

A photograph of a large, modern data center interior. The ceiling is a complex network of dark metal beams and pipes, with numerous lights. The floor is filled with rows of server racks, some of which are illuminated with a blue glow. The overall atmosphere is industrial and high-tech.

*The Carbonless Cloud
Computing Lab*

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- ▶ Current project - **LEED** - Lightwave Energy Efficient Datacenter
 - ▶ <https://leed.sysnet.ucsd.edu/>
- ▶ Funding from ARPAAe and CEC
 - ▶ 5 years (through 2022) \$10.5M total
 - ▶ Goal: Double compute energy efficiency via optical networks
- ▶ Nacent project - Datacenter decarbonization
- ▶ **C³** - Carbonless Cloud Computing Lab
 - ▶ c3lab.net/
- ▶ Goal: Develop technological innovations for a zero-carbon cloud infrastructure
- ▶ Approach: Amortize the initial carbon footprint (embodied carbon) of IT equipment by extending the productive lifecycle of IT hardware.