

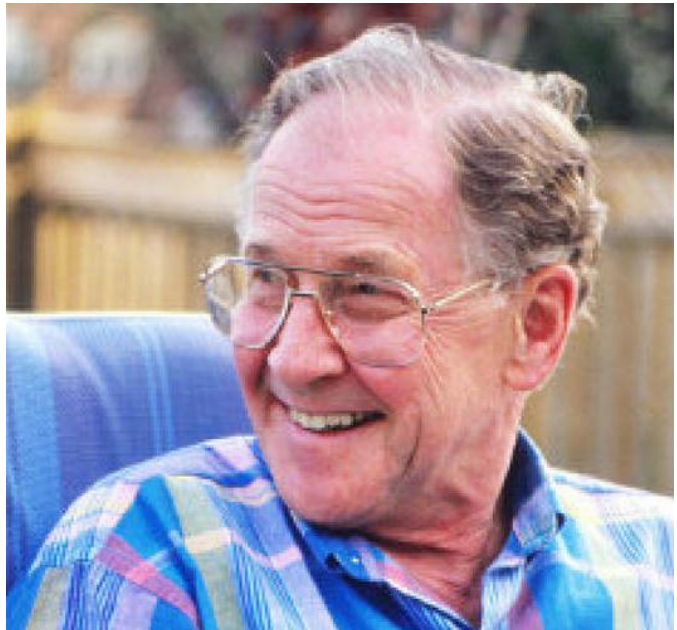
Robert Tamblyn's great idea

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<http://www.thestar.com/opinion/editorialopinion/article/1274735--robert-tamblyn-inspired-toronto-s-innovative-enwave-cooling-system>

Two related events occurred in Toronto on Oct. 4. One was the unheralded death of Robert Tamblyn at the age of 91. The other was final approval by Toronto City Council of the sale of its stake in Enwave Energy, a company that heats most and cools many of the major buildings in downtown Toronto. The sale will generate for the city what Mayor Rob Ford described as a “windfall” of about \$100 million beyond the \$68 million it has invested in the company.



Tamblyn was the brilliant Toronto engineer who dreamed up the highly innovative system — deep lake water cooling — that forms the core of the cooling side of Enwave's operation.

It makes use of the renewable, very cold water at the bottom of Lake Ontario to cool buildings, using less than a tenth of the energy required by conventional air conditioning systems.

The Washington Post in 2005 described how Tamblyn got the original idea in the 1940s when he was working at the downtown Eaton's department store. He figured out that the store was (illegally) blowing air over pipes carrying the cold municipal water supply to cool the women's evening-wear department.

“Today” says the Canadian Urban Institute at its website, “the Enwave district cooling system is Toronto's main environmental ‘calling card’ which has dramatically reduced greenhouse gas emissions, has reduced costs of living and costs of business, and continues to attract firms that are environmentally conscious to Toronto's downtown.”

Deep lake water cooling has received international acclaim. A September 2004 National Geographic article described it as “the Air Conditioning of Tomorrow.” An agency of New York City’s government lists it as a best practice in the fields of climate change and energy. In 2006, Enwave won the Leonardo da Vinci system of the year award of the International District Energy Association.

Enwave is the second largest district energy system in North America. It was originally the Toronto District Heating Corporation (TDHC), which began life as a city-controlled corporation linking the heating systems formerly managed by Toronto Hydro, several downtown hospitals, the provincial government, the University of Toronto and the railways. The prime mover behind the formation of TDHC was Ray Bremner, the City of Toronto’s renowned works commissioner from 1964 to 1991, who died in 2004.

Bremner’s vision, shared by some of these participants, included supplying the integrated system from a massive refuse-fired heating plant. It was never built, and Enwave continues to burn natural gas to create the steam it distributes to more than 100 buildings. Some participants wanted cogeneration of electricity and steam for the system. This never happened either.

What did come to fruition was implementation of Tamblyn’s vision. In the 1990s, Alex Bystrin, TDHC’s second president, now head of the City of Hamilton’s utilities, made Tamblyn’s scheme feasible by showing how the installation cost of deep lake water cooling could be reduced by more than half by sharing facilities with Toronto’s water supply (and incidentally enhancing the supply).

He also showed how the capital required for the installation could be obtained through partial privatization of the corporation. This led to the transformation of TDHC into Enwave Energy in 1999, and now to full privatization with the purchase by Brookfield Asset Management of the 57 per cent share of Enwave owned by the Ontario Municipal Employees Retirement System (OMERS) and the 43 per cent owned by the city.

This is how Toronto’s \$100-million windfall came about. What remains to be seen is whether the city and Brookfield will build on Tamblyn’s innovation and on the resource of a major district energy system. In his spirit, we hope that the city will apply at least some of its windfall in imaginative ways, rather than merely supporting current operations.

One venture, in collaboration with Brookfield, could be to stimulate innovative expansion of the district energy resource. **Another imaginative venture could involve a search for truly creative solutions to Toronto’s current major transit challenge, which happens to be lake-related: that of providing service to the East Bayfront and the Port Lands.**

***Don Stevenson** was the provincial government’s deputy minister responsible for the legislation that established TDHC. **Richard Gilbert**, a former Toronto councillor, served as the company’s first CEO, from 1982 to 1989.*