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Construction cost evolution of standing column wells in the area of Montreal, Canada.

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Thanks to its role as a catalyst for geothermal projects using standing column wells (SCW), the geothermal research team at Polytechnique Montréal has been able to monitor and significantly influence drilling costs. Based on monitoring of drilling costs over a period of eight years, this presentation aims to share the strategy adopted and the means taken to reduce SCW costs in the Montreal region, Canada. As SCWs were little known in Montreal about ten years ago, drilling contractors tended to offer high prices for their construction. Discussions with contractors showed that these high costs included a significant safety margin, proportional to the risk perceived by the contractor. To change the perception of drilling contractors, our team then produced and made public plans & specifications, as well as drilling speeds and geological logs for SCWs up to 500 m deep. This strategy allowed for the public sharing of geological conditions on the island of Montreal, which reduced uncertainty for drilling contractors. In less than eight years, drilling costs have fallen from over \$1,500 CAD per meter to approximately \$160 CAD per meter for SCW of 500 meters. For institutional projects, we have found that the cost of SCWs now represents only 7% of the total cost of a renovation project where oil heating is replaced with a geothermal system using hydroelectricity.