

# Cambridge Mosque, CB1 3DF

Europe's first eco-mosque. A beautiful piece of architecture that combines traditional Islamic design with modern ecological technologies

## Meet your hosts, the Cambridge Mosque

The Cambridge Mosque will be dedicated to the spiritual and social welfare of the city's estimated six thousand Muslims.

Tim Winter, chairman of the Cambridge Mosque Trust, notes that 'Islamic civilization has been based on the rejection of waste as an under-estimation of God's blessing'. This idea is central to the principles behind the design of the mosque.

With its emphasis on sustainability and reliance on green energy, the Cambridge Mosque will be Europe's first eco-mosque and a true landmark building for the city of Cambridge and its residents.

The overall design for the site has been developed from the concept of a calm 'oasis'. Up to 1000 people can congregate inside. In addition to the Mosque's dedicated areas there will be a café, teaching area and meeting rooms for use by the local Muslim and non-Muslim communities.

### Insulation and air tightness

The Mosque will have better than Part L Building Regulations requirements for thermal insulation and airtightness. It has an EPC rating of A, which means that it is very close to being a zero carbon building.

### Heating, ventilation and shading

Energy use will be minimised by using mixed mode systems – static heating and natural ventilation, supplemented by displacement cool air supply at times of high occupancy or high heat gains.

The main entrance foyer is arranged to maximise the use of passive solar heat gain from the low sun in the winter months. Conversely there are also external canopies to shade the building and reduce solar heat gains in the summer months.

The internal temperature will be controlled using locally generated energy from heat pumps in the basement. This type of heat pump extracts energy from the relatively stable temperature of the air or ground water which will heat or cool the building as necessary. Underfloor heating will reduce demand by heating the occupied zone and not the whole space.

The use of a fountain in the foyer and a sedum roof will provide evaporative cooling.



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## Lighting

The mosque is designed so that no artificial lighting will be necessary during daylight hours. At other times natural light will be supplemented by low energy LED artificial lighting. Roof lights have been specially designed to maximise daylight in all key areas but prevent direct sunlight reaching the space.

## Water conservation

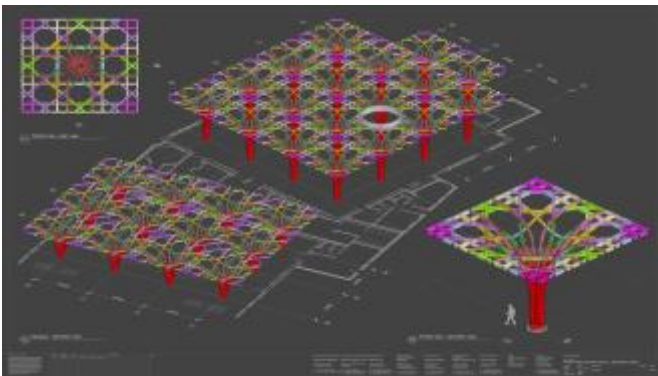
Grey or rainwater will be harvested from the non Sedum roof's to be used in low flush W.C.s and for irrigation for the grounds and landscaping.

## Electricity

A 115m<sup>2</sup> solar PV array will help offset the electricity used to power the heat pump, reducing the overall carbon emissions by an estimated 10%. The building's low initial carbon footprint will improve over time as mains electricity production from renewable sources increases.

## Bikes and gardens

The Mosque will have ample space for bikes and will be easily accessible by foot. Upon entering the mosque, visitors will walk through a permeable green edge created by an enlargement of an existing community garden. This will also provide a cooling microclimate providing shade, evaporative cooling and cleansing before the air enters the building.



**Property age:** Under construction

**Type:** Mosque

**Project Timescale:** Sept. 2016 – Nov. 2018

**Wall type:** Timber stud frame

**Floor area:** 5270m<sup>2</sup> (includes 2565m<sup>2</sup> basement car park)

**Occupants:** Inman residence 2-5, West residence 4, Prayer Hall and Mosque generally 1000 max.

## Key features

- Timber frame structure
- Natural evaporative cooling
- Air source heat pumps
- 115m<sup>2</sup> solar array
- Highly insulated building envelope
- Air tightness
- EPC A rating
- Building energy management system
- Energy efficient appliances
- Heat recovery system
- Materials chosen for durability and long life
- Natural ventilation
- Microclimate control and gardens
- Off-site construction reduces construction waste
- Shading/overhangs
- Water saving features, rainwater harvesting
- Bicycle parking spaces
- Building Information Modelling

## Key contacts and products

Project manager: [Bidwells](#)

Architect: [Marks Barfield Architects](#)

Structural engineer: [Price & Myers](#)

Building services consultant: [Skelly & Couch](#)

Quantity Surveyors: [Faithful + Gould](#)

Timber frame, superstructure, internal partitions:

[Blumer Lehmann AG](#)

Brick cladding: [Corium](#)

Windows: [Schueco](#)

Rooflights: [Roofglaze](#)

Pre-cast concrete: [Acheson + Glover](#)

Cast stone: [Haddonstone](#)

Timber curtain walling: [Raico](#)

Paving: [Marshalls](#)

[Cambridge Mosque Trust](#)