

C-14-8

## ***Film, construction help power growth as B.C. economy diversifies***

*By Jock Finlayson, Ken Peacock |  
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<https://biv.com/article/2020/02/film-construction-help-power-growth-bc-economy-diversifies>

In this column, we review industry growth patterns in B.C. during the period since the 2008-09 recession, focusing on industries that have grown most quickly, and on those that have made the biggest contributions to the province's overall economic growth.

*While many features of the economy endure from one decade to the next, there are changes in the industrial structure that are worth tracking and understanding.*

*On most metrics, including employment and total business revenues, the province's economy has become more diversified. This does not mean that all industries make similar economic contributions in a quantitative sense. But unlike Alberta, where the health of the oil and gas industry to a large extent dictates the state of the entire economy, no one industry is a dominant economic engine in B.C.*

*Industry data confirms that the process of diversification continued in B.C. from 2010 to 2018. By the end of the period, the role of the province's major resource industries was slightly diminished compared with 2010. But our resource industries didn't become smaller – the forestry, mining and natural gas sectors were all bigger in absolute terms in 2018 than in 2010, measured in terms of GDP.*

*In fact, some resource-based industries expanded at a strong clip in the post-recession era. Instead, diversification is occurring mainly because other industries have been growing more quickly and now have a larger economic footprint.*

*The professional, scientific and technical services sector stands out in this regard.*

*While the broad sector has expanded steadily, the component industries that have really propelled this sector include computer systems, related design services, management and scientific and technical consulting services.*

*Reflecting B.C.'s role as the Pacific gateway, the transportation and warehousing industry also shows up as a prominent growth sector. Within this industry grouping, the air transportation and truck transportation segments have been expanding rapidly.*

*The rise of tourism in B.C. is reflected in the above-average growth of the accommodation and food services industry. The accommodation industry just makes our list of the top 20 growth industries, but in recent years its growth has accelerated significantly.*

*One sometimes overlooked growth story is oil and gas production, especially when related construction activity is also counted. Here, too, the pace of growth has increased, with a pickup in drilling activity in advance of liquefied natural gas production coming online. Although the wood products manufacturing industry is in a slump, over the period examined here it was a growth leader.*

*Readers may be surprised to see the presence of non-resource manufacturing on the list. Manufacturing of electrical equipment and appliances, of primary metals, of non-metallie mineral products such as glass and gypsum, of chemicals and of plastics and rubber all make the list.*

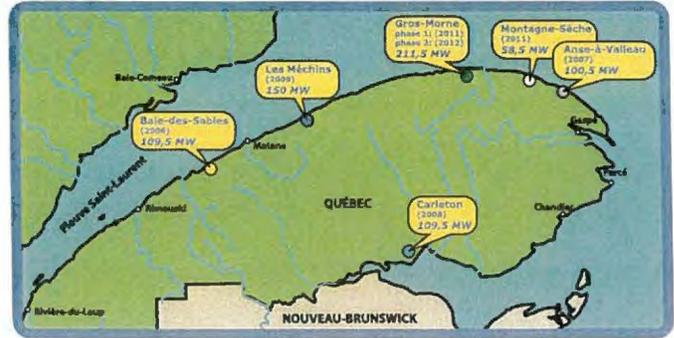
*The individual industry that stands out as the growth star for B.C. is film and television production. Its GDP increased at an eye-popping average annual rate of 15% between 2010 and 2018, five times the economy-wide pace.*

*Construction is another high-profile growth engine. Although most elements of construction have performed well since 2010, residential construction warrants special mention. GDP in this segment of the broad construction sector has risen at an average annual rate of 7%, more than twice as fast as in any other province. In B.C., the residential construction industry – which also includes renovation spending – is also proportionally larger in size, so its contribution to economic growth is even greater. Thanks to an increasing population underpinned by high levels of immigration, we believe residential construction will continue to be an important economic contributor in B.C. in the coming years, notwithstanding the market disruptions triggered by government efforts to cool demand and extract more taxes from property owners and developers. •*

*Jock Finlayson is the Business Council of British Columbia's executive vice-president and chief policy officer; Ken Peacock is the council's chief economist.*



## Anse-à-Valleau Wind Farm



In June 2003, Cartier Wind Energy responded to a request for proposals issued by Hydro-Québec Distribution requiring a total of 1000 megawatts (MW) of wind power on the Gaspé Peninsula for 20 years. Cartier Wind Energy was retained to construct and operate six wind farms totalling 740 MW. The Anse-à-Valleau project is the second of the six projects and has been commercially in-service since November 10, 2007.

### Project Highlights

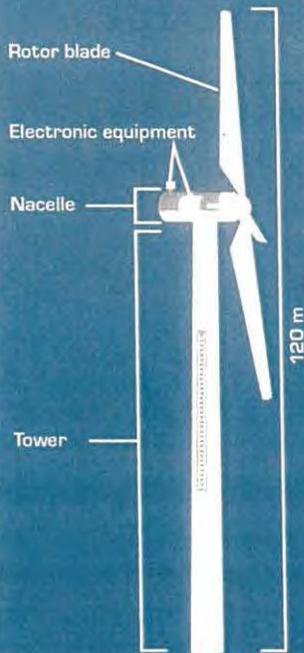
Total investment	\$ 164 M	Average number of workers on site	100
Total installed capacity	100.5 MW	Approximate number of workers on site at peak	350
Number of 1.5 MW turbines	67	Poured concrete per foundation	342 m <sup>3</sup> [40 foundations] 283 m <sup>3</sup> [27 foundations]
Type of turbine	GE 1.5 sle	Above ground electrical collection system	3 km
Rotor diameter (with 3 fiberglass blades)	77 m	Below ground electrical collection system	40 km
Blade speed	10 to 20 revolutions per minute (rpm)	Roads	38 km
Local content requirement	40 %	Approximate size of park	4,831 hectares

### Investment in the Community

Over the 20-year operation of the Anse-à-Valleau wind farm, Cartier Wind Energy will provide more than \$2,710,500 to the Ville de Gaspé based on the installed capacity of the wind farm. Cartier provides \$1,000 per installed megawatt (MW) during the construction of the wind farm and \$1,000 per installed MW annually during its 20-year operation. The Ville de Gaspé is free to use the funds at its discretion. In addition, Cartier will invest \$27,500 annually into a fund at the Ville de Gaspé to help local non-profit organizations. It will invest approximately \$200,000 to improve the Pointe-à-la-renommée road, a local tourist attraction, and will give approximately \$300,000 over 20 years to the International Appalachian Trail.

### What is Wind Energy?

People have used wind energy for thousands of years to propel a sailboat or to turn a windmill to grind wheat for flour. In the case of a wind turbine generator (WTG), the energy from the wind is converted to electricity.



#### The main components of the Anse-à-Valleau WTG's are:

- ✎ a rotor with 3 blades (produced by LM Glassfiber in Gaspé), which converts the wind's energy into rotational shaft energy;
- ✎ a nacelle (enclosure) containing a drive train and a generator (assembled by Marmen in Matane);
- ✎ a tower (built by Marmen in Matane), to support the rotor and drive train; and
- ✎ electronic equipment such as controls, electrical cables, ground support equipment and interconnection equipment.



## Construction Partners

**General contractor:** Construction LFG is the general contractor for the construction of the road, work areas and wind turbine base construction. The company is based in Carleton-Saint-Omer and has specialized for more than 25 years in the implementation of commercial, institutional and industrial projects. EBC Inc. is the general contractor for the wind turbines and the electrical system installation. Established in 1968, the company has extensive experience building large scale projects and specializes in civil engineering, commercial buildings and excavation.

**Sub-station contractor:** Transelec Common Inc. has been selected to build the sub-station and the 161 kilovolts (kV) line to connect the wind farm to the Hydro-Québec TransÉnergie's system at Rivière-au-Renard. Transelec specializes in the construction and maintenance of electric power transmission networks and transformer sub-stations. In addition, Transelec has extensive experience in building telecommunication and civil construction.

**Wind turbines:** General Electric (GE) are manufacturing our 67 wind turbines. Each wind turbine has an output of 1.5 MW. The towers fabrication and the nacelle assembly are being done in Matane, the blades are produced in Gaspé, and all the components are delivered directly to the wind turbine site.

**Follow up committee:** The Ville de Gaspé formed a committee to track the progress of the work, issues that arose during construction, and local economic impact.

## Partners in Cartier Wind Energy

On February 25, 2005, Cartier Wind Energy signed long term Electricity Supply Contracts with Hydro-Québec Distribution for 740 megawatts (MW) of wind power projects located in the Gaspésie-Iles-de-la-Madeleine region and the Regional County Municipality of Matane. With these agreements, Cartier Wind Energy will become the largest wind energy producer in the province of Quebec. The assets related to the Anse-à-Valleau wind farm are indirectly co-owned by TransCanada Corporation (62%) and Innergex Power Income Fund (38%).

**TransCanada** is a leading North American energy company focused on natural gas transmission and power services. Its network of approximately 59,000 kilometres of pipeline transports the majority of Western Canada's natural gas production to the fastest growing markets in the United States and Canada. TransCanada owns, controls or is constructing more than 7,700 megawatts of power in the United States and Canada. For more information, please visit [www.transcanada.com](http://www.transcanada.com)

**Innergex Power Income Fund** (the "Fund") is an open-ended income trust which mission is to own and manage electricity production units in harmony with nature. The Fund indirectly owns interests in ten hydroelectric power generating facilities and two wind farms with a total installed capacity of 339.9 MW (net interest of 197 MW). The Fund's units are traded on the Toronto Stock Exchange under the symbol IEF.UN. The hydroelectric facilities and the wind farms are operated and managed by Innergex Renewable Energy Inc., the Manager, under long-term agreements with the Fund. A subsidiary of Innergex Renewable Energy Inc. initiated the development of wind power projects in Gaspésie and the Regional County Municipality of Matane five years ago. For more information please visit [www.innergex.com](http://www.innergex.com)



# Market Snapshot: The pulp and paper sector uses less energy and produces less material than it did 20 years ago

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Over the past two decades, energy demand and production from Canada's pulp and paper industry has fallen significantly. In 1997, annual energy demand from the pulp and paper industry totaled almost 415 petajoules (PJ). This made pulp and paper the number one industrial energy user in Canada at 20% of all industrial energy demand. By 2017, pulp and paper's energy demand had fallen to about 231 PJ and only 8% of all industrial energy demand.

## Figure 1. Energy use by fuel type in the pulp and paper industry (1995-2017)

Figure 1 (see attached)

Natural gas and electricity are the two most important fuels used in the pulp and paper industry. Electricity powers machinery while natural gas produces the steam and hot air required by the manufacturing process. A large amount of electricity is generated by burning by-products created in the manufacturing process. In 2017, industrial electricity generated from the manufacturing process amounted to 9.2 TWh or 33 PJ, which is about 24% of the sector's total electricity demand.

The pulp and paper industry has a large presence in several provinces but is largest in Quebec, Ontario, and British Columbia. The industry's economic output in Canada peaked in 2004 at \$11.3 billion. By 2018 output fell to

\$7.8 billion; a decline of 45%. Provincial outputs show a similar, downward trend.

## **Figure 2. Economic output of the pulp and paper industry for all of Canada and by province (1997–2018)**

Figure 2 (see attached)

This lower economic output can be attributed to lower demand for printing and writing paper, and increased competition from other parts of the world. The production of newsprint and writing paper in Canada fell from 7 and 6 million tonnes in 2007, respectively, to 3 million tonnes for both types of paper in 2017. Similarly, pulp production fell from 22 million tonnes to 6 million tonnes over the same time.

### **Footnote**

#### **Footnote 1**

Statistics Canada. [Table 25-10-0028 01 Electricity generated from fossil fuels, annual.](#)

[Return to footnote 1referrer](#)

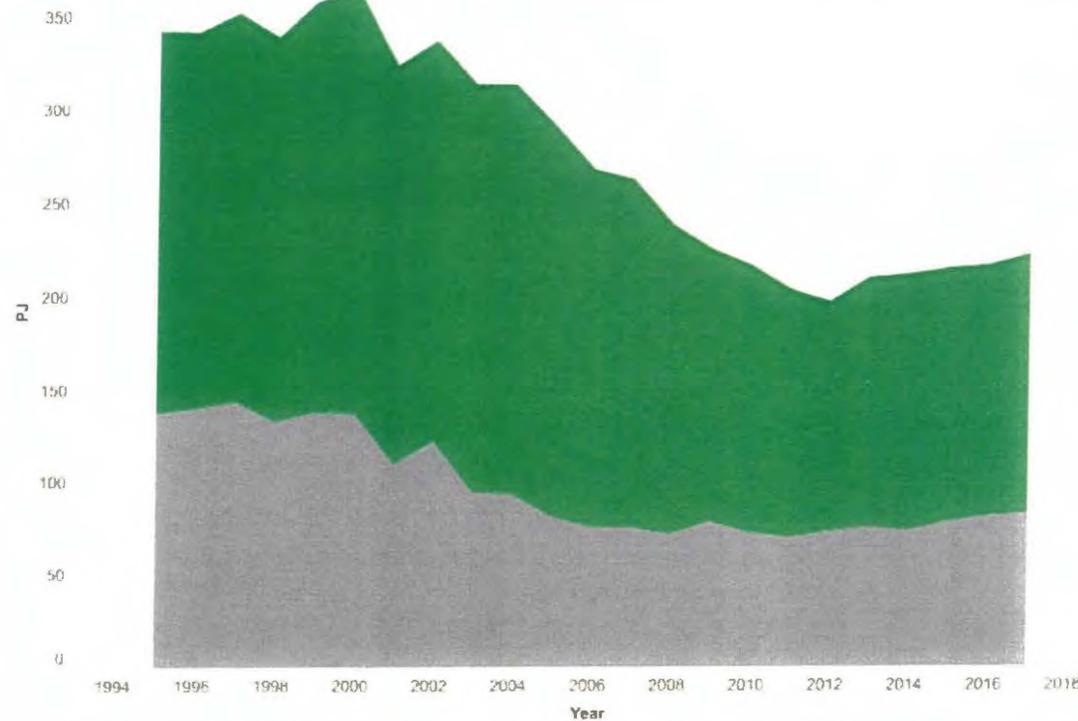
#### **Footnote 2**

Natural Resources Canada. [How does the forest industry contribute to Canada's economy? Indicator: Gross domestic product.](#)

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**Figure 1. Energy use by fuel type in the pulp and paper industry (1995-2017)**



Select a view:

Total Fuel Use by Type

Fuel type

- Electricity
- Natural gas

### Figure 2. Economic output of the pulp and paper industry for all of Canada and by province (1997-2018)

