



SUSTAINABLE CONSTRUCTION AND REFURBISHMENT

WINNER

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WILLMOTT DIXON
CONSTRUCTION

Queen Mary University – Fraser Brown MacKenna Architects

*Recladding of the GE Fogg Building (The School of Biochemical Sciences),
Queen Mary University of London*

A striking transformation of a tired and uncomfortable academic building for Queen Mary University of London, creating a new identity that's as green as it looks.

The GE Fogg building was uneconomic to heat and extreme solar glare meant that it was hardly a suitable space for some of the world's leading scientists. The concrete structure was corroded and the windows were leaking. With redevelopment not a feasible option, a three-fold sustainable retrofit solution was devised:

-  To increase the insulation of the existing opaque walls.
-  To install new high-performance glazing throughout.
-  To include monocrystalline PV cells on parts of the south and south-east facing elevations and sloped roofs.

In delivering the £2.9m project, QMU overcame the logistical challenges of working around live laboratories and a building which bridges a public highway, installing 4,600sqm of rainscreen cladding and curtain walling across the complex building geometry. The result is improved user comfort with solar gain reduced by 20% and improved thermal comfort, a striking new identity, energy demand reduction of 70% and the generation of 2700kWh/pa renewable energy through PV cells in the facade, contributing to an annual CO₂ reduction of 6.0kg/CO₂/m².

QMU have extended the life of the building for a fraction of the cost of rebuild and demonstrated that the sustainable refurbishment of even the most complex mixed use academic buildings is achievable.

WHAT THE JUDGES SAY

Excellent all round entry which managed to take occupier comfort into consideration while simultaneously transforming an operational building. Improvements will not only extend the life of the structure but will also result in a high energy demand reduction of 70% and similar improvements in u-values.

FraserBrownMacKennaArchitects

