

# CONSTRUCTION

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## Pattern Development completes 147 MW project in Québec



Turbine top view at Mont Sainte-Marguerite Wind. (Courtesy: Pattern Development)

Pattern Energy Group LP (Pattern Development) recently announced the completion of its 147 MW Mont Sainte-Marguerite Wind power facility. Mont Sainte-Marguerite Wind is about 50 kilometers south of Québec City in the Chaudière-Appalaches region. As announced in June 2017, the facility will be acquired by Pattern Energy Group Inc. and PSP Investments.

“The successful completion of our first project in Québec brings our total operational capacity in Canada to 1,533 MW, making Pattern the largest wind-power producer in the country with nine facilities across four provinces,” said Mike Garland, CEO of Pattern Development. “Mont Sainte-Marguerite Wind brought strong economic benefits to the Beauce region through its use of local construction workers from Québec and Siemens Gamesa wind turbines with locally sourced components, supporting manufacturers in the province. Going forward, the facility will generate millions of dollars for our community partners, the municipalities of Sacré-Coeur-de-Jésus, Saint-Sylvestre and Saint-Séverin.”

“Congratulations to our partners on the commissioning of the Mont Sainte-Marguerite Wind farm,” said David Hickey, head of the Siemens Gamesa business in Canada. “With towers and hubs produced by local workers in the Gaspésie region, this wind farm is another great example of the positive economic impact the wind-power industry has for the region and is a progressive step towards environmental sustainability.”

The Mont Sainte-Marguerite Wind facility is using 46 Siemens Gamesa innovative 3.2 MW direct drive wind turbines with components made in Canada, including the turbine hubs and towers, which were built in Québec, leveraging the highly-skilled labor force and manufacturing facilities in the province. The turbine hubs were provided by Québec-based Group FabDelta. The turbine blades were manufactured in Ontario, and the towers were manufactured by Marmen at the company’s facility in Matane, Québec.

More than 350 skilled workers were employed on site at the peak of construction activity and Mont Sainte-Mar-

guerite Wind has approximately 10 permanent employees for ongoing operations and maintenance, in addition to using a number of local contractors.

Mont Sainte-Marguerite Wind is bringing strong economic benefits to the local community, including more than \$775,000 annually to Pattern Development's community partners, the municipalities of Sacré-Coeur-de-Jésus, Saint-Sylvestre, and Saint-Séverin, which are stakeholders in the facility and active participants in its development.

The facility operates under a 25-year power purchase agreement (PPA) with Hydro-Québec Distribution. Mont Sainte-Marguerite Wind facility is expected to generate enough power for approximately 28,000 Québec homes annually, according to power use statistics from Hydro-Québec. The facility site, on one of the higher elevations in Southern Québec, has one of the strongest wind resources in the region.

The Mont Sainte-Marguerite Wind facility was constructed by Borea Construction, under the supervision of Pattern Development's construction management team. ↴

Source: *Pattern Development*

For more information, go to [www.patterndev.com](http://www.patterndev.com).

## Final section of Nexans power export cable sails to Scotland

Nexans has reached two key milestones in its major contract to create the high voltage power export connection for Scotland's Beatrice 588 MW offshore wind farm. The first of the two 400 kV onshore cable links and the high voltage accessories have been installed successfully and tested on site. At the same time, the Nexans factory in Norway has completed the manufacturing of the 220 kV offshore cable and loaded the final section onto the Group's Skagerrak cable laying vessel for the journey across the North Sea to the Moray Firth where it will be installed and later trenched into the seabed by Nexans' Capjet system.

The Beatrice Offshore Windfarm project, scheduled to be fully operational by 2019, is a joint venture between SSE, Copenhagen Infrastructure Partners, and Red Rock Power Limited — the U.K. subsidiary of China's SDIC Power Holding Co. Located in the Moray Firth, it will be Scotland's largest wind farm, with the combined output of 84 turbines capable of generating enough electricity to power approximately 450,000 homes.

To export the energy from the wind farm to the grid, the two offshore cables take a route of 70 kilometers along the seabed to a landfall point to the west of Portgordon on the Moray coast. A transition joint bay then connects them to the onshore cable system, which takes a 20-kilometer route to Blackhillock substation. From there, the 400 kV onshore cables will transmit the electricity to the grid.



The Nexans-operated Skagerrak is responsible for laying the subsea export cables. (Courtesy: Beatrice Offshore Windfarm)

Nexans was awarded the turnkey contract to design, manufacture, test, deliver, and install both circuits of the complete power transmission cable system. This included the delivery of a total of 265 kilometers of cables, including 145 kilometers of 220 kV offshore cables, 115 kilometers of 220 kV and five kilometers of 400 kV onshore cables, and the associated high voltage accessories.

Nexans completed the laying and burial of the first offshore cable route in 2017 and connected it to the offshore platform in February 2018. In March 2018, Nexans installed the 400 kV onshore circuits and their outdoor sealing ends using its expertise of carrying out the termination works horizontally prior to connecting them vertically at Blackhillock substation.

"The Beatrice project perfectly illustrates our capacity to deliver turnkey grid connection solutions for offshore wind farms," said Vincent Dessale, senior executive vice president for the Subsea and Land Systems business group at Nexans. "For many years, Nexans has been committed to facilitating the energy transition in Europe and worldwide, and we are

proud to contribute to building Scotland's largest wind farm."

The offshore cables for the Beatrice Offshore Wind Farm were produced in Halden, Norway, and installed by Nexans Norway. The onshore cables were manufactured at Nexans Benelux facility in Charleroi, Belgium and installed by Nexans France. The associated high voltage accessories were delivered by Nexans Switzerland.

For more than 15 years, Nexans has been a key driver in the development of wind-farm technology. It was

the first company to manufacture three-core 245 kV submarine cables as well as the first to manufacture 420 kV submarine cables. To date, Nexans cables have enabled in excess of 3,500 MW of offshore wind-farm energy to be integrated into power grids across the world. ↵

*Source: Nexans*

For more information, go to [www.nexans.com](http://www.nexans.com)

## Samsung and Pattern Development start operations at Ontario facility

Samsung Renewable Energy Inc. and Pattern Energy Group LP recently announced that North Kent Wind, a 100 MW wind-power facility in the municipality of Chatham-Kent, has completed construction and is fully operational.

"Samsung is proud to complete its sixth wind project under our Green Energy Investment Agreement with the government of Ontario," said Eskay Lee, vice president, Samsung C&T. "Samsung and its partners have created jobs and invested in the community, benefiting real people in Chatham-Kent and across the province."

"North Kent Wind marks our sixth operational wind power facility in Ontario, totaling more than 1 GW of capacity, enough to power more than 400,000 homes each year," said Mike Garland, president and CEO of Pattern Development. "North Kent Wind was built entirely by Ontario workers and is generating substantial economic benefits in the municipality of Chatham-Kent by injecting more than \$40 million in direct spending into the local economy over the next 20 years."

North Kent Wind is using 34 Siemens Gamesa 3.2 MW wind turbines with towers and blades made in Ontario. During the peak of construction activity, North Kent Wind employed about 175 skilled workers, 100 percent of which were from Ontario, with the majority from the local area. The facility has approximately 10 permanent employees for

The North Kent Wind facility. (Courtesy: Pattern Development)



ongoing operations and maintenance, in addition to using a number of local contractors.

Samsung and Pattern Development, as part of their commitment to make a positive impact in project area communities, are providing \$4 million to the municipality of Chatham-Kent as a community benefit contribution to be used at the sole discretion of municipal council. In addition, the facility is estimated to generate approximately \$5 million in tax revenue over 20 years. In total, North Kent Wind will inject more than \$40 million of direct spending into the local economy over 20 years, including taxes, community benefits, landowner payments, and facility spending.

The municipality of Chatham-Kent also holds a 15 percent equity interest in North Kent Wind through its affiliate Entegrus Renewable Energy Inc. Bkejwanong First Nation, also known as Walpole Island First Nation, also holds a 15 percent equity interest in North Kent Wind.

The 100 MW North Kent Wind facility is expected to generate enough clean energy to meet the electricity needs of approximately 35,000 Ontario homes annually, based on average annual residential energy use in Ontario. The facility operates under a 20-year power purchase agreement (PPA) with the Independent Electricity System Operator (IESO). ↘

*Source: Pattern Development*

For more information,  
go to [www.patterndev.com](http://www.patterndev.com)

## M-KRAN orders Demag® CC 8800-1 Crawler Crane

Russia's leading crane service provider, M-KRAN, is expanding operations with the addition of the large and powerful Demag® CC 8800-1 lattice boom crawler crane with the optional Boom Booster Kit. The new crane will allow M-KRAN to perform the most challenging lifts.

In its standard configuration, the Demag CC 8800-1 crawler crane has a maximum capacity of 1,760 tons and maximum tip/sheave height of 709 feet. The Boom Booster Kit can extend lift capacities by up to 90 percent.

The new Demag crawler crane provides M-KRAN a productive and versatile machine for petrochemical projects, wind-turbine installations, and other challenging jobs. Because of its flexibility, ease-of-transport, and quick-rig design, the Demag CC-8800-1 crawler crane delivers an excellent return-on-investment. ↘

*Source: Terex*

For more information,  
go to [www.terex.com](http://www.terex.com)



The Demag CC8800-1 can be used for wind-turbine installations. (Courtesy: Terex)

## WIND TURBINE TECHNICIAN ACADEMY

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