

Notable Technologies

DC Microgrids: cover most of the non-performance spaces in the building powering LED lighting in the bar, offices and dressing rooms, and providing DC power directly to smart sockets. The Moixa microgrids enable significant energy savings and the simple integration of a wide range of advanced power generation technologies and connect to MASLOW smart storage batteries.

Solar-PV: Arcola has a 24m² array with a 6kW peak. 10 panels are directly connected to DC microgrids throughout the building, with the remaining solar power used in the theatre and eligible for the Feed in Tariff.

Smart Data: A energy monitoring system developed and installed by Moixa Technology allows Arcola to accurately measure consumption across all the spaces. This data is displayed in the Energy Zone in Arcola's foyer.

Renewable Heating System: built around the 60kW Therminator II boiler, which burns wood to heat water which is then pumped around the underfloor heating in the basement. The system also heats the water in the hot taps. In summer, solar thermal panels on the roof heat water.

Key Contacts



Ben Todd is the Managing Director of Arcola Energy which designs, integrates and deploys hydrogen fuel cell systems. Ben is also the Executive Director of Arcola Theatre, known internationally for its critically acclaimed artistic programme and multi-award-winning mission to become the world's first carbon neutral theatre. Ben holds a PhD in engineering from Cambridge University and has worked in R&D, technical and strategy on commercial and government projects, including at Cambridge Consultants, Johnson Matthey, Rolls-Royce Fuel Cell Systems and Synnogy.

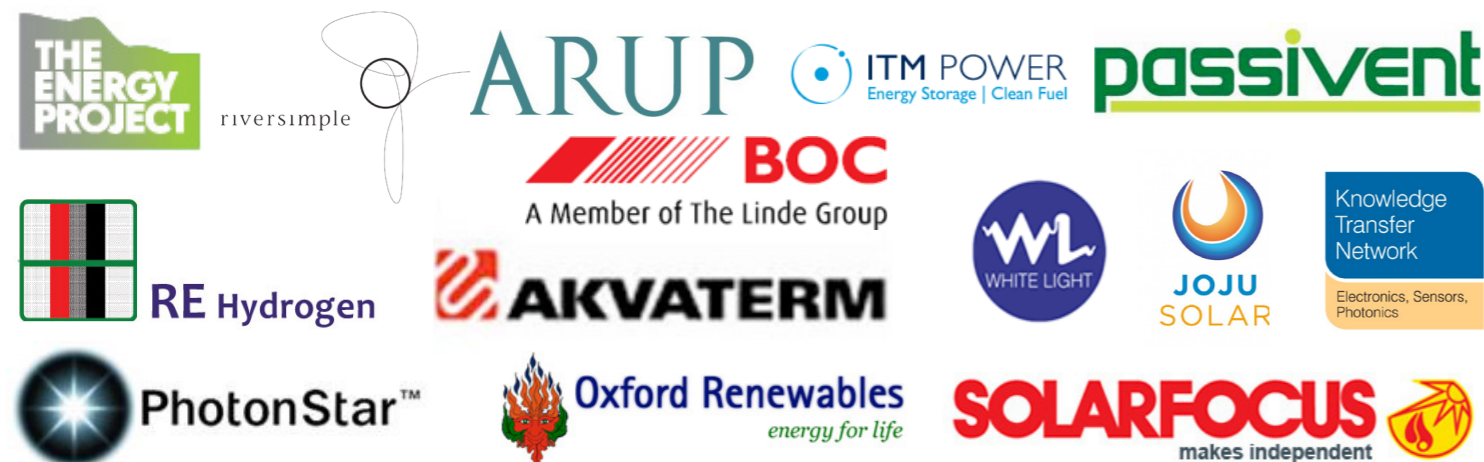
ben@arcolaenergy.com



Feimatta Conteh is the Sustainability Manager for Arcola Theatre, and Projects Manager for Arcola Energy leading on staff and community engagement, and events, developing innovative projects combining creativity, learning, sustainability, arts and science.

feimatta@arcolaenergy.com

Arcola Collaborations & Technologies



Arcola Theatre *Cleantech Showcase*

Arcola Theatre is aiming to be the first Zero Carbon Theatre in the world and act as a Showcase of leading London and UK clean technologies, the integration and showcase is also conveniently located near London's TechCity and adjacent to the new over-ground links at Dalston junction.

This is the first theatre featuring a building integrated smart DC network, powering DC lighting and computing from batteries charged off-peak or from local renewables such as Solar PV panels and soon fuel-cells. Theatres have been at the forefront of electrical innovation – with the first commercial building in the world lit by electric lighting being the Savoy Theatre in 1881. Moixa Technology is using Edison's DC (Direct Current) for what it was invented for - powering DC (LED) lighting and DC electronics from local DC renewable sources.



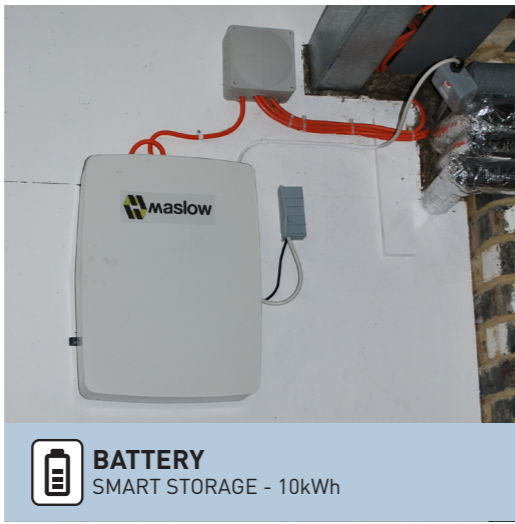


Efficient Hybrid Power

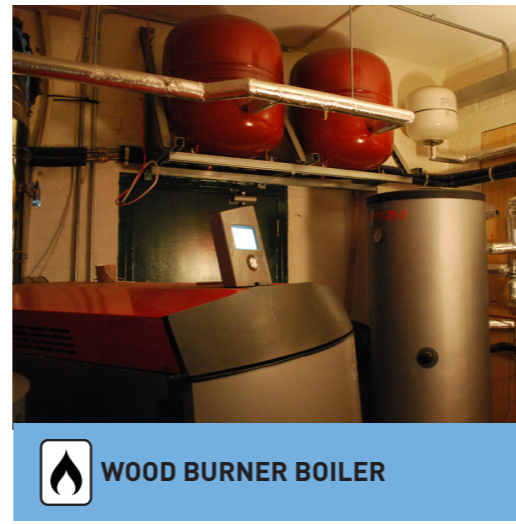
Case Study
Commercial / Community

ARCOLA THEATRE

Location: Dalston, London
Sqft: 23,250
Date: November 2012

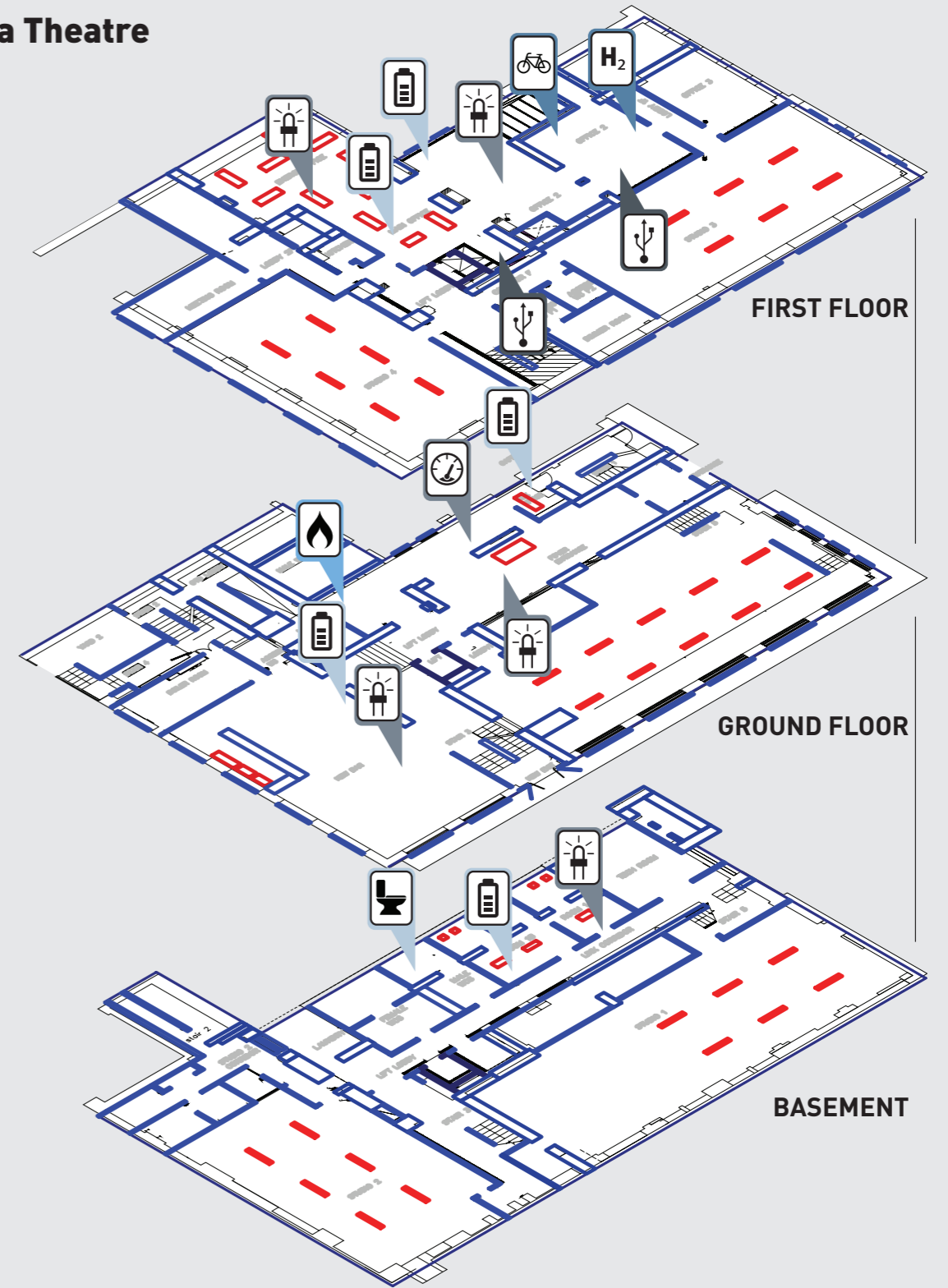


BATTERY
SMART STORAGE - 10kWh



WOOD BURNER BOILER

Arcola Theatre



LIGHTING
DC POWERED LED & CFL



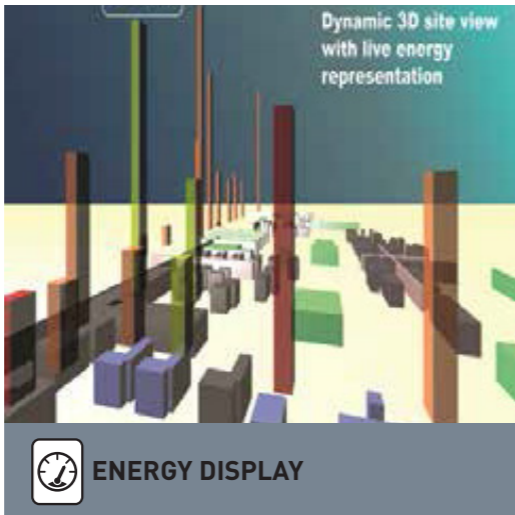
POWER DC
ELECTRONICS AND COMPUTING



ELECTRIC BIKE



SMART CONTROL
AND ADVICE



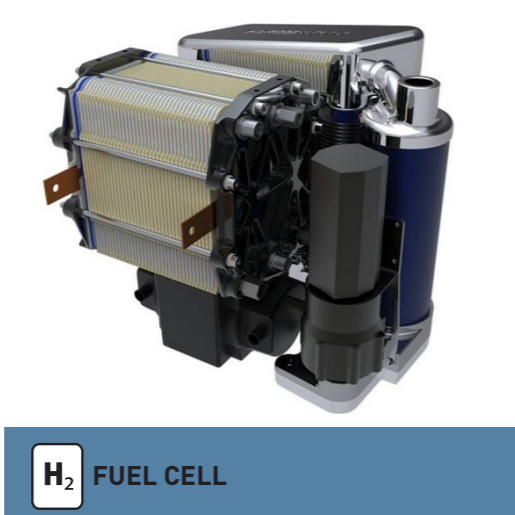
ENERGY DISPLAY



TOILETS



PHOTOVOLTAICS

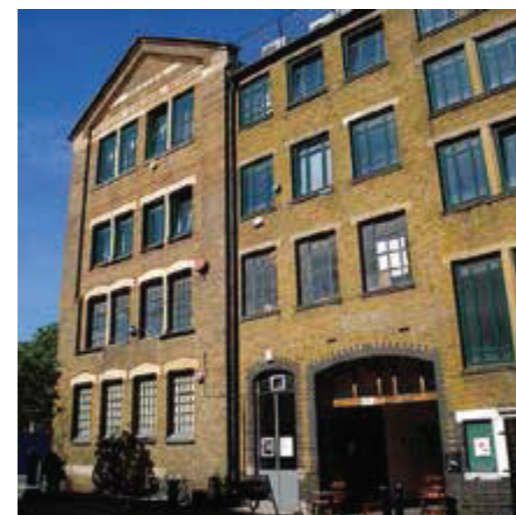


H₂ FUEL CELL

Support / Partnerships



Technology Strategy Board
Driving Innovation



Since 2011, Arcola has occupied three floors of the Colourworks building in Dalston, Hackney.

The space includes two theatre studios, a welcoming café-bar serving local and sustainable produce, the Bloomberg Arts Lab – space for Arcola’s Creative Learning programme as well as workshop and rehearsal spaces for theatre makers, the Arcola Energy lab and the Arcola Theatre office.

Refurbishment carried out in 2012 created a new performance studio, made spaces more accessible, installed innovative sustainable technologies, and made a feature of reusing materials to maintain an industrial aesthetic.

www.arcolatheatre.com
www.arcolaenergy.com