

Careers in the Nuclear Energy industry - Overview

The Nuclear Energy industry today

The UK's nuclear industry provides the country with about 20 per cent of its electricity via the National Grid and the electricity distribution companies. It also provides the power for all the Royal Navy's submarines. Nuclear energy is based on uranium, which provides a significant long term energy supply, unlike fossil fuels (including coal, oil and natural gas) which are in decline. Indeed every year the world uses four times as much oil as it actually finds.

Many UK power stations are coming to the end of their life and they are presently moving into decommissioning phase. The Nuclear Decommissioning Authority (NDA) was formed in 2005 to take responsibility for the decommissioning and clean-up of 20 of the older UK civil nuclear sites. The launch of the NDA marks the start of a project that will cost over £50 billion and could take more than 100 years to complete.

The nuclear industry employs around 56,000 people around the UK. The Government has proposed the idea to build up to 15 new power stations in the UK by 2020, many as replacements to current stations.

It's a lot of work, but would you like to help build a nuclear future?

What sorts of people are needed?

Employees in the nuclear industry work at 10 operational power stations, 9 decommissioned ones and several other civil and defence sites around the UK. The industry also includes a wide variety of contractor companies such as engineering and construction companies, makers of specialist equipment and providers of expert services.

There are scientists in power plants helping to ensure that the plant works efficiently, and helping in the production, reprocessing and storage of nuclear fuel and in waste handling in the UK. There are engineers to ensure that the plants runs productively and safely, they even work with the Royal Navy helping to construct nuclear powered submarines.

Somewhere within the nuclear energy industry there may be a job for you, whether you are leaving school at sixteen, taking A-levels, Highers or other qualifications, or hoping to go on to university. The higher the qualification the better the chance of a job, but what matters most is that your skills match up with the type of job you wish to do.

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What sorts of qualification are needed?

Choosing the right subjects at school or college is important. For any job, a minimum of three GCSE passes or SCE standard grades or equivalent GNVQs/general SVQs, including maths and English, is essential. After that, the most common requirements will be for qualifications in science subjects.

The same is true in further education. Most opportunities are for students with degrees in engineering and applied sciences. Openings for those who are qualified in the arts, languages, social sciences and business studies will usually be on the commercial side of the energy industry, in areas such as marketing, distribution and trading.

What sorts of jobs?

Operations & decommissioning - of the UK's nuclear power stations. Scientists and engineers are needed to help ensure that the plant is producing efficiently and safely and are necessary when the plant is decommissioned for it to be done safely.

Production, reprocessing and storage – of nuclear fuel and in waste handling in the UK.

Defence – in working with the Royal Navy and BAE systems to construct nuclear powered submarines.

Marketing and Distribution - A variety of opportunities also exist in this area. From junior accounts assistant to marketing director, from depot manager to systems analyst, this is an area where non-scientists can make their mark in the energy industry.

Research and Development - The search for new and better ways of finding and using nuclear energy is very important. Some of the most specialised jobs in the whole industry are to be found here. Scientists with degrees of postgraduate qualifications usually lead the work, although there are some opportunities for laboratory and technical assistants.

Commercial Services - The efficient running of all parts of the industry depends on staff specialising in areas such as personnel, finance, contracts, trading, purchase and supply, and information technology.

Careers for Science Students

The nuclear energy industry offers an exciting environment full of interest and challenge for scientists. Their work is fundamental to every development, whether commissioning new power plants or decommissioning disused power plants, scientists make sure that the plant is producing efficiently and safely.

Here are a few examples of jobs for scientists in the nuclear energy industry;

- Technologist
- Nuclear Scientist

Careers for Engineering Students

For the engineer, the nuclear energy industry is an exciting industry to work in. Engineers can be in charge of the safety of a nuclear plant or may help to design nuclear submarines for the Royal Navy.

Here are a few examples of jobs for engineers in the nuclear energy industry;

- Design Engineer
- Safety Case Engineer
- Lifetime Extension Engineer
- Graphite Core Engineer

Careers for Mathematics Students

Mathematicians are necessary in the design and build of new power plants and work alongside engineers to turn the designs into reality.

Here are a few examples of jobs for mathematicians in the nuclear energy industry;

- Operational Research Analyst
- Design Engineer
- Nuclear Engineer
- Plant Engineer

Careers for Business Students

There are plenty of opportunities available for business students in the nuclear energy industry, as they are necessary for the efficient running of all parts of the industry.

Here are a few examples of jobs for Business students in the nuclear energy industry;

- Head of Technology Resource
- Account Manager
- Marketing Manager

- Personnel Management
- Production Manager
- Plant Manager

What to do next?

Interested? Your next move should be to talk to your careers officer or teacher. They will be able to give you more information as well as supply some of the many leaflets and booklets about working in the energy industry that have been produced by the energy companies themselves.

If you can't get hold of these, or require some more basic information about activities and careers in the energy industry look at our website [Energyzone](#) for lots of useful information to help you plan your career in the Energy industry.