

Microsoft datacenters in Denmark

As more people and businesses rely upon technology to stay connected, informed, and productive, digital needs in Denmark 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. According to the Danish consultancy the Footprint Firm, emissions from traditional IT in Denmark are equivalent to approximately 300,000 metric tonnes of CO2 per year.

As part of our commitment to building a sustainable future, 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 commitments to responsible operations, and the benefits of hosting a datacenter in your community.

Cloud computing 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



Collaboration



Online shopping



Mobile apps

Cloud computing can provide consumers and businesses with the benefits of data sovereignty and privacy, lower costs, easier access, higher reliability, and lower carbon footprint.

The Microsoft Cloud is for everyone

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

Organizations in Denmark relying on the Microsoft Cloud include large enterprises, startups, governments, hospitals, banks, schools, and other organizations that contribute to a modern society.



MAERSK



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 renewable energy. Microsoft has a power purchase agreement with developer European Energy, a Danish renewable energy developer, for the now-operational 27 MW Svinningegården solar project owned by Encavis. Once our new datacenter is operational, we plan to use an eco-labelled renewable fuel blend to power our backup generators to reduce carbon 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, lower carbon emissions and cost-saving green buildings. LEED certification is a globally recognized symbol of sustainability achievement and leadership. **New Microsoft datacenters are designed to be LEED Gold certified.**

Power usage effectiveness (PUE) measures **cloud energy efficiency**. The calculation is total power consumption divided by IT power consumption. Lower PUE indicates more energy efficient datacenters, with a PUE of 1.0 being the best score. While PUE measurements are not available until the datacenter is operational, typically, air-cooled datacenters are designed to run at an **efficiency rate of 1.16**.

Waste heat

The new Denmark datacenters **will use IT server heat as the primary heating source during the cold winter months.**

In addition, the Microsoft datacenter in Høje-Taastrup will be ready to capture remaining IT server waste heat from day one and, where feasible, will transfer it to the district heating grid for use in the local community. Høje-Taastrup is a promising case given the close proximity to the municipality's district heating infrastructure, and this will be one of the first datacenter locations globally where Microsoft utilizes this new waste heat recovery design.

Microsoft is furthermore in dialogue with the other two municipalities, Køge and Roskilde, to explore future opportunities to recover and utilize waste heat from the datacenter sites where feasible, as well as broader sustainability initiatives within the municipalities.

Water positive by 2030

The new Denmark datacenters, once operational, **will be cooled using outside air and zero water all year.** The datacenter will use water for winter humidification and will use rainwater harvest when available.

Microsoft designed the new Denmark datacenters **for a water usage efficiency rate of 0.01 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. Additionally, Microsoft has achieved third-party validated Zero Waste certifications for four datacenter campuses globally, and we are planning for zero-waste operations in Chile.

In 2020, we successfully opened our **first Microsoft Circular Center in our North Holland datacenters**, which is designed to extend the life cycle of servers through reuse and support a circular economy for the Microsoft Cloud.

We will open a Circular Center in Denmark when reusable assets are available, which is typically 5 to 6 years after the datacenter is operational.

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 reduce waste by determining new recycling solutions for used air filters and fiber-optic cables.

Digital skill building for at least 200,000 Danes by 2024

According to recent studies, the increasing demand for IT talent will result in a shortage of up to 22,000 IT specialists in Denmark by 2030. **As part of Digital Leap Denmark, Microsoft is committing to help digitally upskill at least 200,000 Danes by 2024.** The plan includes an increased investment in deep technical training and certification for our Danish customers, digital educational opportunities for children and youth, and through LinkedIn Learning free access to digital upskilling, career planning, and job search tools for jobseekers and the entire workforce. In addition, in 2022 Microsoft is investing specifically in cyber security skills to help meet a growing demand for security expertise in both public and private sector.

See examples of our skilling activities at [Digital opkvalificering i Danmark \(microsoft.com\)](https://microsoft.com/digital-opkvalificering-i-danmark).

Denmark datacenter region economic impacts

The Denmark datacenter region offers new opportunities for Microsoft’s comprehensive partner ecosystem that builds and implements innovative solutions on the Microsoft Cloud. **Microsoft collaborates in Denmark with close to 4,000 partners to support digital transformation in Danish companies** and public institutions. This includes companies such as Accenture, Atea, KMD, Netcompany, NNIT, Systematic, Proactive, and Venzo. According to the US consulting firm IDC, DKK1 consumed in the Microsoft Cloud by Danish customers **generates more than DKK7 in revenue for Microsoft’s Danish partners.**

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 approximately **2.5 million work hours** across **1,200 to 1,300 construction roles** will be required to complete construction.

Once the datacenters are operational, we anticipate approximately **65 full-time employees** to work across the Microsoft datacenters in Denmark.



Construction jobs

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



Datacenter operations

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

Microsoft datacenters are best in class in performance, reliability, safety, and sustainability

Globally, Microsoft datacenters use fossil fuel generators for backup power during the rare grid emergency, which accounts for **less than 1 percent of our overall emissions.**

In specific regions, Microsoft is **piloting running backup generators with cleaner-burning, renewable blend fuels,** and is also piloting the replacement of datacenter generators with long-duration batteries.

Microsoft construction and operations in Denmark comply with applicable air quality requirements to support healthy regional air quality.