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## Retrofits Are the Sustainable Way to Increase Data Center Capacity, McKinstry Says



**The iMasons Legacy Podcast**  
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**Retrofits Are the Sustainable Way to Increase  
Data Center Capacity, McKinstry Says**

Photo courtesy of McKinstry



## The Greenest Data Center

**T**he greenest data center is the one that never gets built.

That's why retrofitting existing data centers with upgraded equipment is gaining traction as a sustainability strategy, according to [Thomas Tellefson](#), Senior Vice President, Data Center Innovations, at [McKinstry](#), a design, manufacture, build, operate and maintain service provider for high-performance buildings.

Today, there are more than 20 gigawatts of data center capacity built across the United States. McKinstry sees a strategic business opportunity to leverage this built capacity as the data center industry races to meet accelerating demand for digital services and achieve carbon reduction targets.

For example, McKinstry's Data Center Innovations team works with clients to identify stranded power capacity in their buildings and use this capacity combined with alternative energy solutions to accommodate upgrades to high-performance computing and liquid cooling systems.

"Any way we can capture extra capacity without building new data centers is going to have a positive effect on the embodied carbon," said Tellefson.

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— Thomas Tellefson,  
Senior Vice President,  
Data Center Innovations,  
McKinstry





## Achieving Carbon Reduction Goals

**E**mbodied carbon is the amount of greenhouse gas emissions associated with the lifecycle of a building or product, including the emissions released during the manufacturing of materials such as the concrete and steel used to build a data center.

Strategies to reduce embodied carbon through retrofits of existing data center buildings aligns with the goals of the [iMasons Climate Accord](#) (iCA), a coalition united to achieve carbon reduction of digital infrastructure across power, materials and equipment. McKinstry is a Sustaining Member of the iCA.

“From a sustainability perspective, the most sustainable building is the building that’s already built,” said [Miranda Gardiner](#), Executive Director of the iCA. “Retrofits can be more challenging than new builds, but even with tech moving fast, taking our facilities offline and demolishing them it is not a long-term solution.”



Photo courtesy of McKinstry





## From First-of-a-Kind to Custom Solutions at Scale

**M**ckInstry's road to the data center industry started as a design-build contractor in 1960, gradually expanding capabilities from plumbing to combined mechanical, electrical and plumbing systems, to operations and maintenance and offsite manufacturing.

"When the dotcom boom hit, we got pulled into the early design and deployments of many of the first data centers around the Pacific Northwest," noted [Aaron Seymour](#), Director of Project Development, Data Center Innovations, at McKInstry.

These projects were typically one-of-a-kind prototypes for the biggest technology companies in the world. This work led to operations, maintenance and facility management contracts with hyperscalers.

In 2023, McKInstry started to provide offsite manufacturing services to data center owners and operators to help expedite time to market and reduce construction costs. These services coincided with the launch of the Data Center Innovations team and expansion to markets throughout the United States.

The transition moved McKInstry from partnering with technology companies on prototypes to delivering the full suite of customer solutions at scale, noted [Seth Davis](#), Principal and Director of Data Center Innovations Engineering at McKInstry.

"A lot of times, the solutions are not that complicated," he said. "The key is getting them applied efficiently with high quality and fast. We can offsite manufacture solutions and ship them to the site. It's plug and play in a timely manner."

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## Retrofit Focus

**T**he big picture, industry-wide perspective also brought focus to the retrofit opportunity, which aligns with McKinstry's mission to make the built environment healthier, more efficient and safer.

Consider a long-term data center tenant up for a lease renewal. As part of that renewal, the tenant wants to implement modern high-performance computing for artificial intelligence (AI) tasks and needs liquid cooling to support high-density workloads.

"In most cases, that can be done with these existing systems. It's just a matter of finding the appropriate way to do it to maximize the infrastructure that can remain and apply that infrastructure to this new concept," said Davis. "We work with these clients to make that happen."

Gardiner notes that while retrofits are less recognized than a newly certified building, there are more emissions reductions opportunities and should be part of the options to consider.

McKinstry, she added, is a leading design-build firm that sees an opportunity to bring their decades of on-the-ground expertise to improve the built environment of data centers.

"It's encouraging that companies like McKinstry embed sustainability and decarbonization efforts as part of their design ethos and approach to transform the market," she said.



Photo courtesy of McKinstry

**Modern retrofits enable existing data centers to support high-density workloads and liquid cooling for AI, maximizing infrastructure without the need for new builds.**



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