



*Canadian Hydropower
Association
Association canadienne
de l'hydroélectricité*

HYDROPOWER AND THE CANADIAN ECONOMY: JOBS AND INVESTMENT IN CANADA'S LARGEST ELECTRICITY SOURCE



Final Report

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PRISM
ECONOMICS AND ANALYSIS

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Executive Summary

Hydropower and the Canadian Economy: Jobs and investment in Canada's largest electricity source

Canada's hydropower industry generates 63% of Canada's electricity, providing Canadian households and businesses with a clean, reliable and renewable source of electric power. In addition to the significant environmental and economic benefits associated with hydroelectric power, the industry also generates substantial ongoing contributions to economic activity in the form of GDP and employment. In 2013, the combined direct, indirect and induced economic benefits related to the investments in hydroelectricity infrastructure and the production of hydroelectricity contributed \$37 billion to Canada's GDP and supported 135,000 jobs.

This report measures the most current annual economic contributions made by the Canadian hydropower sector. The assessment accounts for economic activity created by the industry's capital expenditures on hydroelectricity related infrastructure, including generation, transmission and distribution, as well as the production, sale and distribution of hydroelectric power.

The operations and capital expenditure estimates used in this study were collected from individual hydro companies and utilities involved in generation, transmission and distribution of hydroelectric power in each province and territory. The economic impacts were estimated using Statistic Canada's input-output model.

According to estimates, based on publicly available data, investment in hydroelectricity infrastructure in Canada totalled over \$10 billion (\$10.1 billion) in 2013. Operations expenditures related to the production, transmission and distribution of hydroelectric electricity totalled almost \$5.4 billion.

Canada's hydroelectric sector in 2013:

Contributed \$37 billion to Canada's GDP and supported 135,000 jobs (Includes direct, indirect and induced effects)

Invested just over \$10 billion (\$10.1 billion) in hydroelectricity infrastructure

Spent almost \$5.4 billion on the production, transmission and distribution of hydroelectric electricity

Provided \$26 billion in revenues from the generation, transmission and distribution of hydropower

1. Introduction

Canada's hydropower industry¹ offers a broad range of benefits that touch virtually every segment of the economy. This role reaches far back into the country's history and will continue to spin off future development. Hydropower has all the key "win-win" characteristics to set it apart from alternative electricity investment options. Hydropower provides low and stable electricity prices which have supported the development of many industries in Canada and continue to play a major role in ensuring the competitiveness of the Canadian economy. Hydropower also provides many, often intangible, environmental and health benefits. The scope of this report is limited to the quantifiable economic benefits related to the operations and capital expenditures made by the hydroelectric power industry and does not capture such additional induced benefits.

Although the important contributions of hydropower to Canada's economy are commonly acknowledged, the explicit economic benefits of hydropower are rarely discussed or reported. This report provides specific estimates of the most current annual economic contributions made by Canada's hydropower sector. The assessment accounts for economic activity created by the industry's capital investment in hydroelectricity related infrastructure, including generation, transmission and distribution, as well as the production, sale and distribution of hydroelectric power in 2013.

The impacts presented in this report provide measures for the annual benefits related to capital and operating expenditures made by the hydroelectric power sector, based on 2013 data. This includes spending by the industry on engineering and construction, machinery and equipment, materials and wages and labour. To isolate investment and production activity related to hydropower from other production types (nuclear, wind, solar, thermal gas, etc.), investment and expenditure data were collected for individual hydro companies and utilities involved in the generation, transmission and distribution of hydroelectric power in each province and territory. Hydropower company annual reports and financial statements for the 2013-2014 fiscal year provided the data.² This data was then used to extrapolate provincial capital and operations expenditure estimates for the entire hydropower industry. Canada totals are the sum of estimates for individual provinces and territories. .

¹ Hydroelectric power industry refers to all establishments classified under North American Industry Classification System (NAICS) 2211 Electric Power Generation, Transmission and Distribution

² In some cases financial statements based on calendar year end were also included. No adjustments to the numbers were made in these cases.

The economic impacts referenced in this report were estimated by Prism Economics and Analysis using Statistic Canada's input-output model. The expenditures and associated economic benefits described in this report should be interpreted as modest, as they do not include spending on intangible assets or interest expenditures related to the financing of capital expenditures. The economic benefits presented in this report are broken out by: direct impacts - those generated directly by the activities of hydroelectric power companies, utilities and their agents; indirect impacts - the impacts related to the purchase of inputs from other industries; and induced impacts - which refers to the impacts arising from the incremental purchases made by households in the broader economy. A full description of the methodology and terms is available in the methodology section.

2. Hydro Output and Capacity

Hydroelectric power provides a clear competitive advantage for Canada's economy. Hydroelectricity provides a reliable source of cost effective, low-emission energy to most provinces and many markets in the United States.

In 2013, 620 TeraWatt-hours (TWh) of electricity was generated in Canada, 388 TWh or 62.5 percent was produced from hydropower. Although hydroelectric power constitutes some share of the generation mix in almost all of Canada's provinces and territories, the bulk of Canada's hydroelectricity generation capacity and output is found in Québec and British Columbia. In 2013, Québec accounted for half (52%) of installed hydro capacity in Canada and generated roughly 60% of hydroelectricity; British Columbia accounts for 19% of generation capacity and 15% of total generation; Ontario follows with 11% share of installed capacity and 10% of generation.

Figure 1, Electricity generation by type, 2005 to 2013

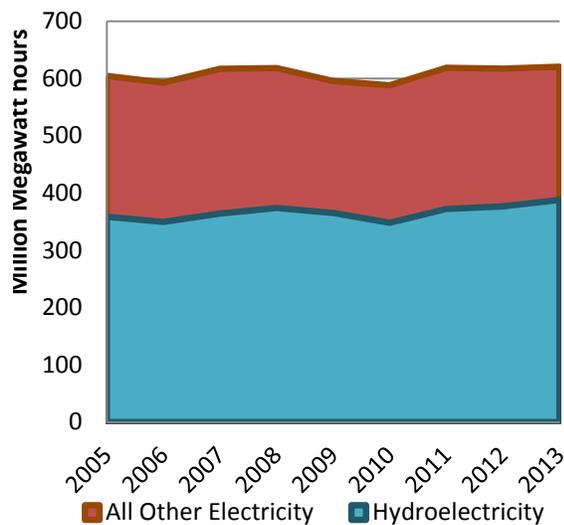
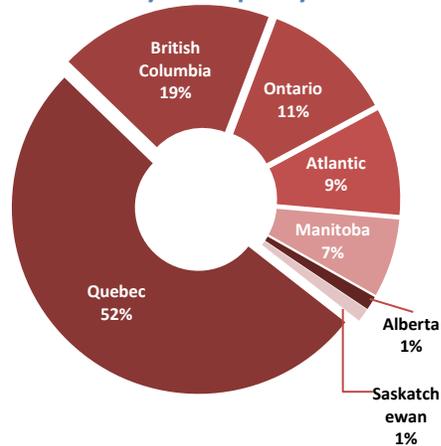


Figure 2, Distribution of Installed Hydro Capacity



Source: Statistics Canada, CANSIM Table 127-0007

Québec has the highest proportion of hydroelectricity to total power output of any province, with almost 98% of its electricity coming from hydropower. Manitoba's share is only 1%

lower with 97% of its electricity from hydropower; Newfoundland and Labrador 96%, the Yukon is next with 95% and British Columbia follows with 87%.

Figure 3, Hydroelectricity share of total power produced in 2013, by Province

Region	Hydro share (%)
Québec	98%
Manitoba	97%
Newfoundland and Labrador	96%
Yukon	95%
British Columbia	87%
Northwest Territories	34%
Ontario	26%
New Brunswick	23%
Saskatchewan	19%
Nova Scotia	9%
Alberta	3%
Canada	63%

Source: Statistics Canada

3. Hydropower Capital Expenditures

Investments in new hydropower generation capacity can be quite capital intensive, but long asset life and low operation costs often make hydro projects a sound long-term investment. Investments in the transmission and distribution network required to connect generation stations with the rest of the grid and deliver hydroelectric power are also significant. Although the upfront investment in these transmission assets is generally smaller by comparison, transmission and distribution system components require a significant ongoing investment in sustaining capital just to maintain capacity.

Hydroelectric power generation infrastructure generally requires large up-front capital construction and engineering investment. In addition to these initial capital investments, significant ongoing spending is required to upgrade infrastructure to accommodate advancements in technology.

To estimate Canada’s hydropower industry’s total cumulative new and sustaining capital expenditures on hydroelectricity infrastructure, expenditure data was compiled from financial statements and annual reports of individual utilities and all types of companies involved in the generation, transmission and distribution of hydroelectric power. Based on this analysis the total capital expenditure on hydropower generation, transmission, and distribution capacity is estimated at just over \$10 billion (\$10.1 billion) in 2013 (Figure 4).

Figure 4, Estimated Capital Expenditures on Hydroelectric Infrastructure in 2013

Capital Expenditures (\$2013 Millions)	
Capital Expenditures on Hydroelectric Infrastructure	10,086

Source: 2013-2014 Financial Reports of Hydropower producers, Prism Economics and Analysis

The total value of hydro projects at various stages of construction across Canada is estimated at \$13.3 billion (Figure 5).

Figure 5, Estimated Value of Hydro Projects under Construction in 2013

Estimated Value of Hydro Projects under Construction (\$2013 Millions)	
Value of Hydro Projects Under Construction	13,280

Source: 2013-2014 Financial Reports of Hydropower producers, Prism Economics and Analysis

Figure 6 below provides estimates for the breakdown of capital expenditures between hydro generation, transmission and distribution. The estimates by segment provide insights into the concentration of capital expenditures across hydro business lines, but tend to underestimate total capital expenditures due to difficulties of accounting for decommissioned infrastructure in the 2013-14 fiscal year.

Figure 6, Capital Investments in Hydropower Infrastructure in 2013-14, by segment (\$millions)

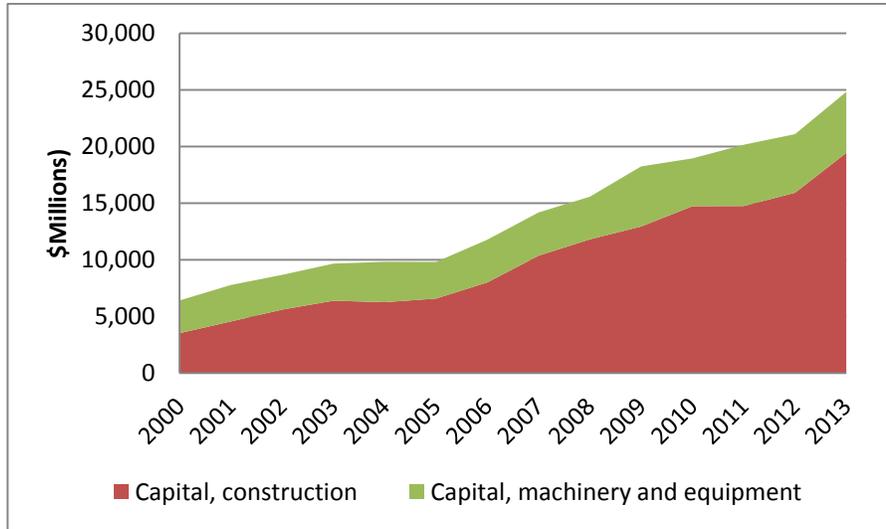
	Unspecified Construction	Generation	Transmission	Distribution	Generation, Transmission and Distribution
Capital Investments in Hydropower Infrastructure	1,754	3,181	2,541	1,249	8,725

Source: 2013-2014 Financial Reports of Hydro power producers, Prism Economics and Analysis

The two largest components of capital investment are construction, and machinery and equipment. Investment expenditure data for the entire utilities sector in Canada (which includes electric power generation, transmission and distribution and other water, sewage and other systems) shows a strong increase in capital and repair expenditures since 2005. Investment reached an all-time high of \$25 billion (\$2007) in 2013 (figure 7). The machinery and equipment component of this investment is about 22%. The machinery and equipment and construction expenditures mix determine how impacts of capital expenditures are distributed throughout the economy. For instance, a high M&E component will produce greater impacts in the manufacturing sector, while greater expenditures on construction will generate more construction and engineering employment. Estimates of the M&E share of capital expenditures were made by Statistics Canada for each province using provincial I/O tables³.

³ For more information please see the methodology section.

Figure 7, Capital and repair expenditures in utilities industry (NAICS 2211), Canada



Source: Statistics Canada, CANSIM Table 029-0008, Capital and repair expenditures

4. Hydropower Revenues and Operations Expenditures

Revenues

The revenues earned by utilities from the generation, transmission and distribution of hydroelectric power are estimated at just over \$26 billion in 2013 (Figure 8). This includes provincial and interprovincial sales as well as export revenues. Due to the significant upfront capital costs of many large hydro projects, a sizeable share of these revenues is dedicated to meeting financing obligations. Although this portion of revenue contributes directly to GDP, it does not create any further secondary economic impacts.

Operation Expenditures

Operations expenditures are the ongoing costs related to the production, transmission and distribution of hydropower. Operating expenditures include labour cost, materials and other intermediate inputs such as energy used in production. Operating expenditures exclude surplus, which consists of profits, depreciation and interest expenditures, and any other extraordinary gains. The operations expenditures for hydropower are relatively small in proportion to total revenues (20% on average). Once the infrastructure is built, there are relatively few inputs. This is not the case for many other conventional types of electricity production such as gas, coal and nuclear. The estimated operations expenditures related to the production, transmission and distribution of hydroelectric electricity totalled almost \$5.4 billion in 2013 (Figure 8).

Figure 8 provides a summary of the nominal revenues, operating and capital expenditure assumptions for 2013. Total hydroelectric power industry spending on operations and new and sustaining capital is estimated at \$15.5 billion for 2013.

Figure 8, Summary of estimated industry revenues and expenditures, in 2013 millions

Industry Revenues and Expenditures	Hydroelectricity Revenues	Capital Expenditures	Operations Expenditures	Total Expenditures
	26,179	10,086	5,418	15,504

Source: 2013-2014 Financial Reports of Hydropower producers, Prism Economics and Analysis

5. Economic Impacts: Capital Investment

This section provides estimates of the economic impacts of the \$10 billion investment in Canada's hydroelectric generation, transmission and distribution infrastructure made by the hydroelectric power sector in 2013.

Investment in new and sustaining capital projects represents the largest economic impacts of Canada's hydroelectric power industry. In 2013, Canada's Hydropower industry's capital expenditures directly contributed almost \$5 billion (\$4.98 billion) to Canada's GDP. When inter-industry purchases are included, the GDP contribution rises to \$7.6 billion. Once the induced expenditures by households are factored in, the economic impact of the industry's capital expenditures in 2013 rises to \$9.7 billion (figure 9).

Figure 9, Impact of Investment expenditures on GDP

GDP Contribution (\$2013 millions)	
Direct Expenditure	4,985
Indirect Expenditure	2,615
Direct and Indirect Expenditure	7,600
Induced Expenditure	2,047
Total (direct, indirect and induced)	9,647

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

In 2013, Canada’s Hydropower industry’s capital expenditures directly supported just over 34,000 jobs in Canada. When inter-industry purchases are factored in, the number of jobs created almost doubles to 60,750. Most of these direct and indirect jobs were concentrated in construction (49%), professional scientific and engineering (15%) and manufacturing (10%). When induced impacts are factored in, the capital expenditures made by Canada’s Hydropower industry helped sustain over 79,700 jobs across Canada. Figure 10 below provides a breakdown of the direct, indirect and total employment impacts attributed to the capital expenditures made by the hydroelectric power industry in 2013.

Figure 10, Impact of Investment expenditures on Employment

Employment (FTE)	
Direct	34,106
Indirect jobs	26,643
Direct and Indirect	60,749
Total (direct, indirect and induced)	79,788

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

The table below shows the total federal, provincial and municipal taxes generated by Canada’s Hydropower industry’s capital expenditures. Direct and indirect economic activities related to capital expenditures in hydroelectric power generated \$426 million in 2013. When induced impacts are factored in, tax revenue to all levels of government swells to just over \$900 million.

Figure 11, Federal, provincial and Municipal Taxes generated related to Hydro Capital expenditures

Taxes (\$2013 millions)	
Direct and Indirect	426
Total (direct, indirect and induced)	901

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

6. Economic Impacts: Revenue and Operations Expenditures

This section provides estimates of the economic impact of the \$5.4 billion of operating expenditures spent by Canada’s hydroelectric power sector in 2013 on the generation, transmission and distribution of hydroelectric power in Canada.

The activities related to the Production, distribution and transmission of hydroelectric power generated just over \$26 billion in revenue 2013 (figure 12). From this total revenue, \$5.4 billion was directly spent on the wages and materials required to operate and maintain Canada’s hydroelectric facilities, and infrastructure.

Figure 12, Total estimated Hydro related Revenues, Canada

Hydro related revenues	Hydroelectricity Revenues (\$2013 millions)
	26,179

Source: 2013-2014 Financial Reports of Hydropower producers, Prism Economics and Analysis

In 2013, the operating activities of hydroelectric power generation, transmission and distribution contributed \$24 billion to Canada’s economy. The economic activity produced by utilities and hydro companies was \$3.5 billion, while an additional \$20.7 billion was generated by the derived surplus between revenues and operating expenditures (including labour cost), which consists of profits, depreciation and interest expenditures, and any other extraordinary gain. Since there are no additional impacts associated with derived surplus, the contribution related to the derived surplus only adds to direct GDP.

When inter-industry purchases related to operations are factored in, the industry’s contribution to GDP rises to \$25.7 billion (Figure 13). The induced expenditures by households from earned wages add \$1.68 billion to Canada’s economic output.

Figure 13, Impact of Hydro Production and Operations Expenditures on GDP

GDP Contribution (\$2013 millions)	
Direct	24,243
Direct and Indirect	25,718
Total (direct, indirect and induced)	27,443

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

In 2013 Canada’s hydroelectric power sector directly supported almost 24,000 fulltime equivalent (FTE) jobs in Canada. When inter-industry purchases are factored in the number of jobs (FTE) sustained rises to 39,300. In total, operations expenditures made by Canada’s Hydropower industry sustained over 55,500 jobs across Canada in 2013 (Figure 14).

Figure 14, Impact of Operations Expenditures on Employment

Employment (FTE)	
Direct	23,757
Direct and Indirect	39,290
Total (direct, indirect and induced)	55,631

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

Figure 15 shows the total federal, provincial and municipal taxes generated by Canada’s Hydropower industry’s operational expenditures. Direct and indirect activities related to the generation, transmission and distribution of hydroelectric power returned \$930 million to government coffers in 2013. When induced impacts are factored in, tax revenue to all levels of government swells to just over \$1.3 billion.

Figure 15, Federal, Provincial and Municipal Taxes generated related to hydro operational expenditures

Taxes (\$2013 millions)	
Direct and Indirect	930
Total (direct, indirect and induced)	1,337

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

7. Summary of Economic Impacts of Canada’s Hydroelectric Power Industry

In 2013 the combined direct, indirect and induced impacts related to capital investments in hydroelectricity infrastructure and the production of hydroelectricity contributed \$37 billion to Canada’s GDP (Figure 16) and supported 135,400 jobs.

According to estimates, based on publicly available data, investment in hydroelectricity infrastructure in Canada totalled almost \$10 billion (\$10.2 billion) in 2013. Operations expenditures related to the production, transmission and distribution of hydroelectric electricity totalled almost \$5.4 billion. After adjusting for inflation, a total of \$14.5 (\$2010) billion was spent by the industry on new and sustaining hydroelectric power infrastructure and operations activities.

Figure 16, Impact of Hydro Investment, Production and Operations Expenditures on GDP

GDP Contribution (\$2013 millions)	
Direct	\$29,228
Direct and Indirect	\$33,318
Total (direct, indirect and induced)	\$37,090

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

In 2013, Canada’s hydropower industry’s investment and operations expenditures sustained an estimated 57,800 jobs (FTE) in Canada. When inter-industry purchases are factored in, the number of jobs rises to 100,000 jobs. In total, the investment and operations expenditures made by Canada’s hydroelectric power sector support over 135,400 (FTE) direct, indirect and induced jobs across Canada (figure 17).

Figure 17, Impact of Investment and Operations Expenditures on Employment

Employment (FTE)	
Direct	57,863
Indirect	42,176
Direct and Indirect	100,039
Total (direct, indirect and induced)	135,419

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

In 2013, the direct and indirect impacts of hydropower investment and operations activities generated \$1.34 billion in combined federal, provincial and municipal taxes. When induced expenditures by households are factored in, the total tax collected by all levels of government in 2013 rises to \$2.2 billion. Figure 18 below shows the total federal, provincial and municipal taxes generated by Canada's hydroelectric power sector operations and capital expenditures.

Figure 18, Federal, Provincial and Municipal Taxes generated related to Hydro Capital and Operating expenditures

Taxes (\$2013 millions)	
Direct and Indirect	1,355
Total (direct, indirect and induced)	2,238

Source: Prism Economics and Analysis, Statistics Canada I/O model Output

8. Methodology for Estimating Economic Benefits

The objective of this report is to provide measures of the annual economic benefits created by Canada's hydroelectric power sector. The scope of this report includes the impacts related to the generation, transmission and distribution of hydroelectric power, as well as the significant investments made by the industry to sustain and grow the needed infrastructure. This section describes the methodology used to estimate the hydroelectric power sector's capital and operations expenditures and the related economic impacts and benefits.

There are several methodologies commonly applied to the measure of economic benefit which produce varying degrees of detail and accuracy. These can range from applying simple multipliers to outputs, to detailed studies which include many layers of economic and social value such as environmental, health and other (often intangible) benefits. For the purposes of this study, the analysis is restricted to the quantifiable economic benefits related to the operations and construction and engineering activities of the hydroelectric power industry.

The central challenge to estimating economic benefits of the hydropower industry with the input-output approach is isolating expenditure and output data for hydroelectric production and transmission from other forms of electricity production classified under *NAICS 2211: Electric power generation, transmission and distribution*. The highest level of industry disaggregation available in Statistics Canada I-O tables is: NAICS 221100 - Electric power generation, transmission and distribution. This includes all forms of electricity generation including thermal, coal, nuclear, gas, diesel and all renewable, including hydroelectric. Since each type of production has very distinct inputs into operations, as well as new and sustaining capital requirements, the economic benefits related to each production type are also quite varied.

The impact analysis methodology is best described as two separate steps. The first is the estimation of the capital and operations expenditures, the second is the estimation of the related impacts.

To estimate hydro specific, single year capital investment and operations expenditure, spending data was compiled from annual reports and financial statements of individual utilities and companies. This methodology was selected because financial reports break out operations and capital expenditure details by business segments including generation type. Annual financial statements also allow the comparability of data over a common annual time period.⁴

⁴ In some cases financial statements based on calendar year end were included. No adjustments to the numbers were made in these cases.

The operations and capital expenditures data was compiled from publicly available annual reports of individual hydroelectricity producers. Where required, the operations expenditures by product line were reviewed and adjusted for comparability. Operations expenditures included spending on labour, materials and other intermediate inputs required for production and maintenance. Estimates for capital expenditures were based on the reported expenditures on Property, Plant and Equipment⁵. In some cases the capital investment was estimated based on the annual difference in capital “under construction”, less change in the value of “in service” assets.

The data collected from individual companies was used to extrapolate provincial totals for each province. Companies’ collective share of provincial generation output was used to estimate provincial operation expenditures. Company shares of provincial installed hydro capacity were used to estimate total capital expenditures in each province.

The companies included in this analysis accounted for 93% of generation and 88% of capacity. The remaining 7% of operations expenditures and 12% of capital expenditures were estimated.

Estimates of transmission and distribution expenditures attributed to hydro were isolated from other forms of generation, unless clearly attributed to hydro, based on the share of total electricity generated by hydro.

Statistics Canada’s 2010 Input-Output model was used to estimate the economic impacts in each province. Two separate shocks of the I/O model were conducted. The first estimated the impacts related to operations expenditures and the second to measure the impacts related to the capital expenditures. The opex and capex values were deflated to \$2010 to account for inflation for the employment impact estimates.

The analysis relied heavily on confidential provincial I/O data from Statistics Canada’s 2011 tables in order to properly account for the unique mix of inputs to hydropower operations (such as wages and salaries, intermediate inputs, taxes and surpluses) and to ensure the capital expenditures (machinery and equipment -M&E- and construction) were specific to hydro.

I/O data from provinces with high concentrations of hydroelectric production, such as Québec, Manitoba and British Columbia was used to produce custom production functions and capital expenditure profiles for the hydropower industry.

The Machinery and equipment component of this investment is about 22 percent. The Machinery and equipment and Construction expenditures mix determine how impacts of

⁵ Property, plant and equipment are carried at cost, which comprises materials, labor, other costs directly related to construction activities, and financial expenses capitalized during construction. Property, plant and equipment also include draft-design costs for projects whose technical feasibility has been demonstrated, whose profitability has been estimated, and for which Management deems that it will in all likelihood have the necessary resources for completion.

capital expenditures are distributed throughout the economy. For instance, a high M&E component will have greater impacts on the manufacturing sector, while high expenditures on construction will have more significant impacts on construction and engineering employment. To estimate the distribution of capital expenditures between M&E and Construction, provincial I/O tables for provinces with the highest Hydro generation share were analysed. The provinces used were Québec, Manitoba and British Columbia.

The economic impacts in this report are presented in terms of Direct, Indirect and Induced impacts.

Direct impacts measure the additional GDP and employment created, by the expenditures on wages, materials and capital investments made by utilities and hydroelectric power companies.

Indirect impacts measure the additional GDP and employment created due to purchases by the hydroelectric power industry from other goods and services producing industries. This includes all the chain reaction of output up the production stream since each of the products purchased will require, in turn, the production of various inputs.

Induced impact measures the changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.

Glossary:

Industry classification

The input-output accounts are based on the North American Industrial Classification System (NAICS). NAICS classifies establishments into industries on the basis of the similarity of their production processes. However, the Input-Output classification system includes certain exceptions that are not considered industries by NAICS. While crown corporations that behave essentially like private enterprises are classified to their defined industries, other public institutions (such as hospitals, schools, and universities) that receive the major part of their funding from government are treated as part of the government industries instead. The construction industries include all construction activities including contract and own-account construction by establishments not classified to the construction industry. Concordances between NAICS and the Input- Output industrial classification system or aggregations are available from the Industry Accounts Division.

Commodity classification

A commodity is defined as a good or service normally intended for sale on the market at a price designed to cover the cost of production. The classification of goods in the Input-Output accounts is based on the Standard Classification of Goods. Given the absence of a standard classification of services, the Input-Output accounts utilize a service classification based on the characteristic products of industries.

Full-time equivalence (FTE) and number of jobs

Two types of jobs impacts and multipliers are available: one for the total number of jobs and another which transforms the former into a full-time-equivalent (FTE) number of jobs. The estimate of the total number of jobs covers two main categories: employee jobs and self-employed jobs (including persons working in a family business without pay). The total number of jobs includes full-time, part-time, and temporary jobs. It does not take into account the number of hours worked per employee. FTE jobs include both the employee and self-employed jobs but the FTE transformation only applies to employee jobs. The transformation is based on the overall average full-time hours worked in the business and government sectors.

Gross fixed capital formation

Gross fixed capital formation is the value of a producer's acquisitions, less disposals, of fixed assets during the accounting period plus certain additions to the value of non-produced assets (such as subsoil assets or major improvements in the quantity, quality or productivity of land) realized by the productive activity of institutional units.

Inputs

Economic resources used in a firm's production process. A distinction is usually drawn between primary inputs (labour and capital) and intermediate inputs (energy and raw materials).

Intermediate inputs

Intermediate inputs consists of the goods and services used by industries in a process of production, excluding fixed assets whose consumption is recorded as consumption of fixed capital; the goods or services may be either transformed or used up by the production process.

Labour income

Labour income refers to total earnings of employees, consisting of wages and salaries, as well as supplementary labour income (such as employer's contributions to pension funds, employee welfare funds, the Unemployment Insurance Fund and Workmen's Compensation Funds).

Supplementary labour income

Supplementary Labour Income are expenditures by employers on their labour account, which are regarded as compensation of employees. They include contributions to employment insurance, private and public pension plan contributions, and (beginning in 1990) retirement allowances.

Wages and salaries

Wages and salaries consist of monetary compensation and payments-in-kind (e.g., board and lodging), to wage earners and salaried persons employed in private, public and non-profit institutions in Canada including domestic servants and baby-sitters. Other forms of compensation included here are commissions, bonuses, tips, directors' fees, taxable allowances, and the values of stock options of corporations. Bonuses, commissions and retroactive wages are recorded in the period paid rather than earned. Wages and salaries are recorded on a gross basis, before deductions for taxes, employees' contributions to employment insurance, and private and public pension plans.

A complete glossary is available on the national economic accounts module on the Statistics Canada web site at the following address:

<http://www.statcan.gc.ca/nea-cen/gloss/index-eng.htm>

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