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Hybrid Systems

Higher efficiency levels of electric heat pump water heaters heavily driving adoption in residential sector.

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TANKLESS & STORAGE

DHW



Tankless units still make up only around 15 per cent of the DHW market.

Efficiency legislation is largely driving innovation in DHW and technicians should expect a surplus of electric-based heating options.

By Leah Den Hartogh

Decarbonization has officially made its way into the water heater market. The Canadian federal government has changed the standards and regulations in recent years for water heating, pushing the minimum requirement for efficiency; and effectively, altering the path the technology was heading.

The big gold belt of domestic hot water remains with storage water heaters; Canadians looking in their basements will likely find themselves with some type of tank unit controlling their hot water system. “In North America, storage units are still very heavily used,” explains Andrew Tran, senior marketing manager at [Noritz America](#). “I would say the tankless market is probably 15 per cent of the whole market. A lot of people ask me who my competitors are, and you’re inclined to talk about other tankless competitors. But really, our competitors are storage tanks because there’s so much more of the pie that everyone can take.”



A benefit of a tankless unit is that it can be installed almost anywhere in the home, opening up space for things like a home gym.

That's not to say that each type of technology doesn't have its ideal application or installation. For instance, tank-type water heaters typically work in a larger home with greater demands. "You have to make sure your consumer understands in some situations, tankless is not the right option.

the product was largely designed using a European approach, which just wasn't adaptable to the North American lifestyle, explains Larry Moores, manager of business development for [Rinnai Canada](#).

"If you're a contractor and you experienced the first wave of tankless water

“Most contractors are set up with all the things they need to do service and maintenance on tankless water heaters. They carry it around in their truck and can do several in a day.”

In a huge house with a few rentals, you need a tank. But a standard house with a couple of showers, here and there, tankless is perfect," shares Chad Euverman, president at [Eco King Heating Products](#).

Myth #1

When tankless was first brought over to North America, sometime during the 90s,

heaters... there's a lot of new information for you since then." Moores was a contractor in 1986 and his experience was not-so-positive. "When I first put in a tankless water heater, it wasn't a positive thing. But since the mid-90s, everything has changed and the products themselves are so much better. Our products that are installed in our homes, from a fixture

perspective, have changed a lot as well."

So, when is it the correct time to choose tankless or tank? Well, it comes down to the homeowner's lifestyle, explains Euverman. "There's a lot of factors that go into it all because if you're going to run back-to-back-to-back showers, tankless could be perfect for you. But if you're going to run three showers at the same time, you're going to want a tank unit."

A good rule of thumb to follow, as a contractor, is to count the number of bathrooms within the building. Anywhere close to five, and a tank might be the more ideal option. Another way is to look at the occupancy of the living space. If it's just a single person or a couple of empty nesters, then installing a storage tank would work just fine.

Myth #2

As previously mentioned, the first wave of tankless water heaters in North America had its problems, which resulted in a slower adoption. Back then, there was quite a difference in the overall cost of a tankless water heater compared to a storage product.

Nowadays, the cost between tank and tankless is extremely close. And with governments pushing Canadian towards energy-efficient lifestyles, there are more incentives for homeowners to choose those types of products.

Take a look at the Natural Resources Canada (NRCAN) website and search "water

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heater" in the "directory of energy efficiency programs for home" section. You'll find over a dozen rebate programs currently operating across the country. Money that would be going directly back into your customer's pockets. This goes for both tankless and tank-style water heaters.

With climate change being such a big topic of discussion around the world, this is also shifting the fuel sources for our water heaters. "If you look at the general political climate and if you look at all the talk out in the industry, a lot of the legislation is pushing away from gas," explains Euverman. "That's why we started to sell electric hot water tanks. We wanted to be in the market where that demand is going to increase."

And for those who haven't made the switch to fully electric, it's coming, "Electrification is pushing us to find other ways as well to present an electric tankless on the market," said Tran. "This affects us too in some districts of the U.S.; they are banning natural gas products, but that's pushing us."

Maintenance checklist

With the ramifications of the pandemic in the forced-air heating sphere, there has been a spotlight pointed directly at indoor air quality. Like the space heating world, water quality is just as important when it comes to domestic hot water heating. Tank units could need to be replaced faster than wanted when poor water quality is pushed into the system, "It is very essential to have water quality that falls within the parameters or the specifications of any manufacturer," says Euverman.

Scale can build up over time on tankless



and regular maintenance is needed just as with a tank unit. As such, it is important to make sure customers keep up with regular maintenance. Tankless water heaters should have its heat exchanger cleaned regularly. "It's really unusual for people to clean tanks, although it's recommended to look at the maintenance guidelines," explains Moores. To clean a heat exchanger, all that's needed is table vinegar. It typically takes anywhere between 30 to 45 minutes. "Most contractors are set up with all the things they need to do service and maintenance on tankless water heaters. They carry it around in their truck and can do several in a day."

With electric storage tank water heaters in particular, the anode rod needs to be a part of the maintenance checklist. "Every couple of years, the installer technician should be coming back for a service call to look at the tank and make sure that the anode rod is still intact and if it isn't, you'll need to replace it," explains Euverman. Maintenance should occur every year or two on both types of water heaters.

Regular maintenance is important to ensure the lifespan and efficiency of a storage tank water heater reaches its full potential.

Making life simpler

New builds are typically easier to install any type of equipment, with equipment typically built around each other. Retrofits on the other hand tend to be a bit more challenging. Tankless manufacturers have come up with innovative solutions to make installation a bit easier on the technician. Some units now have a top-mounted connection, which reduces installation time.

"We're starting to see that kind of trend in the tankless market, where they're starting to make top-mounted connections or connections that are both top and bottom mounted," explains Tran. "That is sort of a trend now because I think installation time has been a big barrier for plumbers. Some plumbers are just used to throwing in another storage tank. Now with these options, it's becoming a little more accessible for everyone."

The most difficult part of any type of retrofit, whether tankless or tank, would be if the home was switching fuel sources. If it's going from gas to electric, the breakers need to be tested to make sure it can handle the power draw from the new piece of equipment.

If a homeowner is going to a gas-fired unit, then the venting would need to be changed a little bit and the gas lines need to be tested to ensure that they are also the correct size.

"There are definitely some more steps involved with a tankless. That being said, for most installs, people can replace it quite fast from a tank to a tankless," says Euverman. +