

## Danish Gas Technology Centre

# PROFILE

### Who are we?

DGC is a technological consultancy and development company within energy and environment. DGC's main focus area is gas utilisation. DGC is the Danish centre for consulting services, development, training and information in the gas field.

DGC works mainly with natural gas, town gas, biogas, hydrogen and LPG, but also with combinations of gaseous fuels and renewable energy.

DGC is a public limited company. It was established by the Danish gas companies in 1988 and is now owned by

- HMN Naturgas (38.4 per cent)
- DONG Energy (36.0 per cent)
- Energinet.dk (15.6 per cent)
- Naturgas Fyn (6 per cent)
- Københavns Energi (4.0 per cent)

### Mission

- to help ensure environmentally sound, energy efficient and safe use and transportation of natural gas, town gas and other forms of gas
- to strengthen the interaction between the gas systems and renewable forms of energy.

### Vision

- to be the technically leading Danish technological consultancy and development company within natural gas, town gas,

other energy gases and related forms of renewable energy – based on commercial operation and a broad customer base.

### Activities and customers

DGC undertakes consultancy, measurements, laboratory testing, along with training and certification for energy companies, authorities, organisations, equipment suppliers, installers, industry, consultants and other customers in Denmark and abroad.

### Location

DGC has its head office and laboratory at SCION DTU in Hørsholm about 25 km north of Copenhagen and a local office in Aalborg in Northern Jutland.

### Laboratory and Notified Body

DGC's laboratory is accredited under DANAK for measurements and safety testing of equipment and installations for gas applications, and gas analysis.

DGC is the Danish Notified Body (approving authority) in the areas covered by the Boiler Efficiency Directive and the Gas Appliances Directive.

### Staff and revenue

The company has 36 employees and generates annual revenue of EUR 7 million.

# DGC services

## Domestic Boilers

- Accredited (and non-accredited) laboratory testing of equipment.
- Adaptation and optimisation of equipment.
- Safety analyses.
- Development of monitoring equipment.
- Checking of specifications in relation to European standards.
- Analysis of under-performing heating installations or abnormal gas consumption.
- Analysis of interaction between boiler and heating system.
- Consultancy on combining natural gas firing with renewable energy.
- Consultancy on operating, environmental and energy conditions.
- Consultancy on installation conditions.
- Development of guidelines and computer tools.
- Training and demonstrations.

## Combustion Technology

- Information and analyses concerning gas quality.
- Calculation and analysis of the effect of gas quality on gas utilization.
- Accredited (and non-accredited) environmental and energy measurements.
- Calculation and analysis of emissions and environmental conditions.
- Combustion testing in the laboratory.
- Computer modelling of combustion, flow and chemical reactions.
- Dispersion calculations.
- Energy and environmental assessment of processes.
- Consultancy concerning biogas and combined biogas/natural gas.
- Investigations and consultancy concerning odorant.
- Training.

## Industrial Utilization

- Design, development, optimisation and testing of burners and other gas equipment.
- Accredited (and non-accredited) measurements.
- Consultancy on gas-based solutions for conversions or renovation.
- Consultancy concerning energy savings.
- Safety analyses and accident investigations.
- Demonstration projects.
- Fact-finding projects.
- Computational Fluid Dynamics (CFD).
- Conversion from electricity, coal or oil.

## Cogeneration

- Accredited (and non-accredited) performance and emission measurements.
- Consultancy on concepts, engine-types, heat storage, etc.
- Dispersion calculations and chimney sizing.
- Measurement and analysis of odour problems and proposals for solution of same.
- Evaluation of meters and metering and billing principles.
- Impartial, expert consultancy in connection with accidents, break downs, etc.
- Consultancy concerning gas quality and engine operation.
- Gas analysis (GC).
- Methane number calculation/algorithm.
- CO<sub>2</sub> certification (in collaboration with Lloyds Plc.).
- Training.