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# Electric Power Capability and Load

2002



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Energy Section

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## Note of appreciation

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# Symbols

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The following standard symbols are used in Statistics Canada publications:

.	not available for any reference period
..	not available for a specific reference period
...	not applicable
0	true zero or a value rounded to zero
0 <sup>s</sup>	value rounded to 0 (zero) where there is a meaningful distinction between true zero and the value that was rounded
P	preliminary
r	revised
x	suppressed to meet the confidentiality requirements of the <i>Statistics Act</i>
E	use with caution
F	too unreliable to be published

## Metric measures

TW.h. (terawatt-hour) = Watt-hour x 10<sup>12</sup>

GW.h. (gigawatt-hour) = Watt-hour x 10<sup>9</sup>

MW.h. (megawatt-hour) = Watt-hour x 10<sup>6</sup>

KW.h. (kilowatt-hour) = Watt-hour x 10<sup>3</sup>

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This table summarizes capability, firm power peak load, reserve, generation, interprovincial and international receipts and deliveries and energy requirements.

## Introduction

This report presents the results of the 49th annual Electric Power Statistics Capability and Load Survey.

### Data quality and methodology

Data for this publication comes from the 2002 Electric Power Capability and Load Survey. The survey is completed by the electric utility that is responsible for most of the generation, transmission and distribution in the province or territory. The data therefore consists of actual data from the responding electric utility and estimates for other electric power producers in the province or territory. If estimates are used, net generating capability is assumed to be 90% of the name-plate rating obtained from the Generating Stations survey, while peak met is estimated at 67% of net generating capability.

Electric energy figures come from the Electricity Supply/Disposition Annual survey. Major utility and industrial generators of electricity are surveyed directly, while data for the remainder are estimated. These respondents have approximately 98% of total generating capability and produce 99% of all electricity in Canada. In addition, they account for 100% of imports, exports and interprovincial movements.

### Review of survey results

Total net generating capability in 2002/2003 increased by 2.2% to 106 070 MW. Increased generating capacity of nuclear and combustion turbine is the main reason for this increase.

The indicated peak within Canada increased by 0.8% in 2002/2003.

Firm electric energy available within Canada increased by 2.4% to 560 695 GW.h in 2002 from 547 364 GW.h in 2001.

It should be noted that the energy data reported are not affected by the peak load capability and therefore these data may be considered a better measure of the growth of the electric power industry.

### Notes:

Canada – Since the movements of power over a province's borders are measured at the time of the province's peak (see Concepts and Definition), receipts and deliveries do not balance. For this reason, Canada level data omit both interprovincial movements of power and the losses associated with these movements. As a consequence, although Canada data balances in an arithmetic sense, they are not the sum of provincial figures.

Further, due to timing, transmission limitations, etc., data for reserves are not appropriate.

### Concepts and definitions

Prior to 1980, respondents reported capability and load data relating to their calendar year peak. Since 1980 respondents have reported for the day of the peak for the largest electric utility in the province or territory. In 1987 calendar year peak was replaced by winter peak (Nov. Feb.).

The change was made in an effort to eliminate exaggerated changes in the peak which resulted solely from the vagaries of weather, i.e. very cold in November-December as opposed to January-February.

All data for energy are on a calendar year basis.

The days chosen for the winter 2002-2003 were as follows:

Newfoundland – Labrador	January 18
– Island	February 15
Prince Edward Island	December 9
Nova Scotia	December 9
New Brunswick	February 17
Quebec	January 22
Ontario	February 12
Manitoba	January 24
Saskatchewan	December 3
Alberta	December 3
British Columbia	December 4
Yukon	January 24
Northwest Territories	January 31
Nunavut	January 31

Other **generating capability and firm power peak load** concepts are unchanged from previous reports. Generating capability measures the expected power of all available generating facilities of the province or territory at the time of one hour firm peak load for each province or territory. This may differ from the generating capacity as measured by the name plate rating.

The variations between generating capability and generating capacity may be caused by high water levels in reservoirs resulting in a higher water head and greater generation than the name plate capacity, the impossibility of placing all pieces of equipment on the line at the same time, low water levels, ice, or some equipment being considered unreliable, thereby resulting in capability below capacity.

The published peak for Canada is non-coincident (the arithmetic-sum of the provincial peaks regardless of time of occurrence) and must be equal to, or greater than, the coincident peak load.

**Receipts and deliveries of firm power** used in calculating net capability are the interprovincial and international transfers of power under firm contracts, or the best estimate of firm obligations. The actual receipts and deliveries of firm and non-firm power are taken into account in the calculation of the firm power peak load.

**Peak loads** are the total demands within a province or territory after all interchanges have been taken into account to remove any duplication. The peak loads include all power consumed by ultimate customers, line losses and manufacturing plants' own consumption, but do not include generating station service which is deducted before arriving at generating capability.

**Firm load not met** measures the commitments that a system could not or would not meet at the time of its peak load.

**Losses – external deliveries** represent the amount of power and energy required to meet out of province commitments. Exports and interprovincial deliveries are measured at the border but, in some cases, power and energy are used for delivery to the border. These are subtracted as they do not represent internal use and, therefore, distort provincial growth rates.

The **reserve** of a province or territory is the reserve after all obligations have been taken into account whether or not these obligations have been met. It is a measure of the industry's ability to satisfy demands of a province or territory and meet contingencies. Since not all systems are fully interconnected, the reserves of power shown cannot always be fully utilized. However, with the development of interconnections, an increased sharing of capability is possible, particularly when provincial peaks occur at different times. To this extent the reserves reported in this publication may be understated.

It should be further noted that **firm load curtailable** represents power which the supplying utility intends to furnish to customers contracted under firm load curtailable agreements, except under the most extraordinary conditions. Thus, this curtailable power could be considered part of the utility's reserve when such extreme conditions apply.

**Table 1**  
**Electric power capability and load, actual (Winter) – Canada**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>103,318</b>	<b>103,813</b>	<b>106,070</b>
Hydro	60,489	64,306	64,733
Steam	25,242	27,144	26,042
Nuclear	13,717	6,883	9,391
Internal combustion	452	700	674
Combustion turbine	3,382	4,712	5,077
Unspecified	36	68	153
Contracts for receipts of firm power, United States	877	1,550	600
Contracts for receipts of firm power, Provinces	...	...	...
Contracts for deliveries of firm power, United States	1,011	1,494	1,559
Contracts for deliveries of firm power, Provinces	...	...	...
Total net capability	103,184	103,869	105,111
Contractual losses, United States	63	95	103
Contractual losses, Provinces	...	...	...
Indicated capability	103,121	103,774	105,008
Actual capability	..	75,774	71,753
<b>Peak load</b>			
Net power generation	84,035	87,268	85,253
Receipts, United States	219	975	1,974
Receipts, Provinces	...	...	...
Deliveries, United States	1,829	2,638	1,293
Deliveries, Provinces	...	...	...
Peak met	82,425	85,605	85,934
Load not met	..	528	823
Losses, United States	95	139	78
Losses, Provinces	...	...	...
Indicated peak	82,330	85,994	86,679
Annual percentage change	..	-1.4	0.8
Curtailed load	2,563	1,868	1,295
Reserve	...	...	...
Percent of indicated capability	...	...	...
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>505,006</b>	<b>568,912</b>	<b>581,070</b>
Hydro	313,316	329,847	346,897
Steam	110,660	146,162	141,708
Nuclear	76,019	72,353	71,251
Internal combustion	766	1,396	1,395
Combustion turbine	4,245	19,154	19,819
Receipts – United States	6,476	17,860	16,442
Receipts – Provinces	...	...	...
Deliveries – firm, United States	12,167	12,235	9,236
Deliveries – firm, Provinces	...	...	...
Deliveries – non-firm, United States	19,361	27,173	27,581
Deliveries – non-firm, Provinces	...	...	...
Total available	479,954	547,364	560,695
Non-firm deliveries within province	...	...	...
Losses, United States	1,618	..	..
Losses, Provinces	...	...	...
Firm energy	477,005	547,364	560,695
Annual percentage change	1.5	-0.5	2.4



**Table 2a**  
**Electric power capability and load, actual (Winter) – Newfoundland (Island)**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>1,857</b>	<b>1,885</b>	<b>1,885</b>
Hydro	1,149	1,178	1,178
Steam	509	466	466
Nuclear	0	0	0
Internal combustion	41	76	76
Combustion turbine	158	165	165
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	1,857	1,885	1,885
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	1,857	1,885	1,885
Actual capability	..	1,641	1,641
<b>Peak load</b>			
Net power generation	1,467	1,651	1,643
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	1,467	1,651	1,643
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	1,467	1,651	1,643
Annual percentage change	-0.4	12.2	-0.5
Curtable load	..	49	48
Reserve	390	283	290
Percent of indicated capability	21.0	15.0	15.4
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>7,635</b>	<b>8,269</b>	<b>8,553</b>
Hydro	5,885	5,843	5,844
Steam	1,707	2,098	2,385
Nuclear	0	0	0
Internal combustion	45	327	323
Combustion turbine	-2	1	1
Receipts – United States	0	0	0
Receipts – Provinces	0	0	0
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	7,635	8,269	8,553
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	7,635	8,269	8,553
Annual percentage change	1.4	-1.3	3.4

**Table 2b**  
**Electric power capability and load, actual (Winter) – Newfoundland (Labrador)**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>5,512</b>	<b>5,428</b>	<b>5,428</b>
Hydro	5,446	5,428	5,428
Steam	7	0	0
Nuclear	0	0	0
Internal combustion	32	0	0
Combustion turbine	27	0	0
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	4,213	4,083	4,083
Total net capability	1,299	1,345	1,345
Contractual losses, United States	0	0	0
Contractual losses, Provinces	95	92	92
Indicated capability	1,204	1,253	1,253
Actual capability	..	1,253	1,253
<b>Peak load</b>			
Net power generation	5,549	5,552	5,550
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	5,073	5,049	5,048
Peak met	476	503	502
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	117	116	116
Indicated peak	359	387	386
Annual percentage change	-1.4	3.8	-0.3
Curtailable load	.	.	.
Reserve	845	866	867
Percent of indicated capability	70.2	69.1	69.2
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>29,021</b>	<b>32,982</b>	<b>35,572</b>
Hydro	28,989	32,982	35,572
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	32	0	0
Combustion turbine	0	0	0
Receipts – United States	0	0	0
Receipts – Provinces	0	14	15
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	25,985	29,750	32,291
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	3,036	3,246	3,296
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	538	..	..
Firm energy	2,498	3,246	3,296
Annual percentage change	-1.0	-5.5	1.5

**Table 2c**  
**Electric power capability and load, actual (Winter) – Newfoundland and Labrador**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>7,369</b>	<b>7,313</b>	<b>7,313</b>
Hydro	6,595	6,606	6,606
Steam	516	466	466
Nuclear	0	0	0
Internal combustion	73	76	76
Combustion turbine	185	165	165
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	4,213	4,083	4,083
Total net capability	3,156	3,230	3,230
Contractual losses, United States	0	0	0
Contractual losses, Provinces	95	92	92
Indicated capability	3,061	3,138	3,138
Actual capability	..	2,894	2,894
<b>Peak load</b>			
Net power generation	7,016	7,203	7,193
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	5,073	5,049	5,048
Peak met	1,943	2,154	2,145
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	117	116	116
Indicated peak	1,826	2,038	2,029
Annual percentage change	-0.6	10.5	-0.4
Curtable load	..	49	48
Reserve	...	...	...
Percent of indicated capability	...	...	...
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>36,656</b>	<b>41,251</b>	<b>44,125</b>
Hydro	34,874	38,825	41,416
Steam	1,707	2,098	2,385
Nuclear	0	0	0
Internal combustion	77	327	323
Combustion turbine	-2	1	1
Receipts – United States	0	0	0
Receipts – Provinces	0	14	15
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	25,985	29,750	32,291
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	10,671	11,515	11,849
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	538	..	..
Firm energy	10,133	11,515	11,849
Annual percentage change	0.8	-2.6	2.9

**Table 3**  
**Electric power capability and load, actual (Winter) – Prince Edward Island**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>114</b>	<b>109</b>	<b>109</b>
Hydro	0	0	0
Steam	65	62	62
Nuclear	0	0	0
Internal combustion	10	0	0
Combustion turbine	39	42	42
Unspecified	0	5	5
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	45	140	97
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	159	249	206
Contractual losses, United States	0	0	0
Contractual losses, Provinces	2	3	3
Indicated capability	157	246	203
Actual capability	..	239	229
<b>Peak load</b>			
Net power generation	17	28	72
Receipts, United States	0	0	0
Receipts, Provinces	121	165	118
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	138	193	190
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	3	3
Indicated peak	138	190	187
Annual percentage change	0.7	2.7	-1.6
Curtailable load	9	20	15
Reserve	28	76	31
Percent of indicated capability	17.8	30.9	15.3
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>34</b>	<b>49</b>	<b>39</b>
Hydro	0	5	20
Steam	34	36	19
Nuclear	0	0	0
Internal combustion	0	2	0
Combustion turbine	0	6	0
Receipts – United States	0	0	0
Receipts – Provinces	738	1,068	1,317
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	4	0
Total available	772	1,113	1,356
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	772	1,113	1,356
Annual percentage change	1.4	7.3	21.8

**Table 4**  
**Electric power capability and load, actual (Winter) – Nova Scotia**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>2,237</b>	<b>2,298</b>	<b>2,297</b>
Hydro	397	405	405
Steam	1,618	1,671	1,670
Nuclear	0	0	0
Internal combustion	0	0	0
Combustion turbine	222	222	222
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	2,237	2,298	2,297
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	2,237	2,298	2,297
Actual capability	..	2,183	2,188
<b>Peak load</b>			
Net power generation	1,822	1,923	2,040
Receipts, United States	0	0	0
Receipts, Provinces	0	23	110
Deliveries, United States	0	0	0
Deliveries, Provinces	1	30	21
Peak met	1,821	1,916	2,129
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	..	..
Indicated peak	1,821	1,916	2,129
Annual percentage change	0.8	-6.7	11.1
Curtable load	155	352	348
Reserve	571	734	516
Percent of indicated capability	25.5	31.9	22.5
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>9,729</b>	<b>11,844</b>	<b>12,127</b>
Hydro	904	744	1,063
Steam	8,811	11,080	11,043
Nuclear	0	0	0
Internal combustion	5	0	0
Combustion turbine	9	20	21
Receipts – United States	0	0	0
Receipts – Provinces	258	166	285
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	4	39	240
Deliveries – non-firm, United States	0	0	30
Deliveries – non-firm, Provinces	63	356	525
Total available	9,920	11,615	11,617
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	..
Losses, Provinces	..	..	..
Firm energy	9,920	11,615	11,617
Annual percentage change	1.5	1.0	0.0

**Table 5**  
**Electric power capability and load, actual (Winter) – New Brunswick**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>3,702</b>	<b>4,000</b>	<b>3,987</b>
Hydro	934	935	935
Steam	1,556	2,096	2,090
Nuclear	640	635	635
Internal combustion	8	5	0
Combustion turbine	554	329	327
Unspecified	10	0	0
Contracts for receipts of firm power, United States	2	0	0
Contracts for receipts of firm power, Provinces	100	300	0
Contracts for deliveries of firm power, United States	183	79	63
Contracts for deliveries of firm power, Provinces	445	410	297
Total net capability	3,176	3,811	3,627
Contractual losses, United States	20	4	3
Contractual losses, Provinces	5	12	9
Indicated capability	3,151	3,795	3,615
Actual capability	..	4,299	3,596
<b>Peak load</b>			
Net power generation	2,608	3,192	3,595
Receipts, United States	0	0	0
Receipts, Provinces	380	100	0
Deliveries, United States	182	124	63
Deliveries, Provinces	95	135	407
Peak met	2,711	3,033	3,125
Load not met	0	0	0
Losses, United States	2	6	3
Losses, Provinces	1	4	9
Indicated peak	2,708	3,023	3,113
Annual percentage change	-2.5	-9.6	3.0
Curtailable load	49	..	..
Reserve	492	772	502
Percent of indicated capability	15.6	20.3	13.9
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>16,007</b>	<b>19,821</b>	<b>17,883</b>
Hydro	3,011	2,119	2,251
Steam	8,142	13,153	11,862
Nuclear	4,833	4,520	3,757
Internal combustion	0	8	4
Combustion turbine	21	21	9
Receipts – United States	117	73	9
Receipts – Provinces	3,164	1,658	1,804
Deliveries – firm, United States	1,247	723	866
Deliveries – firm, Provinces	462	325	814
Deliveries – non-firm, United States	528	2,860	1,715
Deliveries – non-firm, Provinces	3,132	2,348	1,497
Total available	13,919	15,296	14,804
Non-firm deliveries within province	0	0	0
Losses, United States	111	..	..
Losses, Provinces	24	..	..
Firm energy	13,784	15,296	14,804
Annual percentage change	2.1	-5.2	-3.2

**Table 6**  
**Electric power capability and load, actual (Winter) – Québec**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>30,193</b>	<b>34,344</b>	<b>34,573</b>
Hydro	28,157	31,823	32,174
Steam	625	799	678
Nuclear	675	660	660
Internal combustion	55	105	104
Combustion turbine	657	906	906
Unspecified	24	51	51
Contracts for receipts of firm power, United States	475	0	0
Contracts for receipts of firm power, Provinces	5,500	5,403	5,619
Contracts for deliveries of firm power, United States	276	454	495
Contracts for deliveries of firm power, Provinces	156	300	262
Total net capability	35,736	38,993	39,435
Contractual losses, United States	15	27	42
Contractual losses, Provinces	9	54	..
Indicated capability	35,712	38,912	39,393
Actual capability	..	36,447	36,088
<b>Peak load</b>			
Net power generation	25,747	28,692	28,741
Receipts, United States	75	0	895
Receipts, Provinces	5,085	5,264	6,440
Deliveries, United States	276	2,001	192
Deliveries, Provinces	154	390	139
Peak met	30,477	31,565	35,745
Load not met	0	528	823
Losses, United States	18	92	11
Losses, Provinces	10	19	8
Indicated peak	30,449	31,982	36,549
Annual percentage change	2.1	1.2	14.3
Curtailed load	1,410	1,376	884
Reserve	6,673	8,306	3,728
Percent of indicated capability	18.7	21.3	9.5
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>147,738</b>	<b>171,035</b>	<b>177,148</b>
Hydro	141,983	164,433	170,713
Steam	897	1,460	1,461
Nuclear	4,600	4,705	4,530
Internal combustion	252	229	242
Combustion turbine	6	208	202
Receipts – United States	1,388	3,461	2,545
Receipts – Provinces	28,732	31,996	35,066
Deliveries – firm, United States	7,012	4,833	2,589
Deliveries – firm, Provinces	3,491	1,266	2,889
Deliveries – non-firm, United States	1,844	10,089	12,249
Deliveries – non-firm, Provinces	261	924	1,920
Total available	165,250	189,380	195,112
Non-firm deliveries within province	440	0	0
Losses, United States	500	..	..
Losses, Provinces	190	..	..
Firm energy	164,120	189,380	195,112
Annual percentage change	1.9	-13.0	3.0

**Table 7**  
**Electric power capability and load, actual (Winter) – Ontario**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>31,905</b>	<b>24,840</b>	<b>26,361</b>
Hydro	7,233	7,159	7,111
Steam	11,262	10,910	10,080
Nuclear	12,402	5,588	8,096
Internal combustion	10	81	41
Combustion turbine	998	1,102	1,033
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	1,000	0
Contracts for receipts of firm power, Provinces	330	200	200
Contracts for deliveries of firm power, United States	0	85	191
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	32,235	25,955	26,370
Contractual losses, United States	0	3	6
Contractual losses, Provinces	0	0	0
Indicated capability	32,235	25,952	26,364
Actual capability	..	16,258	14,074
<b>Peak load</b>			
Net power generation	23,089	23,712	20,919
Receipts, United States	64	869	432
Receipts, Provinces	291	191	164
Deliveries, United States	414	113	69
Deliveries, Provinces	3	0	0
Peak met	23,027	24,659	21,446
Load not met	0	0	0
Losses, United States	0	3	2
Losses, Provinces	0	0	0
Indicated peak	23,027	24,656	21,444
Annual percentage change	-4.4	-2.5	-13.0
Curtailable load	373	..	..
Reserve	9,581	1,296	4,920
Percent of indicated capability	29.7	5.0	18.7
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>140,395</b>	<b>152,738</b>	<b>154,342</b>
Hydro	40,146	37,136	38,419
Steam	31,958	45,242	45,112
Nuclear	66,586	63,128	62,964
Internal combustion	2	97	92
Combustion turbine	1,703	7,135	7,755
Receipts – United States	4,166	4,727	4,983
Receipts – Provinces	2,390	2,529	5,116
Deliveries – firm, United States	264	352	305
Deliveries – firm, Provinces	0	224	754
Deliveries – non-firm, United States	5,039	3,092	3,811
Deliveries – non-firm, Provinces	333	961	1,076
Total available	141,315	155,365	158,495
Non-firm deliveries within province	0	0	0
Losses, United States	..	..	..
Losses, Provinces	..	..	..
Firm energy	141,315	155,365	158,495
Annual percentage change	-1.2	1.0	2.0



**Table 8**  
**Electric power capability and load, actual (Winter) – Manitoba**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>5,009</b>	<b>5,333</b>	<b>5,494</b>
Hydro	4,676	5,069	4,998
Steam	316	254	112
Nuclear	0	0	0
Internal combustion	17	10	10
Combustion turbine	0	0	374
Unspecified			
Contracts for receipts of firm power, United States	300	500	500
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	150	660	810
Contracts for deliveries of firm power, Provinces	200	280	200
Total net capability	4,959	4,893	4,984
Contractual losses, United States	..	61	52
Contractual losses, Provinces	..	26	13
Indicated capability	4,959	4,806	4,919
Actual capability	..	4,459	4,503
<b>Peak load</b>			
Net power generation	4,413	4,629	4,570
Receipts, United States	0	0	525
Receipts, Provinces	129	54	0
Deliveries, United States	678	400	969
Deliveries, Provinces	377	210	164
Peak met	3,487	4,073	3,962
Load not met	0	0	0
Losses, United States	55	38	62
Losses, Provinces	31	33	11
Indicated peak	3,401	4,002	3,889
Annual percentage change	0.1	7.1	-2.8
Curtable load	..	..	..
Reserve	1,558	804	1,030
Percent of indicated capability	31.4	16.7	20.9
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>26,782</b>	<b>33,448</b>	<b>29,437</b>
Hydro	26,433	32,899	28,820
Steam	315	538	606
Nuclear	0	0	0
Internal combustion	34	11	11
Combustion turbine	0	0	0
Receipts – United States	11	1,026	2,243
Receipts – Provinces	1,135	926	342
Deliveries – firm, United States	1,138	5,380	4,678
Deliveries – firm, Provinces	1,619	1,750	1,999
Deliveries – non-firm, United States	5,112	4,998	2,504
Deliveries – non-firm, Provinces	1,697	1,800	371
Total available	18,362	21,472	22,470
Non-firm deliveries within province	0	0	0
Losses, United States	572	..	..
Losses, Provinces	276	..	..
Firm energy	17,514	21,472	22,470
Annual percentage change	-0.3	2.0	4.6

**Table 9**  
**Electric power capability and load, actual (Winter) – Saskatchewan**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>2,775</b>	<b>3,417</b>	<b>3,359</b>
Hydro	847	853	853
Steam	1,790	1,937	1,955
Nuclear	0	0	0
Internal combustion	2	9	9
Combustion turbine	136	607	531
Unspecified	0	11	11
Contracts for receipts of firm power, United States	10	50	100
Contracts for receipts of firm power, Provinces	157	0	0
Contracts for deliveries of firm power, United States			
Contracts for deliveries of firm power, Provinces	1	0	0
Total net capability	3,031	3,467	3,459
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	3,031	3,467	3,459
Actual capability	..	3,405	3,226
<b>Peak load</b>			
Net power generation	2,411	2,695	2,657
Receipts, United States	16	106	122
Receipts, Provinces	28	116	22
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	131
Peak met	2,455	2,917	2,670
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	..
Indicated peak	2,455	2,917	2,670
Annual percentage change	9.9	-2.5	-8.5
Curtailed load	..	71	..
Reserve	576	621	789
Percent of indicated capability	19.0	17.9	22.8
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>14,136</b>	<b>17,216</b>	<b>17,970</b>
Hydro	3,059	2,393	2,879
Steam	10,933	13,296	13,637
Nuclear	0	0	0
Internal combustion	0	23	18
Combustion turbine	144	1,504	1,436
Receipts – United States	100	918	962
Receipts – Provinces	1,603	1,961	936
Deliveries – firm, United States	0	128	42
Deliveries – firm, Provinces	3	676	327
Deliveries – non-firm, United States	138	152	419
Deliveries – non-firm, Provinces	1,076	509	267
Total available	14,622	18,630	18,813
Non-firm deliveries within province	0	0	0
Losses, United States	..	..	..
Losses, Provinces	..	..	..
Firm energy	14,622	18,630	18,813
Annual percentage change	5.1	0.0	1.0

**Table 10**  
**Electric power capability and load, actual (Winter) – Alberta**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>8,220</b>	<b>9,738</b>	<b>9,743</b>
Hydro	817	886	812
Steam	6,936	7,496	7,353
Nuclear	0	0	0
Internal combustion	37	118	120
Combustion turbine	428	1,238	1,374
Unspecified	2	0	84
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	8,220	9,738	9,743
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	8,220	9,738	9,743
Actual capability	..	5,359	4,673
<b>Peak load</b>			
Net power generation	6,404	6,892	6,899
Receipts, United States	0	0	0
Receipts, Provinces	361	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	7	0	0
Peak met	6,758	6,892	6,899
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	6,758	6,892	6,899
Annual percentage change	4.7	-9.0	0.1
Curtailed load	567	..	..
Reserve	2,029	2,846	2,844
Percent of indicated capability	24.7	29.2	29.2
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>47,625</b>	<b>61,648</b>	<b>61,609</b>
Hydro	1,563	1,568	1,883
Steam	43,784	51,320	51,169
Nuclear	0	0	0
Internal combustion	28	193	227
Combustion turbine	2,250	8,567	8,330
Receipts – United States	2	185	308
Receipts – Provinces	233	1,075	582
Deliveries – firm, United States	0	412	57
Deliveries – firm, Provinces	1	53	4
Deliveries – non-firm, United States	0	216	46
Deliveries – non-firm, Provinces	1,833	1,891	162
Total available	46,026	60,336	62,230
Non-firm deliveries within province	891	0	0
Losses, United States	..	..	..
Losses, Provinces	..	..	..
Firm energy	45,135	60,336	62,230
Annual percentage change	5.3	1.8	3.1

**Table 11**  
**Electric power capability and load, actual (Winter) – British Columbia**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>11,505</b>	<b>12,055</b>	<b>12,460</b>
Hydro	10,734	10,449	10,712
Steam	558	1,453	1,576
Nuclear	0	0	0
Internal combustion	73	72	91
Combustion turbine	140	81	81
Unspecified			
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	402	216	0
Contracts for deliveries of firm power, Provinces	1	0	0
Total net capability	11,102	11,839	12,460
Contractual losses, United States	28	..	0
Contractual losses, Provinces	..	0	0
Indicated capability	11,074	11,839	12,460
Actual capability	..	11,839	9,755
<b>Peak load</b>			
Net power generation	10,328	8,100	8,347
Receipts, United States	64	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	279	0	0
Deliveries, Provinces	27	0	0
Peak met	10,086	8,100	8,347
Load not met	0	0	0
Losses, United States	20	0	0
Losses, Provinces	2	0	0
Indicated peak	10,064	8,100	8,347
Annual percentage change	13.1	-0.7	3.0
Curtailable load			
Reserve	1,010	3,739	4,113
Percent of indicated capability	9.1	31.6	33.0
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>64,841</b>	<b>58,763</b>	<b>65,335</b>
Hydro	60,664	49,162	58,878
Steam	4,079	7,939	4,414
Nuclear	0	0	0
Internal combustion	80	82	87
Combustion turbine	18	1,580	1,956
Receipts – United States	692	7,470	5,392
Receipts – Provinces	1,812	1,880	4
Deliveries – firm, United States	2,506	407	699
Deliveries – firm, Provinces	4	30	18
Deliveries – non-firm, United States	6,700	5,766	6,807
Deliveries – non-firm, Provinces	101	369	312
Total available	58,034	61,541	62,895
Non-firm deliveries within province	0	0	0
Losses, United States	435	..	..
Losses, Provinces	13	..	..
Firm energy	57,586	61,541	62,895
Annual percentage change	0.4	-3.9	2.2

**Table 12**  
**Electric power capability and load, actual (Winter) – Yukon**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>109</b>	<b>130</b>	<b>130</b>
Hydro	55	76	76
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	54	53	53
Combustion turbine	0	0	0
Unspecified	0	1	1
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	0	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	109	130	130
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	109	130	130
Actual capability	..	120	105
<b>Peak load</b>			
Net power generation	78	71	78
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	78	71	78
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	78	71	78
Annual percentage change	-7.1	-11.3	9.9
Curtailable load	..	..	..
Reserve	31	59	52
Percent of indicated capability	28.4	45.4	40.0
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>480</b>	<b>299</b>	<b>312</b>
Hydro	419	265	274
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	61	34	38
Combustion turbine	0	0	0
Receipts – United States	0	0	0
Receipts – Provinces	0	0	0
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	480	299	312
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	480	299	312
Annual percentage change	4.1	0.3	4.3

**Table 13**  
**Electric power capability and load, actual (Winter) – Northwest Territories**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	<b>180</b>	<b>157</b>	<b>164</b>
Hydro	44	45	51
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	113	92	91
Combustion turbine	23	20	22
Unspecified	0	0	0
Contracts for receipts of firm power, United States	0	0	0
Contracts for receipts of firm power, Provinces	0	2	0
Contracts for deliveries of firm power, United States	0	0	0
Contracts for deliveries of firm power, Provinces	0	0	0
Total net capability	180	159	164
Contractual losses, United States	0	0	0
Contractual losses, Provinces	0	0	0
Indicated capability	180	159	164
Actual capability	..	111	119
<b>Peak load</b>			
Net power generation	102	103	98
Receipts, United States	0	0	0
Receipts, Provinces	0	0	0
Deliveries, United States	0	0	0
Deliveries, Provinces	0	0	0
Peak met	102	103	98
Load not met	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Indicated peak	102	103	98
Annual percentage change	0.2	12.0	-4.9
Curtable load	..	..	..
Reserve	78	56	66
Percent of indicated capability	43.3	35.2	40.2
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	<b>583</b>	<b>543</b>	<b>551</b>
Hydro	260	298	281
Steam	0	0	0
Nuclear	0	0	0
Internal combustion	227	133	161
Combustion turbine	96	112	109
Receipts – United States	0	0	0
Receipts – Provinces	0	0	0
Deliveries – firm, United States	0	0	0
Deliveries – firm, Provinces	0	0	0
Deliveries – non-firm, United States	0	0	0
Deliveries – non-firm, Provinces	0	0	0
Total available	583	543	551
Non-firm deliveries within province	0	0	0
Losses, United States	0	0	0
Losses, Provinces	0	0	0
Firm energy	583	543	551
Annual percentage change	2.3	-1.3	1.5

**Table 14**  
**Electric power capability and load, actual (Winter) – Nunavut**

	1992/93	2001/02	2002/03
	megawatt		
<b>Total capability</b>	...	<b>79</b>	<b>80</b>
Hydro	...	0	0
Steam	...	0	0
Nuclear	...	0	0
Internal combustion	...	79	79
Combustion turbine	...	0	0
Unspecified	...	0	1
Contracts for receipts of firm power, United States	...	0	0
Contracts for receipts of firm power, Provinces	...	0	0
Contracts for deliveries of firm power, United States	...	0	0
Contracts for deliveries of firm power, Provinces	...	0	0
Total net capability	...	79	80
Contractual losses, United States	...	0	0
Contractual losses, Provinces	...	0	0
Indicated capability	...	79	80
Actual capability	...	78	58
<b>Peak load</b>			
Net power generation	...	28	44
Receipts, United States	...	0	0
Receipts, Provinces	...	0	0
Deliveries, United States	...	0	0
Deliveries, Provinces	...	0	0
Peak met	...	28	44
Load not met	...	0	0
Losses, United States	...	0	0
Losses, Provinces	...	0	0
Indicated peak	...	28	44
Annual percentage change	...	-28.2	57.1
Curtable load	...	..	..
Reserve	...	51	36
Percent of indicated capability	...	64.6	45.0
	1992	2001	2002
	gigawatt hours		
<b>Total energy</b>	...	<b>257</b>	<b>192</b>
Hydro	...	0	0
Steam	...	0	0
Nuclear	...	0	0
Internal combustion	...	257	192
Combustion turbine	...	0	0
Receipts – United States	...	0	0
Receipts – Provinces	...	0	0
Deliveries – firm, United States	...	0	0
Deliveries – firm, Provinces	...	0	0
Deliveries – non-firm, United States	...	0	0
Deliveries – non-firm, Provinces	...	0	0
Total available	...	257	192
Non-firm deliveries within province	...	0	0
Losses, United States	...	0	0
Losses, Provinces	...	0	0
Firm energy	...	257	192
Annual percentage change	...	19.5	-25.3