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TAKE THE RIGHT ROUTE FOR HEATING IN COMMERCIAL BUILDINGS

RIGHT FROM THE START

As a result of the rolling out of the policies and directives of the EU designed to tackle the question of global warming, every service used in commercial buildings has become the subject of close scrutiny to determine its impact on the environment. This scrutiny covers not only the way the service itself is produced and delivered, but also the way it is operated, maintained and disposed of. The relevant Directives do not require an overnight or short-term transformation, as improved performance can be introduced in achievable stages or be phased in following system monitoring or assessment, now to be a regular feature under the requirements of Energy Performance Certificates (EPC) and Display Energy Certificates (DEC).

Meeting the requirements of the relevant Directives will require consultants, specifiers, design engineers, installers and property managers to maintain full awareness of both statutory requirements and voluntary best practice standards regarding all building services. This will be demanding and those industry specialists who have the responsibility to make recommendations or decisions regarding building services will be reassured to learn that there is help at hand. Information and advice will generally be provided by industry leaders in the various disciplines involved. For example, consider the requirements regarding the provision of water and space heating within a commercial building.

THE RIGHT DIRECTION

Under the relevant Directive, hot water and space heating boilers are to be monitored, but the Directive stops short of prescribing how this is to be done.

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Although Member States are, in broad general terms, able to require a regular inspection of boilers fired by non-renewable fuel, they are given the alternative option of ensuring that users are given advice on ways of improving the energy performance of boilers and heating systems. The UK Government chose this alternative option and in the case of a commercial building, advice will be given during the annual maintenance, safety and/or insurance check. However, the Government must submit a report to the Commission every two years to confirm that the alternative option is as effective as requiring a regular inspection. The next report is due in 2010.

THE RIGHT FUEL

Following annual monitoring, the advice given regarding the ways in which the energy performance of boilers and heating systems may not necessarily be limited to the efficiency of the appliance alone.

The best available high efficiency condensing commercial boilers deliver impressive fuel efficiencies (up to around 96%), but the laws of physics place a limit on possible improvements, helping to support the delivery of a low carbon footprint plant room.

The heating industry is leading the way in the development of viable Low and Zero Carbon (LZC) technologies to further reduce carbon emissions, utilizing renewable energy. As part of a building's maintenance and refurbishment programme, regard may be had to considering the use of renewable energy sources, such as solar thermal solutions, ground source or air source heat pumps and biofuels.

Although it may not be possible to completely replace an existing energy source with a renewable solution, because of cost or location considerations, it is quite possible that renewables can be integrated with existing fossil fuelled plant, effectively reducing the carbon emissions of the system.

THE RIGHT MIXTURE

As one example, in a commercial plant room with high efficiency condensing boilers satisfying both a low temperature heat requirement for under-floor heating and a higher temperature requirement for radiators, a combination of ground source heat pump and high efficiency condensing boilers could work well together. The ground source heat pump would serve the lower grade under-floor heating, which obtains the best Coefficient of Performance (COP) from the heat pump, with the boilers supporting the heat load for the higher grade temperature radiators. /MORE

The thermal energy produced by the heat pump displaces the fossil fuel that would have been required for the boilers to provide that heat, which results in a reduction in CO₂ emissions due to the higher conversion rate of electrical energy into thermal energy, which could be up to 4.7.

THE RIGHT WAY

An important consideration will be the clear intention of the relevant Directives that the acceptability of any installation will depend on the efficiency of the total system rather than its individual component parts.

Consequently, as part of identifying an optimum solution to deliver improved energy efficiency and/or reduced carbon emissions, the monitoring review may recommend a package solution.

A unified system, delivered pre-wired, pre-plumbed, factory tested and ready packaged would ensure maximum compatibility of components with minimum impact on the efficiency grading of the system in the event of a component needing replacement.

Perhaps most importantly, those responsible for making recommendations or decisions regarding the suitability and selection of an appropriate solution are able to draw on the technical expertise of forward looking industry leaders, from earliest considerations through to integrated system commissioning. For example, both Andrews Water Heaters and Potterton Commercial offer such services, a commitment to customer needs that is further exemplified by the training excellence provided for system designers, specifiers and installers at the Baxi Commercial Training Academy.

THE RIGHT DESTINATION

Building services have a major part to play in the achievement of the EU energy saving and emission reduction targets. As the 20/20/20 policy begins to have a greater impact, regulation and obligation can be expected to replace best practice and voluntary codes of compliance. The energy efficiency of every aspect of a building's facilities as a whole needs to be regularly monitored and the scope for improvements identified.

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The facilities management practitioners responsible for giving advice or making decisions regarding appropriate solutions have the assurance that technical expertise is available at all stages from leading industry players.

Training facilities are also available that support the commitment of the industry to ensuring the successful implementation of the far reaching and critically important targets of EU policies regarding energy efficiency and the reduction of harmful emission.

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PARAMOUNT MB PREFABRICATED HEATING SOLUTION



BAXI COMMERCIAL DIVISION TRAINING ACADEMY

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