7. Energy & Carbon

WINNER

Blackfriars Bridge and Station Refurbishment

Client: Network Rail | Designers: Jacobs Engineering / Tony Gee & Partners
Contractors: Balfour Beatty Civil Engineering

DESCRIPTION: As part of the Network Rail £6 billion Thameslink Programme, Blackfriars Station was transformed in order to facilitate increased Thameslink train and passenger capacity (50% longer trains and trebling of frequency enabling 14,500 extra passengers a day in 2018). Restricting carbon emissions formed one of the Thameslink Programme's nine sustainability objectives. The Blackfriars Station project examined a number of options to meet this objective and, following detailed evaluation, the team established that the provision of photovoltaic (PV) roof cells spanning the bridge's roof canopy would be the most suitable option. The incorporation of PV cells at Blackfriars Station is a flagship project, creating the 'world's first solar bridge' and demonstrating the benefits of solar power and renewables on Britain's rail network.

ACHIEVEMENTS: Over 4,400 PV panels spanning the bridge have been installed – over 6,000m² of PV panels – onto the new roof of the historic structure. Energy generated by the cells will reduce carbon dioxide emissions by 550 tonnes a year, equivalent to flying from London Heathrow to Paris (return per passenger trip) >4500 times. By redesigning the construction's power supply, the team saved approximately 2.8 tonnes of CO_2, £1200 per week in hire costs and reduced fuel movements.

JUDGES' QUOTE: *This project demonstrates clearly how projects can be designed to incorporate renewable energy generation. It will surely be looked at as an exemplar of how a shift to a low carbon economy can be delivered in the future.*

[Source: JB_1984]


[Sharon Grafton, CEEQUAL]