

Atkins Submission

All Party Parliamentary Committee for Excellence in the Built Environment inquiry into sustainable construction and the Green Deal

Executive Summary

Atkins has been at the forefront of sustainability and has played an integral role in developing sustainable solutions in the built environment. Most recently our selection as the official engineering design services provider to the London 2012 Olympic and Paralympic Games provided us with a fantastic opportunity to work alongside a visionary client who shared our passion for sustainability. This relationship along with the some of the work we have done with other visionary clients is explored within this submission, along with an outline of some of the sustainable outcomes that have been achieved through these working relationships.

Atkins recognises the level of ambition of the Green Deal and we remain cautiously optimistic that it can provide significant impetus to the UK's pioneering drive to become a low carbon economy. We firmly believe that the success of the Green Deal is dependent upon a number of key factors namely, how well the initiative is promoted, the demonstration of strong leadership by local authorities and the level of interest rates set for the loans as a financial incentive to householders to encourage them to take part.

Further evidence of best practice of sustainable construction in the built environment is provided in two supporting case studies in the appendix

- (A) London 2012 Olympics
- (B) Developing new building design standards – Education Funding Agency (EFA)

Introduction to Atkins and Faithful+Gould

Atkins is one of the world's leading engineering and design consultancies; employing some 17,700 people across the UK, North America, Middle East, Asia Pacific and Europe. It has the breadth and depth of expertise to plan, design and enable some of the world's most technically challenging and time critical infrastructure projects. Atkins provides a comprehensive range of services to help public and private sector organisations to characterise, assess, quantify and manage their relationship with the natural environment and to prepare for a changing climate. Faithful+Gould, a subsidiary of Atkins, is one of the world's largest project and cost management consultancies for construction and engineering projects.

Comment 1

Visionary clients are critical to the success of promoting sustainable construction in the built environment

We were proud to have been the engineering design experts behind London 2012 Olympic and Paralympic Games. Our extensive work on the London 2012 Games comprised delivery of the site-wide enabling works to support the development of the Queen Elizabeth's Olympic Park, detailed engineering design of earthworks, drainage, landscaping and electrical supply in the Park and development of bridges, structures and highways around the Park. The London 2012 Games was billed as the green Games, with sustainable principles being at the heart of the planning, designing and delivery of the Olympic Park and additional facilities across the country. Leadership by the client was fundamental to achieving sustainable outcomes. This leadership was driven through by the setting and communication of clear targets within the contract and, most importantly by a strong will to stick by those targets by working with and motivating the whole supply chain

The Olympic Park undoubtedly grabbed the headlines in 2012, but other visionary clients, like Marks & Spencer's have continued to promote sustainable principles. Faithful+Gould has been commissioned to assist in identifying and closing the performance gap that often exists between design ambition and actual operation. This work includes a recent 12 month in-depth Post Occupancy Evaluation study of a large Marks & Spencer's store. Designed and built using sustainable building features such as Hemclad wall panels, a biomass boiler, CO2 based refrigeration and an 80,000 litre rainwater harvesting tank, it is predicted that the store will use 30% less energy. The work includes collection and analysis of operational energy, space temperatures and operating parameters in addition to conducting staff and customer satisfaction surveys to understand their views in relation to the building and its operation. These activities will assist in identifying faults in operating conditions, which will be used to develop corrective action plans.

Clients like LOCOG, Olympic Development Authority (ODA) and Marks and Spencer's are very clear on why sustainability matters and have a strong focus on desired outcomes. Organisations like Atkins and Faithful+Gould have a key role to play in communicating the sustainable outcomes of their work with these visionary clients to other clients who may be struggling to realise their sustainability ambitions in this recession. Clients have a great deal to gain by engaging early with designers and engineering consultants like Atkins that are passionate about sustainability. Proactive collaboration early in these matters with an on-going effective engagement at key stages with the stakeholders in the supply chain will help build a spirit of teamwork that can lead to the identification of sustainable solutions and sharing of lessons learned from projects like London 2012.

Comment 2

Innovation should be embraced not feared

The UK Green Building Council commenced a series of workshops exploring a comprehensive range of sustainability themes and strategies using examples from the London 2012 construction project. Atkins as a series partner with the UKGBC, drew together the experts involved in delivering the London 2012 Construction project. The challenging target and fixed timescale of the London 2012 was not feared but rather viewed as an opportunity to innovate. The supply chain was involved in this process, with innovative selection of materials for the construction of the Olympic Park making a significant contribution to meeting the Olympic Delivery Authority's ambitious sustainability targets. The most critical element of success was having the right support structure in place for design and construction teams in the shape of sustainability changes agents who provided help, expertise and encouragement.

Comment 3

There is little enthusiasm for the introduction of more sustainability legislation at this present time

Business confidence in the construction industry is fragile at present and the introduction of more legislation related to sustainability could damage this confidence. The emphasis should be firmly placed on the carrot rather than stick at this present time. Incentives can come in many forms; from government investment in renewable energy and the infrastructure required adapting to climate change to the continuation and possible increase in subsidies related to energy creation and efficiency. Atkins also welcomes the Government's stated goal to be amongst the leaders in the EU in relation to sustainable procurement. History has shown us that strong leadership in public sector procurement does filter through into the private sector. Although sustainability requirements already feature within private sector procurement and tendering, the continued push by Government in this area will serve to increase the importance placed upon this issue by private sector clients.

Comment 4

Promoting the Green Deal, is £3m sufficient?

Atkins recognises the level of ambition of the Green Deal and is hopeful that it provides significant impetus to the UK's pioneering drive to become a low carbon economy. We also welcome the approval of **£3m** to promote the Green Deal scheme to help improve uptake. Although we have some reservations about how effective this incentive will be in practice. A recent example of a national initiative promoted UK-wide was the switchover to digital TV, which was finally completed on 24th October 2012. A national campaign to keep viewers informed about the process was funded by the BBC, with an initial budget of **£201** million. Although the actual cost of this communication was around £150m, this figure still dwarfs the amount put aside to promote the Green Deal. This would suggest that fears of a slow start to the scheme may be realised, with householders unaware of the benefits of the scheme and consequently the uptake.

Comment 5

Strong leadership is required by local authorities

There is also a question hanging over the Green Deal, with regard to the role that local authorities will play. Atkins welcomes the approach by the ten authorities in Greater Manchester, the first in the country to develop a statutory Combined Authority (AGMA), to co-ordinate key economic development, regeneration and transport functions. The region became a “UK Low Carbon Hub” in October 2012 after a deal was struck between AGMA and the Department for Energy and Climate Change (DECC). The agreement recognised that Greater Manchester is leading the way in delivering low carbon initiatives. Strong leadership by Authorities like AGMA is critical to the long term success of the Green Deal and sustainability. We remain hopeful that other authorities will also seize the opportunities provided by the Green Deal and become leaders in delivering low carbon initiatives across the UK.

Comment 6

Green Deal interest rates, will they deter people from taking part?

The Treasury confirmation that £200m will be made available on a one-off basis to support initial participation in the scheme is very encouraging. Atkins remains hopeful that the interest rates will not be an issue. Energy bill savings after loan repayments must be sufficient enough to provide the financial incentive for householders to take part in the scheme. Early projections of interest rates as high as 7.5% are worrying and we await with interest the impact of Energy Company Obligation subsidy will have on the interest rate levels.

Appendices

Appendix A

Case Study; London 2012 Olympic and Paralympics Game

Atkins' designers, engineers and specialists worked to transform 2.5km² of derelict urban wasteland to create the Queen Elizabeth's Olympic Park for London 2012. . Soil was re-used and waste minimised in order to ensure a positive ecological legacy. During the Enabling works; the client had requested that at least 90%, by weight, of the materials arising through the demolition works will be reused or recycled. Site-wide with the Atkins enabling works team a **98%** target was achieved. Atkins also facilitated the translocation of indigenous species, flora and fauna and the creation of over **1ha** of new habitat in the Park. During the course of completing the project, Atkins has relocated **1 square km** of open land, wet woodlands, wetlands, reed beds and ponds. Atkins helped LOCOG to compile the Temporary Materials Handbook which provided guidance on the sustainable selection and reuse of materials for temporary venues. The guidelines focused on how to select materials with the following sequence of objectives in mind:

- Zero waste to landfill
- Protecting human health and the environment
- Minimise embodied energy.

The Atkins infrastructure team designed the parkland and public realm, structure, bridges and highways and utilities for the North Park. During the design process, Atkins had a sustainability manager embedded within the infrastructure design team whom worked with a breath of stakeholders to ensure that the clients 12 objectives from the Olympic Development Authority's sustainable development strategy was achieved and the infrastructure designs reflected the Olympic Delivery Authority's (ODA) objective of creating high quality design with a coherent approach to sustainability, inclusivity and security. For example the Atkins' Wetland bridges' project is the highest scoring in the Civil Engineering Environmental Quality Assessment Method (CEEQUAL) project to date (15.06.2011), achieving an Excellent (98.3%) Whole Project Award alongside another Atkins design which is the structures, bridges and highways also achieving an Excellent (98.3%) score. All the Atkins infrastructure designs achieved an "Excellent" rating score of 87.7% as a minimum, well above the CEEQUAL aspiration of 75%.

Appendices

Appendix B

Case Study; Developing new building design standards – Education Funding Agency (EFA)

Faithful+Gould are the lead advisor to the UK Government's Education Funding Agency (EFA) in the development of a number of 'baseline designs' Primary and Secondary School Building, for the Priority Schools Building Programme. The requirement for the new baseline is in response to a recommendation published as part of the Government's Review of Education Capital in April 2011 led by Sebastian James. The review called for a suite of standardised drawings and specifications which could be applied across a wide range of educational facilities.

Managing the design selection and assessment process, they were able to draw together solutions capable of meeting the challenging energy performance target of 110kwh/m²/annum and authored new design guidance detailing strategies developed to cover overheating, indoor air quality and daylight. An essential process, developed to test derived solutions, included industry consultation, in the form of support from design teams and contractors delivering the Priority Schools Building Programme. The outcomes included:

- Eight different baseline designs solutions, which met affordability levels of £1300/m²
- A School building which will consume 30% less energy than 'typical'
- Design solutions allow for pre-manufacture and offsite construction techniques
- Exposed thermal mass and use of atria to provide free cooling and natural daylight
- New environmental performance standards