

Microsoft datacenters in Taiwan

As more people and businesses rely upon technology to stay connected, informed, and productive, digital needs in Taiwan and around the globe are growing. And that means the need for hyperscale datacenters is growing too.

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 to ensure you understand why datacenters are needed, Microsoft's approach for responsible operations, and the benefits of hosting a datacenter in your community.

[Why datacenters >](#)

[Microsoft commitments >](#)

[Community benefits >](#)

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



Microsoft datacenters are key to our sustainability goals

Carbon negative by 2030

[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 Taiwan datacenters are under construction and not in operation. The new datacenter facilities in Taiwan will have a **design average PUE of 1.20**.

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**.

[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 Taiwan **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 water used for humidification and cooling by the total annual amount of power (measured in kWh) needed to operate our datacenter IT equipment.

Microsoft will use outdoor air with indirect mechanical cooling at the new datacenters in Taiwan. This method of cooling uses outside air and zero water for cooling when temperatures are below 29.4 degrees Celsius, reducing water for cooling to less than 30 percent of the year. This system is highly efficient, using less electricity and less water used by other water-based cooling systems, such as cooling towers.

The new datacenter facilities in Taiwan are designed for an **average WUE of 1.00 L/kWh**.

Zero waste by 2030

Microsoft has a goal to achieve 90 percent diversion of datacenter operational waste 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 to Taiwan. 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.

Since 2020, Microsoft has been investing in digital skills training to increase employability in underserved Taiwan communities



Skills for Jobs program: In 2022, Microsoft collaborated with nonprofit partners to train 1,542 individuals through the Skills for Jobs program. 359 of the participants are now connected to new employment opportunities.



Build School Taiwan: Through a [joint project with Build School](#), Microsoft Taiwan is supporting free admission to a five-month professional training course in Microsoft Azure front-end and back-end development platform technology. The program targets students with autism to support a diverse workforce in Taiwan's technology industry.



House of Dream 財團法人夢想之家教育基金會 | 品格素養 X 公益慈善 X 就學就業: In 2022, Microsoft and Build School collaborated with [House of Dream](#) to conduct a Power BI course for underserved teenagers and provide financial support for these students to take PL-900 certification examination. Funding allowed participating teens to enhance their digital skills.

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

Microsoft datacenters represent a capital-intensive investment and long-term commitment to the community. We estimate it will require 350 construction roles and **3.5 million work hours** to build the new datacenters in Taiwan. We intend to fill **60 to 70 percent of positions with local contractors.**

Once fully operational, we anticipate an additional **80 full-time employees** will work at the new datacenters.



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