

“What’s the most intriguing use of sustainable engineering you know of?”

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“Deep Lake Water Cooling” is one approach to building air conditioning that really interests me.

There’s a project in Toronto that draws water from 270 feet below the surface of Lake Ontario. The water is around 40 degrees Fahrenheit at that depth, cold enough to be used directly in a building’s mechanical systems as “chilled water” without the need for further temperature reduction (and energy use) by a chiller plant.

The Toronto team installed a much smaller-sized chiller plant than what would otherwise have been needed, and significantly reduced the number of hours the chiller needs to operate. The result is substantial energy savings and also lower construction costs.

I think this technology could feasibly be applied wherever there’s a cold lake or ocean and in some cases make a chiller plant wholly unnecessary while reducing carbon emissions substantially.

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