data is to be given in Air-Dried metric tonne (ADmt), for each specified grade.

Round to the nearest ADmt (no decimals).

Do not report intermediate products, such as pulp produced on site which is used in the production of paper or board (integrated mill).

Note the following definitions:

- A.1:** *Newsprint*: paper between 40 g/m² and 57 g/m² generally used in the production of newspapers.
- A.2:** *Uncoated groundwood specialties*: paper containing more than 10% mechanical pulp fibre, excluding newsprint.
- A.3:** *Printing and writing paper*: coated and uncoated papers containing at most 10% mechanical pulp fibre - (termed "woodfree") - as well as coated papers containing more than 10% mechanical pulp fibre.
- A.4:** *Kraft paper*: papers made predominantly from wood pulp produced by the sulphate pulping process.
- A.5:** *Tissue and special papers*: sanitary papers, greaseproof papers, glassine papers, as well as all other special papers.
- A.6:** *Linerboard*: board used as liners or as facing material in the manufacture of shipping containers and other types of corrugated board products.
- A.7:** *Corrugating medium*: board to be fluted for use in the manufacture of corrugated board products or for wrapping.
- A.8:** *Boxboard*: board (plain, lined or clay coated) used for fabricating boxes.
- A.9:** *Hardboard*: building panel products manufactured under heat and pressure from refined wood particles and impregnating or bonding agents.
- A.10:** *Building board*: all types of boards used in the construction of buildings, with the exclusion of hardboard.
- A.11:** *Building paper*: all types of paper produced from strong fiber stocks, processed and treated for use in the building trade.
- A.12:** *Sulphate pulp*: pulp produced by the sulphate process. (includes kraft pulp).
- A.13:** *Sulphite pulp*: pulp produced by the sulphite process.
- A.14:** *Mechanical pulp*: stone groundwood pulp, refiner mechanical pulp, thermomechanical pulp, chemi-thermomechanical pulp, defibrated pulp or exploded pulp used in the production of paper, board, building paper or building board products.
- A.15:** *Recycled pulp*: pulp made from deinked or other recycled fibre.

PART B: ENERGY USED FOR THE YEAR

Please list energy and fuels in the original form purchased, as well as waste fuels, by-products and energy from captive hydraulic systems. Report only the **primary sources** of energy used or produced on-site for your mill (e.g. recovered steam and electricity generated by in-plant turbines must not be included in Section B). Data reported must be aggregates for the year.

PURCHASED OR NOT BILLED

- B.1:** *Electricity* represents the total electricity used in the manufacturing process.
- B.2:** *Steam* should include only purchased or steam received and must not include steam generated in electric, fossil, waste fuel or by-product fired boilers.
- B.3 to B.7:** *Canadian bituminous coal, imported bituminous coal, Subbituminous coal, Lignite and Coal Coke* should be listed separately.
- B.8:** *Heavy fuel oil* includes #4, #5, #6 oil, and Bunker C.
- B.9:** *Light fuel oil* includes #1, #2 and #3 oil, and kerosene.
- B.10:** *Diesel*: Report quantity **used on-site**. Do not include consumption for off-site transportation.
- B.11:** *Liquid petroleum gases* (LPG) include ethane, propane and butane. Report quantity **used on-site**. Do not include consumption for off-site transportation.
- B.12 and B.13:** *Natural gas* and *Methane* should be listed separately.
- B.14:** Report consumption of *Hydrogen* used as fuel.
- B.15:** *Hog fuel* covers all wood residue used as fuel.
- B.16:** *Sludge* covers deinking, primary, secondary and other sludges used as a fuel on-site.
- B.17:** *Spent pulping liquor* covers pulping liquor used as fuel.
- B.18:** For *other fuels*, please indicate units for the quantity used and the measured or estimated heat value.

SELF GENERATED

- B.19:** *Hog fuel* covers all wood residue **generated by the mill** that are used as fuel.
- B.20:** *Sludge* covers drinking, primary, secondary and other sludges **generated by the mill** and used as a fuel.
- B.21:** *Spent pulping liquor* covers pulping liquor **generated by the mill** used as fuel.
- B.22:** *Hydraulic energy - Electrical* covers electric energy generated by in-plant hydraulic systems.
- B.23:** *Hydraulic energy - Mechanical* covers mechanical energy (energy used to drive pumps or machinery without having to convert it to electricity) generated by in-plant hydraulic systems.
- B.24:** *Other* covers all other fuels generated by the mill. Examples include lignin, tall oil, biogas, and hydrogen. Please indicate units for the quantity used and the measured or estimated heat value.

SOLD OR NOT BILLED

- B.26 and B.27:** *Energy sold* refers to the energy quantities sold or given to other establishments.

PART B: ENERGY USED FOR THE YEAR (continued)

Column (3) Quantity: Please report the quantity of the items listed used during the year in the specified units.

Columns (5) and (6) Energy content: Please report the Measured energy content on a higher heating value basis under Column (5). If the Measured value is not available, please provide an Estimated value under Column (6).

Column (8) Average boiler efficiency for fuel type (%): Please report the average efficiency of your boiler as if this was the only fuel used for its operation. If you have more than one boiler using this type of fuel, please enter the average for all boilers for this type of fuel. Enter N/A if not applicable or data not available.

Column (9) Do you use part of this fuel to generate electricity? For each fuel for which a quantity was entered in Column (3), please answer Yes or No.

PART C: POWER GENERATED BY THE MILL AND ELECTRICITY REPORT

Column (2): Your prime mover (e.g. gas turbine, back-pressure turbine, etc.) may generate mechanical energy which is not converted to electricity but is used to run pumps or machinery. If this is the case, please report the mechanical energy not converted to electricity separately.

Column (4): Heat rate: Specify the heat rate corresponding to the typical performance of your electric power generating equipment.

C.12 to C.15: Gross receipts of electricity: Include all electricity received from external sources (purchased or received as compensation, special arrangement or donation).

C.18 to C.27: Gross deliveries of electricity: Include all sales and donation of electricity.

C.29 to C.34: Electricity used: Include all electricity not billed, i.e. used for own operation or given as compensation, special arrangement or donation.

C.39: *Average electrical generator efficiency (%)*: Report the actual efficiency of the generator. If you have more than one generator, please enter the average for all the generators (should be around 98%).

C.40: *Average turbine efficiency (%)*: Report the actual efficiency of the turbine. If you have more than one turbine, please enter the average for all the turbines (should be around 84%).

PART A: PRODUCTION FOR THE YEAR

Code	Grade	Production (ADmt)
A.1	Newsprint	
A.2	Uncoated groundwood specialties	
A.3	Printing and writing papers	
A.4	Kraft papers	
A.5	Tissue and special papers	
A.6	Linerboard	
A.7	Corrugating medium	
A.8	Boxboard	
A.9	Hardboard	
A.10	Building board	
A.11	Building paper	
A.12	Sulphate pulp	
A.13	Sulphite pulp	
A.14	Mechanical pulp	
A.15	Recycled pulp	
A.16	TOTAL PRODUCTION	

PART B: ENERGY USED FOR YEAR

(1) Code	(2) Energy source	(3) Quantity	(4) Units	(5) Measured energy content on a higher heating value basis	(6) Estimated energy content on a higher heating value basis	(7) Units	(8) Average boiler efficiency for fuel type (%)	(9) Do you use part of this fuel to generate electricity? Yes No
PURCHASED OR RECEIVED								
B.1	Electricity		10 ⁹ Wh	3.60		10 ³ J/Wh		
B.2	Steam		10 ⁹ g			10 ³ J/g		
B.3	Canadian bituminous coal		10 ⁹ g			10 ³ J/g		
B.4	Imported bituminous coal		10 ⁹ g			10 ³ J/g		
B.5	Sub-bituminous coal		10 ⁹ g			10 ³ J/g		
B.6	Lignite		10 ⁹ g			10 ³ J/g		
B.7	Coal Coke		10 ⁹ g			10 ³ J/g		
B.8	Heavy fuel oil (#4, #5, #6, bunker C)		10 ⁶ L			10 ⁶ J/L		
B.9	Light fuel oil (#1, #2, #3, kerosene)		10 ³ L			10 ⁶ J/L		
B.10	Diesel		10 ³ L			10 ⁶ J/L		
B.11	LPG (propane, butane, ethane)		10 ³ L			10 ⁶ J/L		
B.12	Natural gas		10 ⁶ m ³			10 ⁶ J/m ³		
B.13	Methane		10 ⁴ m ³			10 ⁶ J/m ³		
B.14	Hydrogen		10 ³ m ³			10 ⁶ J/m ³		
B.15	Hog fuel		10 ⁹ g			10 ³ J/g		
B.16	Sludge		10 ⁹ g			10 ³ J/g		
B.17	Spent pulping liquor		10 ⁹ g			10 ³ J/g		
B.18	Other (specify)		10 ⁹ g			10 ³ J/g		
SELF-GENERATED								
B.19	Hog fuel		10 ⁹ g			10 ³ J/g		
B.20	Sludge		10 ⁹ g			10 ³ J/g		
B.21	Spent pulping liquor		10 ⁹ g			10 ³ J/g		
B.22	Hydraulic energy – electrical		10 ⁹ Wh	3.60		10 ³ J/Wh		
B.23	Hydraulic energy – mechanical		10 ⁹ Wh	3.60		10 ³ J/Wh		
B.24	Other (specify)		10 ⁹ Wh			10 ³ J/Wh		
B.25	Subtotal: purchased, received and self-generated							
SOLD or NOT BILLED								
B.26	Electricity		10 ⁹ Wh	3.60		10 ³ J/Wh		
B.27	Steam		10 ⁹ g			10 ³ J/g		
B.28	Subtotal: Sold or not billed							
B.29	Energy used for process (= B.25 minus B.28)							



NOTE: 10⁹ g = 1000 metric tonnes

PART C: ENERGY GENERATED BY THE MILL AND ELECTRICITY REPORT

ENERGY GENERATED BY THE MILL FROM FUEL AND STEAM (net: exclude energy required for station service)				
(1) Code	(2) Electricity or mechanical energy generated by:	(3) Quantity (10 ⁹ Wh)	(4) Heat rate (10 ⁹ J/Wh)	(5) Total (10 ¹² Joules) =(3) X (4)
C.1	Gas turbine - electricity			
C.2	Gas turbine - mechanical energy			
C.3	Back pressure turbine - electricity			
C.4	Back pressure turbine - mechanical energy			
C.5	Condensing turbine - electricity			
C.6	Condensing turbine - mechanical energy			
C.7	Fuel cells - electricity			
C.8	Reciprocating engine (gas/diesel) - electricity			
C.9	Reciprocating engine (gas/diesel) - mechanical energy			
C.10	Total (= Sum C.1 to C.9)			
ELECTRICITY ANNUAL REPORT - SUPPLY				
Electricity generated (net - exclude station service)				Quantity (10 ⁹ Wh)
C.11	Total electricity generated = (B.22 + C.1 + C.3 + C.5 + C.7 + C.8) (Units 10⁹ Wh)			
Gross receipts of electricity: name of supplier			Value \$'000	Quantity (10 ⁹ Wh)
C.12				
C.13				
C.14				
C.15				
C.16	Total receipts of electricity = (SUM C.12 to C.15); must equal B.1 Column 3			
C.17	TOTAL SUPPLY = (C.11 + C.16)			
ELECTRICITY ANNUAL REPORT - DISPOSITION				
Gross deliveries of electricity: name of client			Value \$'000	Quantity (10 ⁹ Wh)
C.18				
C.19				
C.20				
C.21				
C.22				
C.23				
C.24				
C.25				
C.26				
C.27				
C.28	Total deliveries of electricity = (SUM C.18 to C.27)			
Electricity used			Value \$'000	Quantity (10 ⁹ Wh)
C.29				
C.30				
C.31				
C.32				
C.33				
C.34				
C.35	Total electricity used = (SUM C.29 to C.34)			
C.36	Transmission, distribution and other losses			
C.37	TOTAL DISPOSAL: = (C.28 + C.35 + C.36). This line must be equal to line C.17.			
EFFICIENCIES				
C.38	Do you use fuel to generate electricity on-site?	<input type="checkbox"/> Yes <input type="checkbox"/> No		
	<i>If yes, indicate:</i>			
C.39	Average efficiency: electrical generator(s)	(%)		
C.40	Average efficiency: turbine(s)	(%)		
TOTAL SELF-GENERATED STEAM				
C.41	Please indicate the quantity of all steam produced by the mill	10 ¹² Joules		
STEAM SALES (Specify N/A if not applicable)				
Customer name			Thermal equivalent of steam (10 ¹² Joules)	
C.42				
C.43				
C.44				
C.45				

PART D: COAL AND HEAVY FUEL OIL INVENTORY

	Type of fuel	Units	Received	Stocks at end of year
D.1	Canadian bituminous coal	10 ⁹ g		
D.2	Imported bituminous coal	10 ⁹ g		
D.3	Sub-bituminous coal	10 ⁹ g		
D.4	Lignite	10 ⁹ g		
D.5	Heavy fuel oil (#4, #5, #6, Bunker C)	10 ³ L		



NOTE: 10⁹ g = 1000 metric tonnes

For information only