CIBSE Factsheet
The future in Building Services Engineering

Work with new technology

Building Services Engineers work at the cutting edge of new technology.

Sustainability, renewable energy, health, safety and the comfort and welfare of people in their working and living environments are all growing in complexity and importance.

Energy efficiency has become a focus of concern for building services engineers, with limited global energy resources and growing concern for the environment.

Buildings and their construction account for nearly 50% of all the greenhouse gas emissions and energy consumed.

Innovation is the future

The future of building services engineering is geared to using innovative technologies.

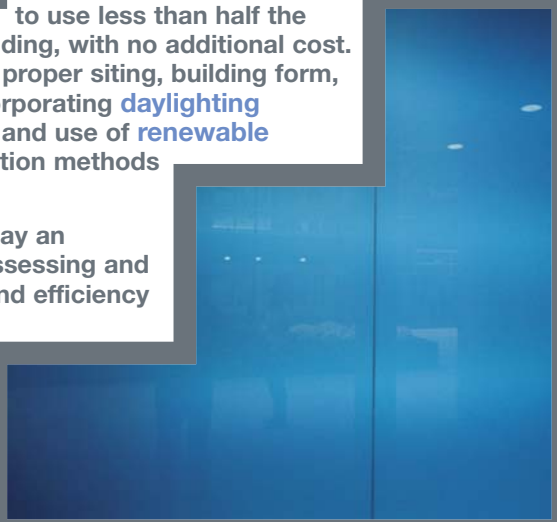
You could be part of the quiet revolution in lighting. Light bulbs, or luminaires, will be infinitely thin – almost wafer-like – and new ways of harnessing natural light will change the way buildings are designed.

Façades are crucial to saving energy, since surfaces (especially glass) transmit cold and heat from outside and have a big impact on the internal environment. New materials and coatings are being developed to help control solar gain and heat loss, and enable architects to work with façade engineers to create beautiful and original exteriors. Computer modelling is used extensively by building services engineers to develop optimum solutions for glazed façades.

Help reduce energy costs from buildings

Buildings can be designed to use less than half the energy of today's average building, with no additional cost. This is accomplished through proper siting, building form, material selection and by incorporating daylighting strategies, natural ventilation and use of renewable sources and energy conservation methods for heating and cooling.

Building services engineers play an increasingly important role, assessing and improving energy utilisation and efficiency in the domestic as well as the industrial sectors. No other career gives you the chance to make such a big impact on saving our planet.



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CIBSE
Engineering a sustainable built environment

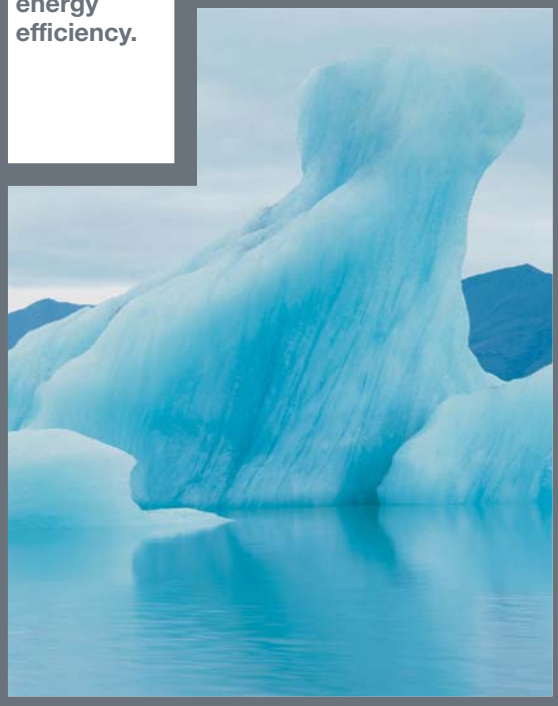
Cooling solutions

As well as heating buildings, sunlight can also be used to cool them. The use of solar energy or solar electricity to power air conditioning is an emerging technology. Another cooling solution uses the negative buoyancy of cooled air to drive airflow in naturally ventilated buildings.

Global warming already shows a steady upward trend in summer temperatures worldwide, making refrigeration technologies increasingly important. The world's largest indoor ski slope is in Dubai where daytime temperatures outside routinely reach 40°c – building services engineers designed and created systems for the ski complex, to maintain the cold environment and to maximise energy efficiency.

Create a healthier environment

As buildings become better insulated and airtight to conserve energy, interior air quality is increasingly important. With allergic diseases and asthma on the increase, filtering and decomposition of allergens become crucial. Ultra violet rays and electron streaming are two of the innovative technologies used in ventilation systems.



Develop renewable energy sources

Building services engineers are at the forefront of developing renewable energy sources: solar and wind power are widely used already. By 2015, it's estimated that biomass – energy derived from plant materials – could supply 7% of all the UK's central heating and hot water needs.

Public health and sanitation engineers work with water and drainage to help conserve this precious resource and protect us from disease. Visits to the loo will be changed forever with the arrival of the airflush urinal and the airblade: a dryer which works by squeezing (rather than evaporating) the water from your hands in a 400mph blade of unheated sterilised air.

For more on innovations in building services engineering go to *www.bsjonline.co.uk*

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