

London's first zero-carbon residential development

Greenpeace and the Mayor of London's office have been working together to commission a sustainable 233-home zero-carbon development. After a year of planning, proposals and tenders, the London Development Agency has chosen the One Gallions consortium as the preferred development partner. Pooran Desai, Sustainability Director of Bioregional Quintain Ltd, one of the partners in the consortium, describes the process and the consortium's plans for this flagship development.

From my perspective of having been involved in creating sustainable solutions for over 15 years, it is heartening to see the range of organisations now cooperating to deliver on the green agenda. The One Gallions development consortium includes developer Quintain Ltd, housebuilder Crest Nicholson and housing association Southern Housing Group. Crest Nicholson constructs over 3,500 homes per year and brings its expertise in creating places where people want to live.

To bring our proposals together coherently, from initial design to long-term estates management, we applied a framework developed by WWF and BioRegional called One Planet Living. This is an initiative with ten guiding principles of sustainability, which is being used to create an international network of communities where it will be easy for people to lead happy and healthy lives and consume only a fair share of the earth's resources.

Those ten principles are: zero-carbon; zero waste; sustainable transport; sustainable water; natural habitats and wildlife; local and sustainable materials; local and sustainable food; culture and heritage; equity and fair trade; and health and happiness.

To achieve zero-carbon, we need to make our buildings energy-efficient and supply the energy they do need via renewables. Our proposals, developed with architects Feilden Clegg Bradley and engineers Arup and ESD, included high levels of insulation to reduce the need for heating in winter, careful design to avoid overheating in summer, and the fitting of all homes with energy-efficient appliances. An on-site wood-fired combined heat and power plant is proposed, operating on tree surgery waste, to provide the electricity and hot water for the homes.

However, domestic heat and power account for only 10% of the CO₂ emissions which the average inhabitant of a new home in the UK is responsible

for each year. Food, transport and waste account for 24%, 18% and 13% respectively. We therefore have to think about sustainable lifestyles, not just sustainable homes. Our proposals therefore also include local food growing, allotments, a communal greenhouse, vegetable box schemes, integrated recycling facilities, on-site composting and space for a car club. We also consider social and economic factors – equity, fair trade, health and happiness. Our proposals aim to maximise the opportunities to create a truly sustainable community by incorporating a community trust, local employment initiatives, a One Planet Living education centre and a green caretaker.

It is hoped that work will start on-site in 2008. I believe One Gallions will set a new standard for the industry and that its principles are replicable. However, the design and technologies selected will vary from site to site. In some cases it will not be environmentally or economically feasible to try to generate all renewable energy on-site by means of microgeneration, such as small-scale combined heat and power and building-mounted turbines, as these can be difficult and very expensive to maintain and run. Instead we should look to a sensible balance of on-site and off-site renewable generation. In the London context, major schemes such as the London array of 300 large wind turbines in the Thames Estuary will have a major part to play in a renewable energy future.

The Greater London Authority, the Mayor of London, the UK Government and many local authorities are now committed to promoting sustainability and many good policies are emerging. However, there is inevitably still a lack of coherence and sometimes a tendency to rely too heavily on headline-grabbing soundbites – such as the Government's announcement that it will waive stamp duty on zero-carbon homes – rather than developing a more far-reaching and strategic set of policies.

With the environmental challenge ahead of us, it is vital that the private and public sectors work closely together, and with communities, to create a coherent approach – not only to renewable energy but more broadly to One Planet Living. It is a great and exciting challenge for every one of us in our private and working lives.

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