

Building Services Engineer

What does this career involve?

Imagine a building without any electrical power, heat, air or water . it's just a shell. Building services engineers literally bring buildings to life . they design and install the systems that ensure we live, work and play in a safe and comfortable environment.

Whether it's heating, electrics, ventilation, plumbing, refrigeration or air conditioning, you'd be designing cutting-edge building services systems and overseeing projects to get those systems installed and up and running.

You'd also be at the forefront of the UK's environmental drive. It's your job to make sure the buildings have the lowest possible carbon footprint by using technologies like solar heating, wind energy, microgeneration and rainwater harvesting therefore ensuring the building design incorporates the most energy efficient and environmentally friendly solutions.



Without the people working in this sector to design and install renewable energy and other environmental systems, the country will not be able to reduce its energy consumption, so you'd be playing a crucial role in saving the planet.

One day you might be on a site visit, checking that a project is progressing as it should; the next day you could be working on your computer, designing building services systems, or making a presentation to help win a major contract. You might even get the opportunity to work on a high profile building in the UK or abroad.



As a **building services engineer** you could be involved in a diverse range of jobs. There are various career routes available, including:

- Design Engineer
- Computer Aided Design Technician
- Commissioning Engineer
- Contract or Project Engineer
- Service and Maintenance Engineer
- Site Supervisor
- Contract or Project Manager
- Consulting Engineer
- Estimator/Quantity Surveyor

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What sort of person do I need to be?

To succeed, a building services engineer needs to understand what happens at the design stage in the office and also at the construction stage on site.

You'll need to learn about and keep up-to-date with building regulations, safety guidance, technologies and new products.

You'll have a lot of contact with clients, design teams and people such as architects and structural engineers, so good communication skills are a must. As the project gets underway you'll check on progress, ensure everyone knows what's expected from them and use your diplomacy, problem solving and people skills to keep the job on budget and on schedule.

Whether you're male or female, the building services engineering sector is looking for people that:

- are good at maths and physics
- have an aptitude for design
- can become proficient in working with computers and computer-aided design (CAD) software
- can analyse and solve problems creatively
- have good communication and interpersonal skills
- are able to take responsibility
- work well in a team
- have good organisational skills.
- can work carefully, methodically and safely.
- can adapt to change
- can motivate others

What hours will I do and what's the working environment like?

You'll usually work between 35 and 40 hours a week, but there could be times you'll need to meet a project deadline and have to work additional hours to get the job done, so this might include evenings and weekends. Part-time work is also possible.

Most jobs are office based, but you'll have to make regular visits to construction sites to see how the projects are progressing, which can involve physical activity and working at heights. Depending on which projects you have, these sites could be all over the UK and perhaps even overseas.

When you're on construction sites you'll have to wear hard hats, high-visibility jackets, safety shoes and other necessary equipment to help you stay safe.

What salary and other benefits can I expect?

Your salary will vary depending on your employer and where you live in the UK, but as a guide you might expect:

- Graduate trainees start at around £20,000 to £25,000 a year.
- Engineering technicians may earn up to
- Incorporated engineers may earn up to
- Chartered engineers/senior managers/project directors may earn up to £70,000 a year.

You might also receive other benefits like a company car or car allowance, private health insurance and a company pension.

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What other interests would fit well with this career?

It's important to be interested in environmental issues, architectural design, engineering and the built environment.

If you enjoy all these subjects, being a building services engineer might be a good career for you.

What does the industry profile look like?

Whether it's UK-based or abroad, you'll be working for design consultancies, major building contractors, building services contractors and manufacturers of equipment such as lifts.

Building services engineers also work for local authorities, government departments, hospitals, factories and power stations.

Most employers are based in cities and large towns. There are currently around 13,000 building services engineers in the UK, but the sector still needs more qualified people to avoid a skills shortage.



How do I get into this industry?

Depending on what level you want to work at, there are a variety of qualification options:

- National Certificate
- Higher National Certificate
- Foundation Degree
- Degree
- Master's Degree.

In England and Wales, you can also do:

- EAL Building Services Engineering Technology & Project Management NVQ Level 3
- EAL Building Services Engineering Technology & Project Management NVQ Level 4
- Advanced Apprenticeship in Building Services Engineering.



We have produced [technician and graduate](#) information booklets containing full details on the variety of training routes you can take to achieve these qualifications.

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How can I progress further in this career?

Building services engineers usually progress by taking on more managerial responsibility. You might become a team leader, project leader, project manager or department manager

You could even become a company director or partner, and there are lots of opportunities to work abroad.

Because the technology in the BSE sector is constantly changing, if you want to progress you'll have to be committed to further training and skills development to make sure your knowledge is constantly up to date.



What other opportunities are there to prove my expertise?

If you join a professional institution you could be assessed to become a registered engineer. This would give you formal recognition as an Engineering Technician, Incorporated Engineer or Chartered Engineer, proving your knowledge and skills are level with world standards. But to do this, you'll need to check that qualifications you plan to study are approved by the bodies you might want to join. You can ask them directly (contact details below) and there's also a search facility on the [Engineering Council](#) website.

It's important to keep a record of your work experience, as you'll need to show evidence of your practical achievements and responsibilities. You might also have to attend an interview and, if you are going for Chartered status, undertake some further learning.

Where can I get more information?

Professional institutions can give you details on qualifications they recognise, and on technician and professional levels available:

- Chartered Institution of Building Services Engineers [www.cibse.org]
- Chartered Institute of Plumbing Heating Engineering [www.ciphe.org]
- Energy Institute [www.energyinst.org.uk]
- Institution of Engineering and Technology [www.theiet.org]
- Institute of Domestic Heating & Environmental Engineers [www.idhee.org.uk]
- Institute of Refrigeration [www.ior.org.uk]
- Institution of Mechanical Engineers [www.imeche.org]