



CASE STUDY

Denmark data center to warm local community

At Facebook, we aim to minimize our energy, emissions and water impact, while embracing the responsibility and opportunity to impact the world beyond our operations.

The opportunity

When we announced the construction of our Odense Data Center in 2017, we were determined to build one of the most advanced, energy-efficient data centers in the world. The new facility will feature our latest hyper-efficient hardware, cooled using outdoor air through indirect evaporative cooling technology and powered by clean and renewable wind energy.

This facility will also be unique because of infrastructure to capture and recycle excess heat generated by our servers to provide heat to the local community. The energy recovered from our servers will be recycled by a newly constructed heat pump facility, supported by 100% renewable energy. This energy will then be directed into the local district heating system, operated by district heating company Fjernvarme Fyn.

The solution

This heat recovery project is part of our ongoing commitment to innovation and efficiency, and will support the city's ambitious goal of phasing out coal by 2025, which is years ahead of Denmark's national goal to phase out coal by 2030. We worked closely with Fjernvarme Fyn early on, identifying efficiencies in project design from the start. Our proximity to the local heat distribution grid minimizes additional infrastructure and will ultimately enable us to achieve more efficient heat production.

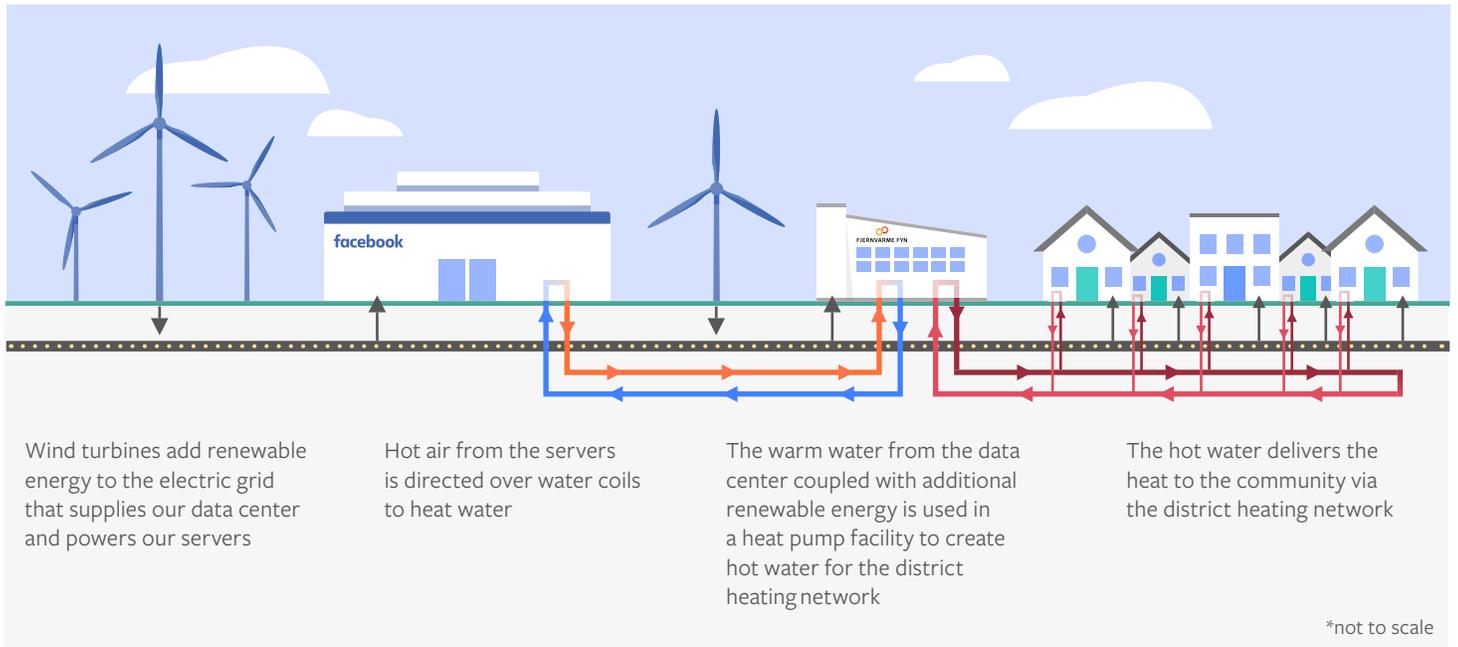
While we typically design our servers to minimize the heat they create, in Odense we direct this heated air over water coils, recovering the heat by raising the temperature of the water. This warm water is then delivered to the heat pump facility where the temperature is raised further and delivered to the district heating network and distributed to the local community.

2 million

metric tons of CO₂ emissions avoided between 2011 and 2017



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The impact

Once completed, our facility’s heat recovery infrastructure will help recover 100,000 MWh of energy per year – enough to warm 6,900 homes.

As we continue to make our global operations as sustainable as possible, our team is constantly looking for ways to collaborate with others – developing and sharing solutions that will benefit our communities. The ability to recycle and repurpose heat from our servers is unique to our Odense data center, and we couldn’t have done it without our close partner Fjernvarme Fyn and its district heating network.

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More information

For more information visit our Sustainability site at sustainability.fb.com