

Sheffield energy experts design cooling system for Qatar 2022 stadium

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Credit: University of Sheffield

A unique system to keep football fans and players cool at the Qatar 2022 FIFA World Cup, which was co-designed by engineers from the University of Sheffield, has been officially unveiled at the newly

renovated Khalifa stadium.

Although the competition has been moved from the summer to November and December, the average temperature during this time ranges between 25 - 29?.

Dr Ben Hughes's team from Sheffield's Energy 2050 institute worked with colleagues from Qatar University to design the system which cools the outside air and and pushes it through to the pitch, stands and concourse areas.

This district cooling technology is more sustainable and environmentally-friendly than [air conditioning systems](#) and uses recovered heat in a mixed mode to deliver a stable, comfortable indoor environment.

The 40,000 seat Khalifa Stadium was first opened in 1976 but has undergone extensive renovations for the World Cup.

Dr Hughes said: "One of the main challenges in holding the World Cup in Qatar is maintaining the thermal comfort of players and spectators. By using innovative cooling technology, we are able to reduce temperatures and the energy needed to meet carbon neutral commitments."

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Provided by University of Sheffield

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