

# Industrial Water Survey: Fossil-Fuel and Nuclear Electric Power Generating Plants, 2011

Collected under the authority of the *Statistics Act*, Revised Statutes of Canada, 1985, Chapter S19.

This document is confidential when completed.

*Français au verso*

Correct pre-printed information, if necessary, using the corresponding boxes below:

0001

0002

0021

0028

0008

0004

0005  0006

0053  0007

## Please read before completing

### Survey Purpose

This survey collects detailed information on water use in Canada by the manufacturing, mining and electrical power generating industries. The survey asks information on who uses water, how much, where and at what cost. This data will be used to track the state of stocks of water on a regional basis in Canada and will also be used in the development of environmental accounts and indicators.

### Return of Questionnaire(s)

Please return the completed questionnaire(s) to Statistics Canada within 30 days of receipt by mail, using the enclosed envelope, or fax it to 1-888-883-7999. **If you are unable to do so, call 1-204-983-7004 or 1-866-445-4323 (toll free)** to inform us of the expected completion date. Lost the return envelope, need help to complete your questionnaire(s). Call us at 1-204-983-7004 or 1-866-445-4323 (toll free).

### Fax or Other Electronic Transmission Disclosure

Statistics Canada advises you that there could be a risk of disclosure during the facsimile or other electronic transmission. However, upon receipt, Statistics Canada will provide the guaranteed level of protection afforded to all information collected under the authority of the *Statistics Act*.

### 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 THE STATISTICS 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 respondent, without their previous written consent. The data reported will be treated in strict confidence and used for statistical purposes 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 respondent burden, Statistics Canada has entered into data sharing agreements with provincial and territorial statistical agencies and other government organizations, which must keep the data confidential and use them only for statistical purposes.

Information on confidentiality, data-sharing agreements and record linkages can be found on the last page of this questionnaire.

Person primarily responsible for completing this questionnaire, if different from above:

0026 1  Mr. 2  Mrs. 3  Miss 4  Ms 5  Dr.

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0016

0020

0018

**REPORTING YEAR: JANUARY 1, 2011 TO DECEMBER 31, 2011**

NOTE i) Water volumes are to be reported in the units in use at this facility; please **mark only one selection** and use this unit of measure throughout the questionnaire.

Line  
1

C0101

1  cubic metres

2  other – specify C0102

**IMPORTANT**  
If reporting in multiples of a unit of measure, please take care to enter the correct decimal values or number of zeros. (i.e., if *other*, above, is specified as *thousands* of litres, note that a reported quantity of 3 = 3,000 (*3 thousand*) litres, whereas a reported quantity of 3,000 = 3,000,000 (*3 million*) litres).  
If reporting in gallons, please specify Imperial or U.S. gallons.

ii) **Where data are not available, please estimate.**

**SECTION 1: MONTHLY AND ANNUAL TOTAL WATER INTAKE AND DISCHARGE**

**INSTRUCTIONS**

- (i) In this section, under intake, please report by month the quantity of “new water” brought into your operation for **all** power plant uses. For the purpose of this questionnaire “new water” is defined as water introduced for the first time into this facility **regardless of source or quality** (including sanitary/domestic water intake). It also includes water diverted from a natural resource into storage ponds or outside holding facilities for later use.
- (ii) Where you supply water to adjacent or tenant industry(ies) or municipality(ies), please report estimated water intake for your establishment only.
- (iii) Under discharge, please report the quantity of water routed to its ultimate point of discharge (including sanitary/domestic discharge).
- (iv) Under discharge **do not report** the volume of water released to ponds, lagoons or basins and intended for recirculation or reuse until such water is actually discharged to a location beyond the control of the facility.
- (v) Under discharge **do not include** any water lost in production through evaporation, permanently held in open or closed storage, or otherwise consumed (e.g. included in a final product).

Month	Volume per month	
	Intake	Discharge
2 January	C1001	C1101
3 February	C1002	C1102
4 March	C1003	C1103
5 April	C1004	C1104
6 May	C1005	C1105
7 June	C1006	C1106
8 July	C1007	C1107
9 August	C1008	C1108
10 September	C1009	C1109
11 October	C1010	C1110
12 November	C1011	C1111
13 December	C1012	C1112
14 <b>ANNUAL TOTAL</b>	C1013	C1113

15 If total discharge volume (C1113) is greater than total intake volume (C1013), please indicate reason:

C1201

## SECTION 2: WATER INTAKE BY SOURCE AND KIND

### INSTRUCTIONS

- (i) Please report your volumes of intake water by source and its usual characteristic.
- (ii) Freshwater is defined as water containing 900 parts per million, or less, of total dissolved solids.
- (iii) Saline / brackish water is defined as water containing more than 900 parts per million of total dissolved solids.

Where data are not available, please estimate.

Source		Volume per year	
		Freshwater	Saline / Brackish
		C2401	
16	Public water utility system .....		XXXX
		C2402	
17	Self-supplied surface water system (lake, river, etc.) .....		XXXX
		C2403	C2203
18	Self-supplied groundwater system (well, spring, etc.) .....		
			C2204
19	Self-supplied tide water (salt water) body (estuary, bay, ocean, etc.) .....	XXXX	
		C2405	C2205
20	Other sources ( <i>specify</i> ) C2000 .....		
		C2406	C2206
21	<b>TOTAL</b> .....		

**NOTE:** The sum of C2406 and C2206 (line 21, above) should equal C1013 at line 14 on previous page.

### Estimated annual cost of water acquisition:

22 Payment to public utility (for water volume at line 16, above) ..... C2301  
\$             .00

Millions          Thousands          Hundreds

23 If reporting payment to a public utility (line 22, above), does this payment include a sewer surcharge? C2305   1  Yes          3  No

24 Estimated annual operating and maintenance costs of intake water acquisition (excluding water treatment costs which are covered on the next page). Operating and maintenance costs should only include your material, labour and energy costs incurred to operate and maintain your systems that bring water into your facility .....

C2302  
\$              .00

Millions          Thousands          Hundreds

25 Cost of your annual intake licence (estimate if permit not purchased annually) ..... C2303  
\$              .00

Millions          Thousands          Hundreds

26 Payment for purchase of water from another operator / industrial supplier .....

C2304  
\$              .00

Millions          Thousands          Hundreds



## SECTION 4: WATER INTAKE BY PURPOSE

### INSTRUCTIONS

- (i) Report the amount of water within your facility by **initial** use. This section should not include recirculated water (for a definition of "recirculated water", see section 5).
- (ii) In Line 40 "Other uses" should not include water pumped by the facility, and intended for initial use outside the facility.

**Where data are not available, please estimate.**

	Purpose		Volume per year
37	Cooling, condensing and steam - defined as water <b>which does not come in direct contact</b> with the products, materials or by-products of the processing operation. It includes pass-through water used in the operation of cooling or process equipment (including air conditioning) and water introduced into boilers for the production of steam for either process operations or electric power. ....	C4102	
38	Pollution control (e.g. wet flue gas desulphurization, etc.) .....	C4106	
39	Sanitary service/Domestic use - This is water used for toilets, janitorial services, lawn watering, washing of vehicles, etc. ....	C4103	
	C4000	C4104	
40	Other uses ( <i>specify</i> )	C4105	
41	Total (Lines 37 to 40 should equal sum of figures reported in Line 14, C1013) .....		
42	What were the estimated water losses (including evaporation and seepage):	C4201	
	(i) in cooling cycle? .....	C4202	
	(ii) pollution control (e.g. wet flue gas desulphurization, etc.)? .....	C4203	
	(iii) in ash control system (include evaporation losses from ponds)? .....	C4204	
43	What was the amount of boiler make-up water required for power generation purpose (excluding production for steam sales or transfer)? .....		
44	Is there a water-cooled condenser in your plant? .....	C4205	1 <input type="radio"/> Yes 3 <input type="radio"/> No
	↓		
45	If yes, what was the actual temperature rise of the cooling water in your condenser cooling cycle?	C4206	Temperature
	Minimum .....	C4207	°C
	Maximum .....		°C
46	Please indicate the type of cooling system employed in your establishment:	C4208	
	(i) Once-through .....		1 <input type="radio"/> Yes 3 <input type="radio"/> No
	(ii) Cooling ponds .....	C4213	1 <input type="radio"/> Yes 3 <input type="radio"/> No
	(iii) Cooling tower .....	C4214	1 <input type="radio"/> Yes 3 <input type="radio"/> No
	(iv) Other methods .....	C4211	1 <input type="radio"/> Yes 3 <input type="radio"/> No
47	Did this plant produce steam for purposes other than electric power generation (i.e. heating, process or for sale)? .....	C4212	1 <input type="radio"/> Yes 3 <input type="radio"/> No





SECTION 7: OTHER DETAILS

60 Capital expenditures on water intake, discharge or treatment facilities made at this establishment for 2011. Include all relevant outlays for machinery and equipment purchases, and their installation, as well as for construction related to water intake, discharge and treatment.....

C7010 \$ [Millions] [Thousands] [Hundreds] .00

61 Indicate the average number of employees (including administrative staff) .....

Number

C7001

62 Indicate the number of days of operation of the facility during the reporting period.....

C7002

63 Indicate the average number of hours this facility operates in an average day.....

C7003

64 Indicate the amount of electrical power produced at this facility:

C7004

(i) net generation.....

MWh

C7005

(ii) station service.....

MWh

65 Indicate the average heat rate of the facility.....

C7006 BTU/KWh

66 Indicate the electrical generation capacity of this facility.....

C7007 MW

67 Indicate the total capacity of water intake pumps (specify unit of measure).....

C7008

68 (i) Does your facility provide water for uses other than in the power plant..... 1 Yes 3 No

C7009



(ii) If yes, please explain:

C7011 [Text area] C7012 [Text area]



## Comments

Approximately how long did it take to collect the data and complete this survey?

C9910

Hour(s)

C9909

Minutes

We invite your comments or suggestions on the following or any other topic related to the *Industrial Water Survey*. We appreciate your assistance.

- Questionnaire content
- New questions of interest to your industry
- Clarity of questions
- Order and flow of questions
- Timing of receipt of questionnaire and the period given for response
- Alternative sources of information to further reduce response burden

C9920

C9913

C9914

C9915

C9916

C9917

C9918

C9919

FOR INFORMATION ONLY

## General Information

### Confidentiality

#### Your answers are confidential.

Statistics Canada is prohibited by law from releasing any information it collects which could identify any person, business, or organization, unless consent has been given by the respondent or as permitted by the *Statistics Act*. The confidentiality provisions of the *Statistics Act* are not affected by either the *Access to Information Act* or any other legislation. Therefore, for example, the Canada Revenue Agency cannot access identifiable survey records from Statistics Canada.

Information from this survey will be used for statistical purposes only and will be published in aggregate form only.

### Data-sharing agreements

To reduce respondent burden, Statistics Canada has entered into data sharing agreements with provincial and territorial statistical agencies and other government organizations, which must keep the data confidential and use them only for statistical purposes. Statistics Canada will only share data from this survey with those organizations that have demonstrated a requirement to use the data.

**Section 11** of the *Statistics Act* provides for the sharing of information with provincial and territorial statistical agencies that meet certain conditions. These agencies must have the legislative authority to collect the same information, on a mandatory basis, and the legislation must provide substantially the same provisions for confidentiality and penalties for disclosure of confidential information as the *Statistics Act*. Because these agencies have the legal authority to compel businesses to provide the same information,

consent is not requested and businesses may not object to the sharing of the data.

For this survey, there are **Section 11** agreements with the provincial and territorial statistical agencies of Newfoundland and Labrador, Nova Scotia, New Brunswick, Quebec, Ontario, Manitoba, Saskatchewan, Alberta, British Columbia, and the Yukon.

The shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

**Section 12** of the *Statistics Act* provides for the sharing of information with federal, provincial or territorial government organizations. Under **Section 12**, you may refuse to share your information with any of these organizations by writing a letter of objection to the Chief Statistician and returning it with the completed questionnaire. Please specify the organizations with which you do not want to share your data.

For this survey, there are **Section 12** agreements with the statistical agencies of Prince Edward Island, the Northwest Territories and Nunavut as well as with Environment Canada.

For agreements with provincial and territorial government organizations, the shared data will be limited to information pertaining to business establishments located within the jurisdiction of the respective province or territory.

### Record linkages

To enhance the data from this survey, Statistics Canada may combine it with information from other surveys or from administrative sources.

If you have questions, please contact us.

Telephone: 1-204-983-7004

Telephone (toll free): 1-866-445-4323

Fax: 1-888-883-7999 (within Canada)

Please return this questionnaire in the envelope provided.  
**THANK YOU FOR YOUR PARTICIPATION IN THIS SURVEY!**