

Venables Associates

Building Services Engineering Consultants

Sustainability & Environmental Statement

Ian Venables Director	
Initial Issue Date	November 2011
Last Review Date	November 2011
Next review	November 2012

Venables Associates

Building Services Engineering Consultants

Statement of Intent

Venables Associates (Venables) seeks excellence in every aspect of our business and is committed to minimising the environmental impacts of our business operations and maximising the sustainability of our business operations both in house and in our Projects. We all know that there is an issue with global warming as well as other Environmental impacts and we all have a moral responsibility to ensure that there are sufficient resources available in the future for future generations. We should strive to make our Environmental impact neutral on the world's limited resource stocks.

This document compliments our Environmental Policy and expands it to relate to External Projects and our approach to Sustainability.

In managing our operations, we will:

Advise our Clients on their responsibility to maximise the following measures for all developments. All Projects will have regard to the principles of sustainable development as summarised in criteria below.

All commercial and residential developments will be required to be accompanied by a sustainability statement. The document should describe how the proposal fits with the criteria listed below and will be judged on its suitability in these terms. Not all items listed below are within our jurisdiction, but we will develop a comprehensive response on the entire development as we collectively have the responsibility to identify and respond to the challenge.

- Provide details setting out the accessibility of the site by means other than the car and, where the type and size of the development requires, be within 400m walk of a frequent public transport route and easily accessible for pedestrians and cyclists.
- Contribute toward meeting the social needs of communities within its Environment (including housing, community and recreational facilities, car clubs, recycling facilities and communal laundry blocks) and to safe and socially inclusive environments.

Venables Associates

Building Services Engineering Consultants

- Maintain or increase the economic prosperity and diversity of the Area, and maximise employment opportunities (including supporting local goods and services and providing training and employment for local unemployed and young people).
- Be of a high quality design, with the aim of conserving and enhancing the local character, heritage and distinctiveness of the Area.
- Minimise the use of non-renewable resources, re-use materials already on the development site, and seek to make use of grey water systems both during construction and throughout the use of the development. Any waste generated through the development should be managed safely, recycled and/or reused. The 'whole life' costs of materials should be considered.
- Minimise pollution, including that relating to air, water, land, light and noise.
- Conserve and enhance natural areas and landscape features, provide both formal and informal open space, wildlife areas and room for trees to reach full growth.
- Maximise the use of renewable resources on development sites and seek to make use of renewable energy sources, such as heat exchangers and photovoltaic cells; and make adequate provision for the storage and collection of refuse and recycling.
- Minimum Standard (Pollution): The Sustainability Statement must: demonstrate the avoidance of materials that have used CFCs and HCFCs in their manufacture unless it can be shown that no alternatives are available.
- Demonstrate that all timber and timber products used in the proposed development will be FSC accredited (or similar independent accreditation system for timber produced from sustainably managed forests).
- Demonstrate that lighting schemes are provided that are designed to reduce the occurrence of light pollution. Schemes will be expected to employ energy efficient lighting that also reduces light scatter. Generally in line with The Institute Of Lighting Engineers Guidance Notes

Venables Associates

Building Services Engineering Consultants

- Minimum Standard (Renewable Energy): The sustainability statement must demonstrate that at least 10% of the expected energy demand for the development will be provided for through on site renewable generation for heat and/or electricity. In addition parts of the development should be identified that could accommodate renewable energy installations in the future, for example the number/area of south facing roofs and potential wind turbine locations. Or as found to be necessary for planning.
- BREEAM & LEED ratings will be encouraged where Environmental ratings are required and irrespective of the requirement the Project will seek to utilise some of the adopted options to retrospectively obtain these ratings in the future should that be necessary.
- Minimum standard (Carbon emissions and energy use): The energy assessment should demonstrate that the following order of preference has been applied to reduce the carbon emissions: reduce demand for energy (e.g. avoid/reduce heating/cooling requirements); use of energy efficiency measures to meet demand, including community combined heat and power (CCHP), trigeneration and district heating; incorporating on-site renewable energy equipment. The assessment is required to acknowledge the changing climate through the lifetime of the proposed development
- We will normally require the following water efficiency measures to be met: dual flush Ecs (4/6) litre; shower nominal flow rates less than 9 litres/minute; controls on urinals or waterless urinals (where installed); flow restricted spray taps; water meters with pulsed output for each building/dwelling. The sustainability statement must also include an evaluation of rainwater harvesting systems, grey water systems and Sustainable Urban Drainage Systems (SUDS).
- This document will be reviewed annually or when new technologies become readily available and are suitable for use with our Clients.

Venables Associates

Building Services Engineering Consultants

Roles and Responsibilities

Venables Environmental Organisational Structure

UK Board of Directors

Members of the UK Board of Directors are ultimately responsible for environmental and sustainability management and performance within Venables, as well as taking ownership of the Environmental Policy. The Board also have the responsibility of ensuring Venables compliance with relevant environmental legislation.

Venables Employees

Our employees are expected to assist with the implementation of any environmental or sustainability initiatives in our office (for example, the energy efficiency design of new Projects) and to provide feedback regarding their environmental issues and concerns through the appropriate channels.

Environmental and Sustainable Design Process

During the design process of all our Projects there are continued internal peer reviews and sign off processes. The Directors have the final approval task for all Projects. Venables Associates ensure that all Staff have an appreciation of their responsibilities and we are Low Carbon Consultant and Level 3, 4 and 5 Energy Assessors. In addition we are also Air Conditioning Inspectors and able to produce SBem's and Energy Performance Certificates. We utilise in house computer simulation software packages to assist with our Energy Reviews.

Venables Associates also have an in house commissioning team for on site measurement and review purposes which provides unique practical feedback on our designs and their real success in use. This feedback is reinvested back into our designs to ensure that there is continued improvement in efficiency.

We have in house design check sheets and design energy targets and use these as part of the Peer reviews mentioned above.

Venables Associates

Building Services Engineering Consultants

We encourage and positively promote working with suppliers on sustainability issues, such as recycling schemes. For instance with electrical suppliers we have insisted upon the use of VRLA batteries only where the units can be fully recycled at the end of life. (FIAAM batteries). We promote the off site fabrication of plant and switch rooms to limit site wastage, (F G Wilson, Schneider, Eaton Powerware). Utilising Whitlite and Portastor Cabins).

As part of our designs we have already included the following solutions in various applications and are open to new solutions where they can be proven to be practical and effective in use,

- Thermal Modelling for fabric selection.
- Thermal modelling for building orientation.
- Rainwater recovery.
- Grey water recovery.
- Ground Source Heat Pumps.
- Air Source Heat Pumps.
- Photovoltaic's.
- Solar Hot Water Schemes.
- Variable speed drive pumps, variable flow water systems.
- Variable speed drive fans, variable volume air systems.
- Natural ventilation schemes.
- Biomass boilers.
- Lighting Controls.
- Low energy Lamps.
- Energy Management Systems.
- CO₂ sensing controls.
- Whole house ventilation.
- Airside and waterside heat recovery systems.
- Bespoke BMS systems to reduce energy through effective controls.
- Addition of power quality control systems.
- Low loss transformers.
- Variable refrigerant volume systems.
- Re-use of second hand equipment.
- Airside free cooling.
- Night time free cooling.
- Free cooling water cooled systems.
- Optimised free cooling systems.
- Natural Daylighting.
- Ground coupled heat exchangers (Earth tube) to preheat or cool fresh air.

Venables Associates

Building Services Engineering Consultants

Items considered in our designs but not adopted by our Clients,

- CHP.
- CCHP.
- Wind Turbines.
- External Heat Exportation.
- Chiller Desuperheaters.
- DX heat transfer systems.
- Heat Pipes.

In our experience the most important part of the Sustainability Solution is early engagement in the design process. The modelling and effect of any chosen issue must be considered and developed by the team in stages as it is incredibly difficult to incorporate it retrospectively.

This requires a commitment by the Design Team, Project Management Team and the Client to prepare an Environmental/Sustainability road map and sign off procedure for all stages of the development.

In this manner all options can be sensibly assessed and adopted where there is an advantage, if this is not completed in this manner it will always be a compromise and half hearted approach.

Environmental & Sustainability Issues must be a collaborative team approach, where all possibilities are reviewed and addressed together to maximise the outcome. This cannot be successfully achieved when we work individually and in a non-programmed manner.

Venables Associates

Building Services Engineering Consultants

Energy Efficiency / Environmental Awards

Some of the award winning Projects that we have designed include:

- FMC Bridgend Engine Evaluation Plant. PTO European and Rest of World, Manufacturing Engineering 2009 TMM Excellence Award. For the design of an energy efficient Engine Evaluation test facility in South Wales.
- LABC Central Building Excellence Awards 2011 Hard to Heat Homes Project. For a Retrofit for the Future Design.
- BRE Best Bespoke Building in UK Award 2010. BREEAM Excellent certificate for the New Swimming Pool and Sports Centre, Bletchley. Building a Better Bletchley Project 2010.