

# **SolarInnovate Energy Solutions**

# How much does it cost to invest in a 232kwh liquid cooling energy storage cabinet





### **Overview**

How will cooling tower prices change in 2025?

Cooling tower prices in 2025 are influenced by rising material costs, energy efficiency demands, and smart technology advancements. While initial costs may be higher, investing in energy-efficient, well-maintained systems can save money in the long run.

How much does liquid cooling save a data center?

Because high density compaction is a key benefit of liquid cooling, we also quantify the capex difference when liquid cooling is deployed at 20 kW/rack and 40 kW/rack for the same capacity data center. The result is 10% and 14% capex savings, respectively. Liquid-cooled IT equipment is not new. It's been around for decades.

Is liquid cooling better than air cooled data center?

It demonstrates that for like densities (10kW/rack), the data center cost of an air-cooled and liquid-cooled data center are roughly equal. But as described above, liquid cooling also enables compaction of the IT, and with compaction, there is an opportunity for a capex sav-ings.

How much does liquid cooling cost?

Liquid cooling technology – \$0.77/W premium. This premium represents the increase in costs at the server and rack level. As mentioned previously, this includes the sealed chassis, dielectric fluid, liquid heat sinks, tubing, micro pumps, heat ex-changer, dripless connectors, and rack manifold. Dry coolers & CRACs – \$0.31/W premium.

Are adiabatic cooling towers a good investment?

Hybrid and adiabatic cooling towers reduce energy and water consumption, but they come at a premium price. Variable frequency drives (VFDs) and smart automation systems add to the cost but provide long-term savings. Site



preparation, labor, and permits can add 10-30% to the total cost.

Does liquid cooling save space?

Although there is no compaction of the IT white space, facility space is saved by the reduction of cooling system switchgear and UPS systems. Savings include other associated costs linked to space, like fire suppression, lighting, etc. Additionally, liquid cooling does not re-quire any air containment, so this is removed.



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