Microsoft datacenters in San Jose

As more people and businesses rely upon technology to stay connected, informed, and productive, digital needs in San Jose and around the globe are growing. And that means the need for hyperscale datacenters is growing too—especially here in Silicon Valley, hub of the tech industry.

Hyperscale brings hyper efficiency. Microsoft cloud services offer customers an energy efficient and carbon neutral alternative to running their own private datacenters. Research shows that Microsoft cloud services are up to 93 percent more energy efficient than traditional enterprise datacenters.

Microsoft strives to empower the communities where our employees live, work, and operate our datacenters. With that, it's important we share information about why datacenters are needed, Microsoft's approach for responsible operations, and the benefits of hosting a datacenter in your community.

The cloud powers our digital world

Cloud computing is the delivery of computing services over the internet. Common daily activities are made possible through cloud computing, such as:

| Email | Online banking | File storage | Streaming videos | Collaboration | Online shopping | Mobile apps |

Cloud computing can provide consumers and businesses with the benefits of enhanced security, privacy, compliance protection, lower costs, easier access, higher reliability, and a lower carbon footprint.

The Microsoft Cloud is for everyone

The Microsoft Cloud serves over 1 billion customers and 20 million companies worldwide.

Organizations in Silicon Valley relying on the Microsoft Cloud are made up of a variety of sectors, such as large enterprises, startups, governments, hospitals, banks, schools, or other organizations that contribute to a modern society.

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CISCO

CHM Computer History Museum

Microsoft

Why datacenters >   Microsoft commitments >   Community benefits >

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When Microsoft joins a community, we bring our commitments for a better world

Support inclusive economic opportunity

Commit to a sustainable future

Earn trust

Microsoft datacenters are key to our sustainability goals

Carbon negative by 2030

For our datacenters in this region, Microsoft is procuring approximately **55 percent renewable energy** from wind, solar, and hydro resources. We have power purchase agreements with AES and Longroad Energy.

Power usage effectiveness (PUE) measures cloud energy efficiency. The calculation is total power consumption divided by IT power consumption. A lower PUE score indicates more energy-efficient datacenters, with a PUE of 1.0 being the best score. Our San Jose datacenters are under construction and not in operation. They will have a **design average PUE of 1.21.**

Globally, Microsoft datacenters use fossil fuel generators for backup power and account for **less than 1 percent of our overall emissions.** In specific regions, Microsoft is **piloting running backup generators with renewable blend, cleaner-burning fuels,** and is also **piloting the replacement of datacenter generators with long-duration batteries.** In San Jose, the datacenter facilities will use natural gas as a means of decreasing diesel emissions.

Leadership in Energy and Environmental Design (LEED) is the world's largest green building certification program. LEED provides the framework for healthy, highly efficient, and cost-saving green buildings with lower carbon emissions. LEED

certification is a globally recognized symbol of sustainability achievement and leadership. **New Microsoft datacenters being built are designed to earn LEED Gold certification.**

Microsoft operations in San Jose **comply with applicable air quality requirements.**

Water positive by 2030

Water usage effectiveness (WUE) is another key metric relating to the efficient and sustainable operations of our datacenters and is a crucial aspect as we work towards our commitment to be water positive by 2030. WUE is calculated by dividing the number of liters of fresh water used for humidification and cooling by the total annual amount of power (measured in kWh) needed to operate our datacenter IT equipment.

The San Jose datacenters will be cooled with an indirect evaporative cooling system using reclaimed water all year and zero fresh water.

Because the new datacenter facilities will be cooled with reclaimed water, they will have a **WUE of 0.00 L/kWh.**

Zero waste by 2030

Microsoft has a goal to achieve 90 percent diversion of datacenter operational waste for Microsoft-owned datacenters

by 2030. To reach this goal, we're working closely with our waste haulers to optimize waste diversion programs across our global datacenter portfolio. We have achieved Zero Waste certifications for our San Antonio, Texas; Quincy, Washington; Boydton, Virginia; and Dublin, Ireland datacenter locations.

In 2020, we opened our **first Microsoft Circular Center in our North Holland datacenters,** which is designed to extend the life cycle of servers through reuse and to support a circular economy for the Microsoft Cloud. Because it takes five to six years from when a datacenter is operational to generate reusable assets, we are planning to use the closest available Circular Center once the new datacenters are in use and servers are ready to be decommissioned. Microsoft Circular Centers are able to process 3,000 servers per month for reuse.

Globally, Microsoft datacenters reuse **78 percent of our end-of-life assets and components; the remaining 22 percent of materials are recycled.** Additionally, Microsoft is conducting research and development to improve waste diversion by determining new recycling solutions for used air filters and fiber optic cables.

Microsoft is investing in skill building and environmental sustainability for the San Jose community

Our City Forest: In partnership with Our City Forest, Microsoft is supporting the 1,000 Tree Initiative to bring the benefits of urban trees to the community of San Jose. Trees from this project will support the community by reducing the negative effects of climate change, improving the local ecosystem, and engaging the community in tree care for the long-term sustainability of the urban forest.

San Jose Aspires program: Microsoft is supporting the San Jose Aspires program, which enables students to set goals and chart a path to academic success. Targeting youth in underserved neighborhoods, the program provides a performance-based micro-scholarship program that educates students about their college and career choices, individual advising and mentorship, and an online tool that helps students see career options, track rewards, and find other guidance resources. The program will support nearly 1,200 students in the San Jose community.

Microsoft datacenters create family-wage operations and construction jobs as well as positive impacts to the local economy

When construction begins for the new facilities, we estimate it will require **439 construction roles** and approximately **1.7 million work hours** to complete construction of the new datacenters. We intend to fill **25 to 30 percent of positions with local contractors.** Once the new datacenters are fully operational, we anticipate **70 full-time employees** will work at those facilities.

Construction jobs

- Electricians
- Plumbers and pipefitters
- Carpenters
- Structural iron and steel workers
- Concrete workers
- Earth movers

Datacenter operations

- Campus management
- People management
- Critical environment operations
- Learning and development
- IT operations
- Mechanical engineers
- Electrical engineers
- Security contractors
- Building maintenance