Microsoft datacenters in Sweden

As more people and businesses rely upon technology to stay connected, informed, and productive, digital needs in Sweden 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.

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

Swedavia Airports

THE NOBEL PRIZE

Downe House

Vasakronan

Microsoft

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Published April 2022. This document shares information we have as of the publication date, and it includes estimated information and projections. The information is provided as-is and may change without notice.

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 from wind, solar, and hydro resources. In partnership with energy provider Vattenfall, renewable energy consumption will be matched hourly, all day every day. Microsoft has power purchase agreements with bp, Enlight Renewable Energy, European Energy, NTR, Prime Capital, and wpd.

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.**

Sweden is Microsoft's first region with backup generators that run on Preem Evolution Diesel Plus, the world's first Nordic Eco-labelled fuel, containing at least 50 percent renewable raw material and a nearly equivalent reduction in net carbon dioxide emissions compared with standard fossil diesel blends.[1]

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. When we bring on new datacenters, like in Sweden, it takes some time to load the datacenter to an optimal capacity. Once we increase the IT output, we expect to be at the design PUE of 1.16. For February 2022, the PUE is 1.21.

Water positive by 2030

Our new Microsoft Sweden datacenters use outside air and zero water for cooling throughout the entire year. The new Sweden facility captures rainwater to help offset winter humidification water.

Given the short time the datacenter has been operating, water usage data is limited. However, in **December 2021, 0.5 million liters** were utilized with a **water usage efficiency (WUE) rate of 0.14 L/kWh**. Microsoft designed the facility for a water usage efficiency rate of **0.01 L/kWh over the entire year**.

The higher WUE in December 2021 is due to winter humidification and construction water usage.

Zero waste by 2030

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.

Because it takes 5 to 6 years from when a datacenter is operational to generate reusable assets, we are planning a Sweden Circular Center for use in 2027. Microsoft Circular Centers are able to process **12,000 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**. We are continuing to research further methods to reduce waste by determining new recycling solutions for used air filters and fiber-optic cables.

1 Microsoft opens its sustainable datacenter region in Sweden, creating new opportunities for a cloud-first Sweden - Microsoft News Centre Europe

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Since 2020, Microsoft has donated more than USD 1.6 million to projects supporting community-identified priorities

With partnerships across more than **20 organizations** to advance projects focused on workforce development, innovation and entrepreneurship, digital skills and transformation, and community inclusion, Microsoft is focused on investing in the community. In addition, the Microsoft #SkillUpSweden program aims to broaden digital competence of Swedes of all backgrounds and disciplines to create new, inclusive economic opportunities for up to **150,000 people**.

SANDBACKA SCIENCE PARK

Polhem

Datacenter Academy: In partnership with local education partners including Sandviken DCA and Polhemsskolan in Gävle, Microsoft donated datacenter hardware and resources to develop workforce training that prepares workers for jobs in the IT sector, including work in datacenters. This collaboration includes curriculum support, teacher training, datacenter equipment, and construction for the hands-on datacenter labs at both partner locations. As of March 2022, 140 students have participated in courses utilizing the hands-on labs and resources provided through these partnerships.

UPPÅKRA ARKEOLOGISKA CENTER

Uppåkra: Microsoft has supported the Uppåkra Model project which helps reading comprehension and key 21st-century skills development through the archaeology process. Microsoft is also helping the center to develop a digital game-based learning experience with Minecraft. This project will allow children beyond the 5,000 annual in-person visitors to do a "digital excavation" in Minecraft and reveal what lies hidden underneath the fields of Uppåkra—once the greatest Iron Age city in Scandinavia.

<Kod centrum>

Kodcentrum: Since early 2020, Microsoft provided funding to Kodcentrum to support middle-school educators in Staffanstorp, Gävle, and Sandviken with online training and webinars that provide help and inspiration for digital lessons which align with national curriculum using existing teaching resources. Additional projects include support for Minecraft teacher training in Staffanstorp and Library Digital Skills and Youth Leadership programs in Gävleborg, along with digital skilling and coding workshops and engagements across all three municipalities.

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. More than **235 full-time employees and contractors** work across Microsoft's datacenter campuses in Sweden. Since July 2019, more than **6 million hours** have been worked on construction projects, with an average of **1,100 construction jobs** per year with **30 percent of positions filled by local contractors**.

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