



GAS COMPRESSION

Gas compression is required to transport natural gas to end users, maintaining pipeline pressures despite friction losses that occur over long distances. This makes it a vital part of the energy infrastructure.

Costain has a wide ranging capability in optimising compressor configuration to provide optimal designs based on cost, reliability and ease of operation.

We have considerable expertise in gas compression in the oil and gas sector, on greenfield developments as well as brownfield projects including upgrades, improvements and modifications in challenging live environments.



📐 RICH EXPERIENCE IN GAS COMPRESSION FACILITIES OPERATING TO STRICT STANDARDS

📐 CUSTOM SOLUTIONS PROVIDE OPTIMUM RESULTS

📐 GREENFIELD AND BROWNFIELD CAPABILITY

COSTAIN'S CAPABILITY

Costain offers a wide range of services, including

- consultancy services and conceptual studies
- all levels of engineering and design
- procurement and materials management
- construction and commissioning
- maintenance and training

We are committed to ensuring the highest standards of safety, health and environmental protection and performance.

Costain's long track record extends to compression facilities delivering gas to national standards and stringent requirements regarding emissions and noise, in the UK and worldwide. We can also provide ancillary equipment and utility systems as well as design and project management for pipelines to optimise them for our clients' needs.

PROPRIETARY TECHNOLOGY

Costain has an excellent record in robust planning of projects spanning from conceptual design to EPC, encompassing the principles of Whole Life Value options and Best Available Technique. Main considerations in Costain's solutions include:

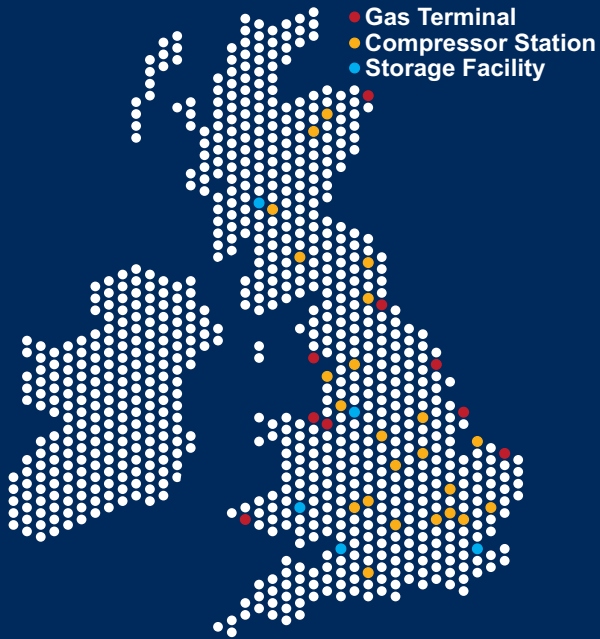
- safety
- environmental considerations
- life cycle cost reduction
- robust plant performance and reliability
- minimising of on-site construction, especially on brownfield sites

We have extensive experience in addressing current challenges such as the reduction of environmental and economic impact as well as the use of gas compression to maximise production from depleting fields.

Compressor selection is highly customised to individual needs and considers electric motor or gas turbine driven machinery, ensuring all regulatory requirements are met while working closely with the plant operator. We have developed strategies for configuration of compression equipment to maximise reliability, operability and flexibility.

RELEVANT EXPERIENCE

UK National Transmission System (NTS)



Costain has extensive experience of delivering studies and projects, installing and upgrading compressors connected to the UK NTS. This includes gas terminals, compressor stations and gas storage facilities.

ENI Pakistan

Well Site Gas Compression



- Extension of plant life by maximising gas recovery
- Compressors enable gas flow to the Bhit Gas Plant with lower pressures at the wellhead, increasing gas recovery from the reservoir without compromising plant operation
- Supplied four 3.3MW and six 1.9MW reciprocating compressors with 500kW gas engine driven generators at the Bhit wellheads

- ✓ CONCEPTUAL STUDIES
- ✓ DETAILED ENGINEERING
- ✓ PROCUREMENT
- ✓ MANAGEMENT

National Grid, UK

Compressor Station Upgrades



- Upgrades to several compressor stations in the UK to meet future predicted gas demands and stringent emissions and noise level requirements
- Selected and developed safe and reliable Best Available Technology (BAT) solutions
- Supported planning permission and environmental permit applications and early stakeholder engagement

- ✓ FEED
- ✓ DESIGN
- ✓ DETAILED ENGINEERING
- ✓ PROCUREMENT
- ✓ PROJECT MANAGEMENT
- ✓ CONSTRUCTION
- ✓ COMMISSIONING SERVICES

E.ON Gas Storage, UK

Holford Gas Storage Project



- Optimal solution using compact, airtight, oil-free compressors for two-way operation
- Compresses natural gas from the UK NTS into the storage caverns and from the caverns for delivery to the NTS, depending on the operating mode
- Delivered three identical compressor trains with 8MW centrifugal compressors and underground high pressure pipelines

- ✓ FEED
- ✓ HIGH LEVEL PEER REVIEW
- ✓ DETAILED ENGINEERING
- ✓ PROCUREMENT
- ✓ CONSTRUCTION MANAGEMENT
- ✓ COMMISSIONING SERVICES