

Improving people's lives by deploying value engineered shale gas solutions to meet urgent national needs across the UK's energy infrastructure.

Challenges

The UK has an urgent need to secure its future energy supply and we believe that gas is an important part of the UK's energy mix. As global demand for natural gas continues to increase, unconventional shale gas presents an important complement to conventional fuels, transforming the gas sector with major influence in local economies. Shale gas development is expected to create jobs, investment, new skills and community initiatives; replacing gas imports whilst providing increased security of supply and energy independence.



“ We offer solutions for all facilities associated with shale gas and have a proven ability to provide innovative designs and assess investment opportunities for new developments. ”

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Our approach

Costain's key focus on improving lives by meeting urgent national needs incentivises us to be a proactive member of the UK shale gas revolution, to establish long-term energy security.

We can provide effective solutions for any challenges associated with shale gas production, having full capability in core delivery areas. These include concept development, planning and regulation, production and economic modelling, well sites and pipelines, gas processing, export options (i.e. gas to wire/gas to grid), water and waste treatment, transport infrastructure, gas monetisation and regulatory engagement.

We have designed and constructed over 30 UK well sites to BSOR regulations involving drilling operations, new road access and infrastructure, water distribution facilities, gas distribution networks and flexible solutions for gas and water treatment.

From project strategy definition to EPC execution, our multi-disciplinary team can support clients, focussing on whole life value, combining experience and innovation to drive value engineered solutions.

Our services

- Front end planning and environmental consultancy.
- Feasibility studies, concept development, field development planning.
- Detail design, project and construction management through to commissioning, operations, decommissioning and remediation.
- Gas export, grid compression and gas network assessments.
- CAPEX and OPEX development with complementary production modelling.

Benefits:

- Full development cycle partner with multidisciplinary engineering expertise.
- Delivering pioneering technologies and intellectual property in the field of gas and water processing.
- Reputation for addressing environmental/planning issues and project execution in highly sensitive environments.

Example project experience

IGas Energy, UK – Project Juneau **Shale gas development in the Cheshire Basin**

Delivery of three well sites, a central processing plant, gas connection facilities to the NTS and supporting infrastructure.

Solution

Conceptual study, evaluation of potential development schemes, planning and regulatory services, drilling and operations management, project and design management.

Outcome

- Development scheme options/selection and development phasing.
- Delivery of project execution strategies, integrated development schedule, CAPEX/OPEX estimate and project risks and opportunities.



E.ON Gas Storage, UK – Holford central facility **design and build of gas processing and drilling facilities**

Development of underground salt caverns into gas storage facilities with complete modification works to eight well sites to prepare caverns for gas trading.

Solution

Front end design, detailed engineering design, procurement, construction management, commissioning of the gas processing plant and associated infrastructure and on-going asset support.

Outcome

- Construction of eight well sites (600m below ground) with a capacity of 160 million m³.
- Installation of high pressure underground pipelines.



Storengy (part of GDF Suez), UK – Stublach UGS **solution mining** **Design and build of underground/aboveground infrastructure**

Delivery of multiple well sites, treatment/processing plant and design of gas infrastructure for storage of natural gas from the NTS.

Solution

Conceptual studies, front end engineering design, detailed design, procurement, construction management and commissioning support.

Outcome

- Delivered complete infrastructure including well pad preparation, pipelines, well sites and installation of 22,000m underground pipework.
- Management of environmental considerations, landscaping concerns, public relations and community integration.



Scottish Power – Knapton power generation station **Project execution in environmentally sensitive location**

42MW power generating station exporting natural gas to the National Grid by pipeline delivery from four reservoirs, via four existing wells.

Solution

Front end design, detailed engineering, EPCm and commissioning of plant, specialist design services, programme management and complex project delivery.

Outcome

- Successful project execution in accordance with stringent environmental planning conditions including noise, odorous emissions, sewer discharge and visual impact.
- Plant designed with minimal impact to the surroundings and the local community.

