elementenergy

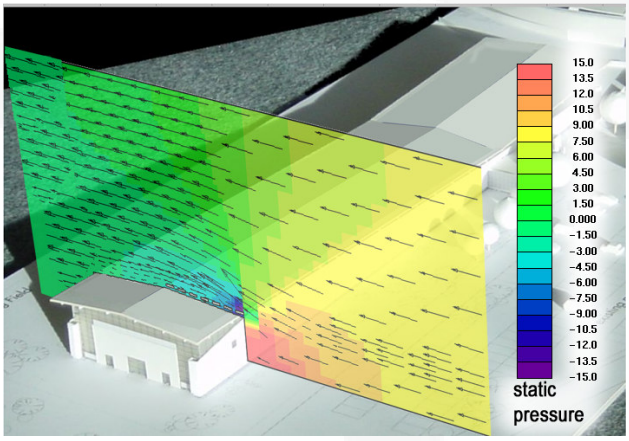
Alexander Stadium Photovoltaic Array

client: Birmingham City Council.

client brief: Assess the feasibility of installing photovoltaics on Birmingham's Alexander stadium, followed by initial array design and funding procurement.

our solution: Techno-economic modelling of PV arrays cumulating in scheme design and thermo-fluids modelling of cooling effects. Grant application to DTI.

description: The Birmingham Alexander Stadium was the largest installation of photovoltaics in the UK in 2002 comprising 102 kWp PV modules. Shane Slater and Ben Madden of Element Energy completed a feasibility study into the use of photovoltaics, cumulating in the scheme design of an array. The design process included thermo-fluid CFD analysis, demonstrating that the PV modules could have a positive cooling effect on the internal stadium atmosphere. They also wrote a successful grant application to the DTI procuring £310,000 to allow construction of the array.



CFD simulation of airflow over PV roof to model static pressure at roof surface.