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DECONSTRUCTION FOR REUSE: TWO MUNICIPALITIES IN THE GASPÉSIE REGION LEAD BY EXAMPLE

What if deconstructing a building piece by piece is better than demolishing it?

A pilot project in two Gaspésie communities in eastern Quebec has shown that deconstruction is a viable alternative to landfill disposal—or, more surprisingly, to the eco-centre—as part of a strategy that optimizes recycling. By first removing the doors, windows and exterior siding, and then dismantling the walls, roof and floor, materials can be better reused, which reduces resource waste. This innovative approach also generates significant social benefits at a comparable or lower cost than traditional excavator-based demolition. It's a good example of circularity applied to end-of-life buildings.

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circulaire



Grande-Rivière:



16%

30 tonnes of waste



14%

27 tonnes reclaimed



70%

135 tonnes for re-use



89%

km avoided

Chandler:



22%

47 tonnes landfilled



74%

155 tonnes reclaimed



4%

9 tonnes for re-use



79%

km avoided

The municipalities of Grande-Rivière and Chandler were eager to embark on this pilot initiative led by the Régie intermunicipale de traitement des matières résiduelles de la Gaspésie (Gaspésie intermunicipal waste management board, or RITMRG). The economic argument particularly drew the attention of municipal elected officials; in that region of Quebec, disposing of just one tonne of construction waste can cost several hundred dollars. Typically, 95% of materials are generally sent to landfill, resulting in substantial costs. For example, the deconstruction of five buildings—four wood buildings in Grande-Rivière and an abandoned building in Chandler—generated more than 400 tonnes of waste, of which only 77 tonnes ultimately went to landfill.

The Grande-Rivière site, a former hardware store, was particularly favourable to the reuse of deconstruction materials. In total, 135 tonnes of on-site conditioned wood and metals were purchased by citizens from the region, with sales totalling more than \$20,000. These reclaimed materials replace an equivalent amount of new resources that would be required to make new construction materials, which would ultimately become end-of-life waste as well. Above all, the initiative has inspired a shift in attitudes, even among local contractors who are now interested in adopting this approach. The idea that yesterday's waste can become our future resources is catching on.



MANY CHALLENGES TO OVERCOME

At the very start of the initiative, stakeholders needed convincing of the technical and economic feasibility of deconstructing buildings to prioritize the reuse of materials. This was easier said than done, as no comparable project had been attempted in Quebec or Canada before. Municipal authorities who owned the buildings were particularly concerned about potential cost and schedule overruns—a common reaction whenever the usual way of doing things is questioned. “It requires an open mind and flexibility from all the actors sitting at the table,” stated Nathalie Drapeau, RITMRG Executive Director.

The support of external experts played a crucial role in the success of what would become a well-documented pilot project. The contribution of the Laboratoire d’accélération en économie circulaire pour le secteur de la construction (construction circular economy acceleration lab) of the École de technologie supérieure and RECYC-QUÉBEC went well beyond the academic papers and technical reports that were published as part of the project. “Having support through research helped us to better structure the initiative and make it something inspiring for the entire municipal community, said Nathalie Drapeau. It has become a source of pride, because it shows that the remote Gaspésie region can innovate and come out ahead!” The Federation of Canadian Municipalities also contributed to funding the project.

Careful monitoring was required once the work started. From day one, contractors received on-site training on the basic principles of deconstruction for reuse. They learned that a two-by-four is not waste—it’s a raw material! Then, various storage areas were set up to triage materials based on their reuse potential. “We took the time to discuss with the foremen and the employees to hear their perspective and ideas... This process was done collaboratively, not in a directive manner,” noted Nathalie Drapeau. Overall, both deconstruction projects took only slightly longer than traditional demolition would have required.

The Federation of Canadian Municipalities has also contributed to the project, reinforcing its commitment to supporting initiatives that promote sustainable development in Canadian communities. [Find out more about this project.](#)



TIPS FOR MAKING YOUR DECONSTRUCTION A SUCCESS

Lessons learned through this pilot project are now available to benefit all. The RITMRG has developed a toolkit that includes all the decision-support tools developed as part of the pilot project on deconstruction for reuse in the Gaspésie region. With this toolkit, rural and urban municipalities that are considering doing the same can confidently tackle each step: defining needs, recruiting contractors, material conditioning, assessing results, designing and communication plan, etc. Because the entire approach is fully transferrable and replicable, large-scale deconstruction projects are very likely to appear in the next few years.

Nathalie Drapeau highlights the importance of working with the right people to successfully deconstruct buildings for the purpose of recirculating materials. She also insists on the need to consider this option instead of settling for the status quo. “This pilot project provides arguments for going against the easy, well-known solutions,” she said. “About a quarter of the waste generated in the Gaspésie region is construction, renovation and demolition waste. We need to be bold to reduce this waste stream.”

Did you know?



The RITMRG has created a toolbox and interactive game to help you discover the key stages and resources of a reuse project in deconstruction! Use printable bonus cards to guide you step by step, making it easy to incorporate sustainable practices into your projects.

