Petroleum or Reservoir Engineer

Petroleum or reservoir engineers are involved in the majority of stages of the oil and gas production process. This includes field evaluation and exploration through to designing and implementing extraction equipment and processes.

The Work

You could be:

- producing mathematical models to forecast the amount of oil and gas that could be extracted from a field
- designing wells, pipe networks and surface facilities required for production
- using specialist technology and surveillance data to monitor the quantity and flow of oil and gas being extracted
- proposing improvements to maximise production, such as flow rate enhancement
- overseeing the progress and work of the well operations and liaising with the drilling team
- ensuring that all design and operations meet health, safety and environmental regulations
- liaising with other professionals such as geologists or engineers, as well as contractors, suppliers and clients
- maintaining project documents and writing reports for management.

Pay

The figures below are only a guide. Actual pay rates may vary, depending on:

- where you work
- the size of the company or organisation you work for
- the demand for the job.

Starting pay for petroleum or reservoir engineers is around £25,000 to £30,000 a year. With experience this increases to between £40,000 and £75,000 a year. At senior level the salary could be much higher. Performance-related bonus schemes increase salaries, and additional benefits may be available.

Conditions

- You can work in an office onshore or on a rig or platform offshore. Working offshore is more common in the first 2-3 years of experience. Work is mostly office based after that.
- Onshore hours are mostly regular, Monday to Friday, 9.00am to 5.00pm, but you might occasionally work evenings and weekends.
- Offshore working hours are normally 12-hour shifts, including nights, and you can spend one or two weeks there at a time.
- When offshore you would wear protective clothing and safety equipment such as gloves, boots and a hard hat.
- You have to fly by helicopter between the rig or platform and onshore.
- When offshore, you would live in shared accommodation and meals are provided.

Getting In

- You need a degree (SCQF Level 9-10) in engineering.
- The University of Aberdeen offers a BEng Hons (SCQF Level 10) or MEng (SCQF Level 11) in Petroleum Engineering. Entry requirements for the BEng are 4 Highers at ABBB including Maths, Chemistry and Physics or Engineering Science plus National 5 English. Entry requirements for the MEng are 4 Highers at AABB including Maths, Chemistry and Physics or Engineering Science plus National 5 English.
- Other relevant degrees include mechanical engineering, which is widely available and chemical, offshore or energy engineering, or physical sciences. Entry requirements are usually 4 to 5 Highers including Maths and Physics, but check with individual institutions.
- Postgraduate qualifications (SCQF Level 11) in Petroleum Engineering are available at Aberdeen and Heriot-Watt universities.
- If you work offshore, which is more common in the first 2-3 years of experience, you must pass a medical examination every 2 years.
- You must also pass an offshore survival course such as the Basic Offshore Safety Induction and Emergency Training Certificate (BOSIET).
- You may also have to undertake the Minimum Industry Safety Training (MIST) course.

What Does It Take

You need to have:

- an analytical mind and good problem solving skills
- initiative and self-reliance
- a good technical understanding of geology, physics, maths and chemistry
- good verbal and written communication skills
- excellent planning and organisational skills
- a responsible attitude to health and safety
- excellent IT skills.

You need to be able to:

- lead and work within a team
- work well under pressure
- work on a range of projects and multi-task
- keep up to date with technology and developments in the sector.

Training

- Training is usually on the job and involves spending some time on offshore installations and observing people carrying out different related jobs.
- With further training and practical experience you can register with the Engineering Council as a professional engineer – Incorporated Engineer (IEng) or Chartered Engineer (CEng).
- For IEng you need to have a recognised Bachelor's degree (SCQF Level 9) or a recognised HNC (SCQF Level 7) or HND (SCQF Level 8) plus further study to Bachelor's degree level.

- For CEng you need to have a recognised Bachelor's degree with Honours (SCQF Level 10) plus a recognised Masters degree (or equivalent), or a recognised integrated Master of Engineering degree (SCQF Level 11).
- If you do not have any of the above qualifications, you may still be able to achieve IEng or CEng by other approved routes. Check the website of the Engineering Council for more information.
- You must update your skills and knowledge throughout your career.

Getting On

- You could move on to be a senior engineer or manager.
- You might become a self-employed engineering consultant.
- There are opportunities to work abroad and this may be necessary for career advancement.

More Information

The Engineering Council sets and maintains the standards of the engineering profession in the UK. It does so through 50 professional engineering institutions which are Licensed Members of the Engineering Council.

The Tomorrow's Engineers website has more information on careers in engineering.

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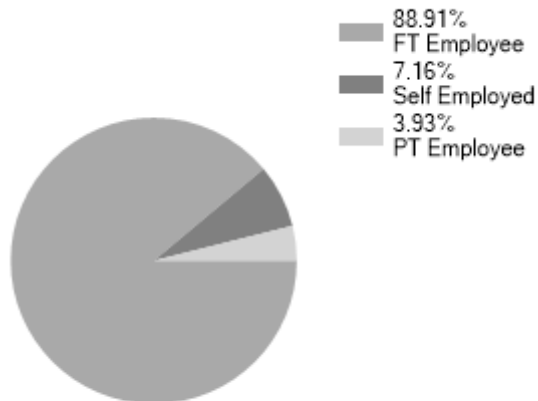
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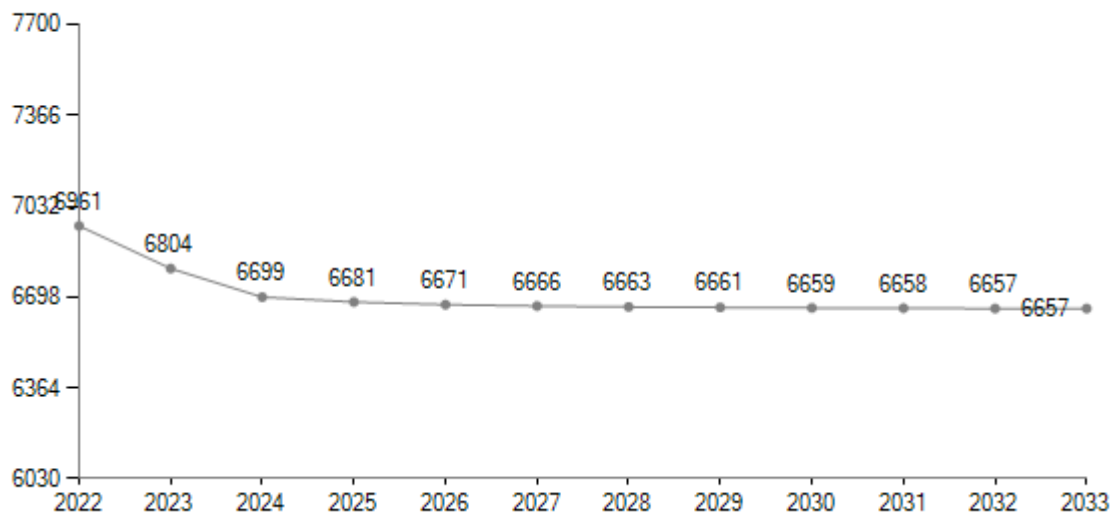## Statistics

Employment Status UK %

88.91%
FT Employee
7.16%
Self Employed
3.93%
PT Employee

Past Unemployment - Scotland

No Claimant statistics available for Scotland.

LMI data powered by LMI for All

Predicted Employment in Scotland

6961 6804 6699 6681 6671 6666 6663 6661 6659 6658 6657 6657

LMI data powered by Lightcast