Chapter One

Review of 1997

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1.1 Introduction

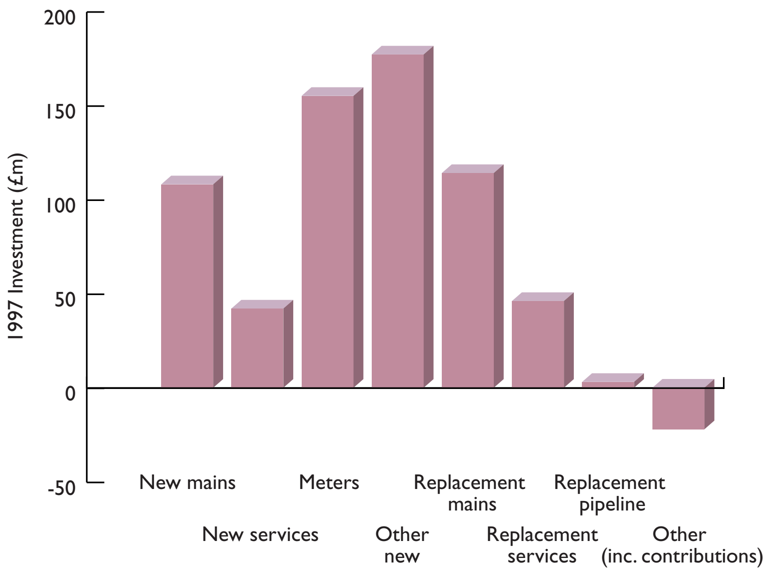
This chapter reviews Transco's operations during the calendar year 1997. Where relevant, more up-to-date information from the subsequent winter period has been included. The aim is to provide background information on Transco's operations during the most recent gas year and to set in context the following chapter which deals with system developments and investment over the next ten years.

The sections on Capital and Operating expenditure describe some of Transco's main cost drivers. The Annual and Peak Flows section describes the actual volumes transported, which provides the basis for supply and demand forecasts for future years. Also included are sections on the developments to the Network Code, Transco's performance during 1997 against its Standards of Service and initiatives sponsored by Transco which aim to grow the gas market.

1.2 Investment

Transco's investment is driven by its statutory obligations to develop an efficient and economic system, its responsibilities for system safety and reliability and by the demands of the gas market. During the 1997 financial year, Transco's total capital investment (excluding Storage) was £653 million.

Figure 1.2 Investment 1997



This investment enabled the installation of 89 km of new high pressure pipeline within the National Transmission System, 1,741 km of new main, 254,000 new services, 2,016 km of replacement main, 165,000 replacement services and 1,603,000 new and replacement meters. Of the other capital expenditure, Transco invested £55 million in new compression on the NTS and £39 million in computer systems.

Transco made major investments in system capacity, to facilitate growth in the market, to maintain safety standards and to ensure metering accuracy. These areas are discussed in more detail below.

1.2.1 System Capacity

Transco invested £267 million during 1997 to increase system capacity. This investment will enable Transco to maintain its supply reliability performance and continue to meet its licence obligations.

Transco has an enviable record for reliability in gas supply; the average rate of loss of supply for gas customers is less than 0.1 per 100 consumers per year (if scheduled maintenance is excluded). This contrasts with the position of the electricity supply industry, where typically, electricity supply interruptions indicate failure rates of just under 100 per 100 customers per year.

Transco accommodated increased demand for gas transportation by improving system operating efficiency, together with localised system reinforcement. Construction projects completed during 1997 included a 19 km pipeline from Lutton to Huntingdon, a 25 km pipeline from Cowpen Bewley to Bishop Auckland and a 45 km pipeline from Steppingley to Aylesbury. Transco improved the system operating efficiency of the network in 1997 by increasing the pressure rating of sections of the network and increasing the capacity at several NTS offtakes. Transco completed the uprating of the 200km section of transmission pipeline between Aylesbury and Mappowder, enabling the pipeline to operate at 75 barg. Cambridge compressor station was also validated to operate at 75 barg. Previous operating pressure for these assets was 70 barg. Capacities were also increased at existing offtakes at Kenn, Tatsfield, Luxborough Lane, Dowlais and Dyfrynn Clydach to enable better utilisation of downstream networks. These projects demonstrate Transco's ability to continue to provide an efficient, economic and safe network for its customers.

1.2.2 Safety

During 1997, Transco invested £181 million in the replacement of mains and services. Transco's mains replacement programme is driven by the need to maintain and improve overall system safety. Transco is reviewing replacement policy with Ofgas and the Health and Safety Executive (HSE), this is expected to take 18 months to complete. For the period of this review, Transco is continuing to replace mains and services in accordance with its existing policy.

Transco is responsible for the provision of an emergency service on its network to deal with reports of gas escapes. This includes the provision of the national Freephone service (0800 111 999) for reporting escapes. It is used for all gas escapes irrespective of who supplies the gas or who owns the gas supply system. The emergency service is currently available on a contract basis to other Public Gas Transporters.

1.2.3 Meter Work

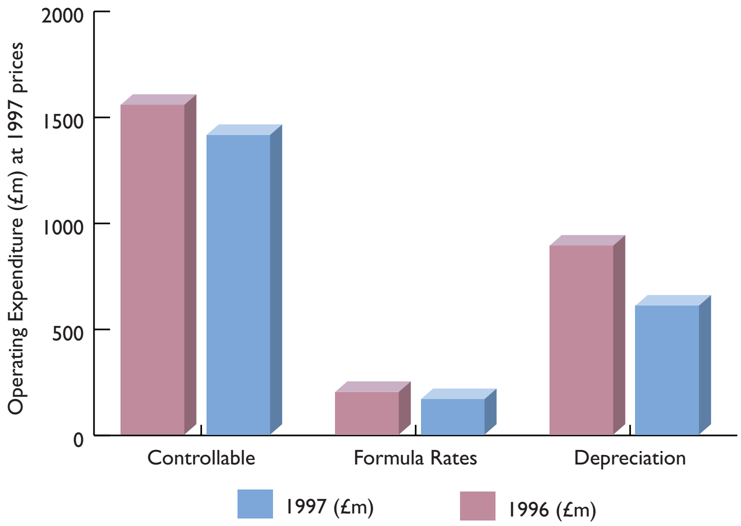
Transco invested £160 million in meter installation and replacement in 1997 to maintain accurate metering services. This included:

- A meter replacement programme, which in 1997 consisted of the:
  - substantial completion of the programmed replacement of leather diaphragm meters
  - introduction of a new programme for replacement of "black spot" meters
- The installation of 430,000 Electronic Token Meters - some 30,000 more than the budgeted figure due to additional shipper requests.

1.3 Operating Expenditure

Transco's operating cost base is composed of three distinct elements: controllable costs, rates payable on operational assets (referred to as formula rates), and depreciation. Within the controllable cost element, Transco distinguishes base operating costs from the distorting effects of market liberalisation, i.e. the cost of introducing domestic competition (£218m) and payments made against provisions (£161m).

Figure 1.3 Operating Expenditure 1997



After adjusting the 1997 results to reflect the separation of Storage, the base operating costs reduced by 11%. The underlying reduction in controllable costs was 13%. The reduction in depreciation reflects the change in accounting basis from Current Cost to Historic Cost and the reduction in value of the asset base following the 1997 price control review.

1.4 Domestic Competition

In 1993, the MMC proposed the introduction of competition in the domestic gas supply market. After consultation with the gas industry, Ofgas adopted a three-phase approach to allow the new systems to be tested before national rollout.

Transco has worked since 1993 to facilitate domestic competition. Working closely with Ofgas and gas shippers, Transco has created one of Europe's most powerful computer systems and largest databases to hold details of each of the UK's 19.5 million gas consumers.

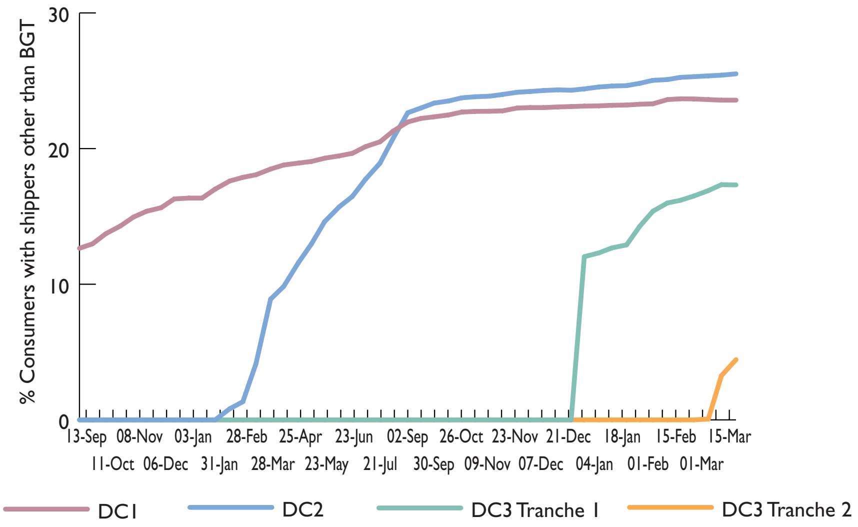
Phase 1 of domestic competition went live on 29th April 1996, providing the opportunity for about 500,000 consumers in Cornwall, Devon and Somerset to choose their gas supplier.

Phase 2 involved around 1.6 million consumers and was implemented in two stages: on the 10th February 1997 for the counties of Dorset and Avon and on the 7th March 1997 for Kent and Sussex.

Phase 3 was itself split into six tranches, rolling competition southwards from Scotland to Central London from February to May 1998.

To date, over three million consumers have changed supplier from British Gas Trading.

Figure 1.4 Domestic Competition Transfers to end March 1998



Throughout the three phases, the gas industry has adopted changes based on the lessons that have been learned. One of the most important of these related to the Network Code, the contractual rules which govern the commercial relationship between gas shippers and Transco. Experience of phases one and two showed the Network Code to be over-complex for the domestic market, causing invoicing backlogs and significant administration costs for all players. After lengthy consultation, Transco proposed measures to simplify the Network Code and these have now been accepted by Ofgas and implemented.

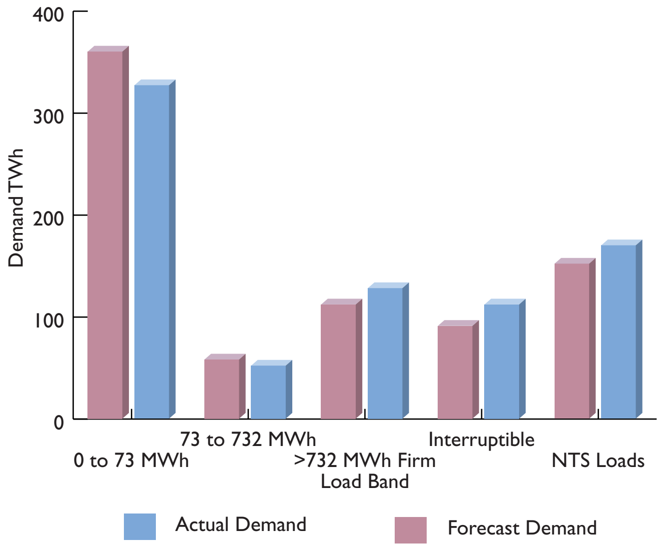
1.5 Annual and Peak Flows

Gas flow can be described in terms of annual and peak flows. The significance of the two ways of representing gas flow is that annual flow is used to calculate the revenue which Transco is allowed to recover in accordance with its price control formula, whilst peak flow is used to determine if capacity expansion is required on the network. The difference between the annual and peak flows can be used to give an indication of system utilisation.

1.5.1 Annual Flows

Figure 1.5.1 shows annual flows in the 1997 calendar year compared with the forecasts contained in the 1997 Ten Year Statement. Total demand was 819 TWh, 2% higher than forecast, supported by strong growth in the industrial and power generation sectors.

Figure 1.5.1 Annual Flows 1997



Within the LDZs, 0-73 MWh (domestic) demand was adversely affected by the warm weather, whilst there was higher than expected growth in the >732 MWh firm and interruptible markets. This growth was brought about by a favourable economic climate and highly competitive gas prices. Growth in NTS loads is explained by the build up of new power station loads, increased exports to Ireland and higher utilisation of Transco's network by dual supplied power stations, that is stations which are connected to the NTS and also have their own dedicated pipeline and so are able to choose the source of their gas. In 1997 a number of these dual supplied stations took more gas from the NTS than was forecast.

1.5.2 Peak Flows

Transco managed a record demand of 388 mcm on 20 February 1996. The entry and exit flows on that day were described in the 1996 Ten Year Statement.

The maximum demand during the 1997/98 winter was on 16 December 1997. The peak entry and exit flows are shown overleaf and are described in more detail in Appendix 1. The data shows that the entry flow on the maximum demand day was 365 mcm, while the flow out of the NTS was 369 mcm. The difference between total supply and total demand on the maximum day was accommodated using changes in linepack.

For comparison, on the minimum demand day (9 August 1997), entry flows totalled 117 mcm, while the flow out of the NTS on the same day was 116 mcm (including injection into Storage). The most striking difference between winter and summer is the change in the relative importance of St Fergus in supplying total demand: on the maximum flow day St Fergus supplied 26% of total demand, whereas on the minimum flow day it supplied 51% of the reduced total demand, this leads to increased operating costs during the summer months.

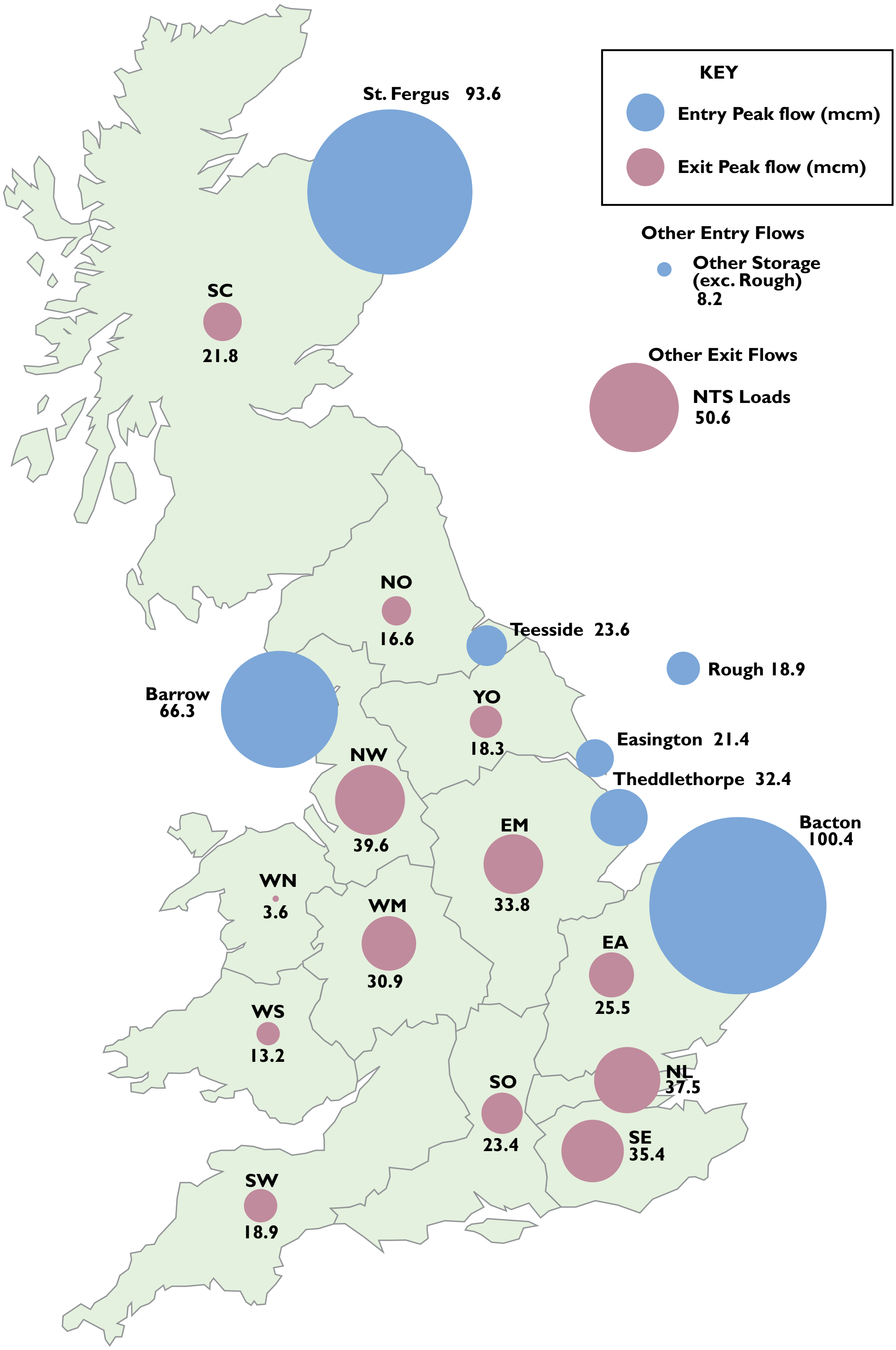
1.5.3 System Utilisation

Transco has two obligations under BG's Public Gas Transporter's Licence regarding system design and operations. The first requires that Transco should design an efficient and economic system and the second that the system should be planned to transport a 1 in 20 peak day demand.

The NTS and LTS are designed to transport a 1 in 20 peak demand and under such circumstances are fully utilised. However the weather conditions associated with this demand level occur very rarely and under milder conditions the transportation system is under utilised. The system load factor for 1997/8 was 45.6%, this is expected to increase in the future as the European Interconnector and more gas fired power generation come on stream. Due to the high proportion of domestic demand it is unlikely that the load factor will ever increase to more than 60%, however some of Transco's market development initiatives are aimed at increasing summer utilisation by promoting gas fired air conditioning and natural gas vehicles.

Further details regarding system utilisation including a discussion of entry and exit capacity and the effects of interruption are given in Appendices 1 and 2.

Figure 1.5.2 Entry and Exit Peak Flows (16 December 1997)



1.6 Network Code Developments

The Network Code is the contractual document which defines the commercial framework for the majority of users of the Transco gas supply network. It is central to the competitive gas market that exists in the UK and establishes the basis of the "level playing field" by providing equal access to the network and a common level of service for most Transco customers.

Under the Network Code, shippers are responsible for balancing their own energy inputs and outputs on a daily basis. If they do not achieve a balance, then they are required to bear the costs incurred by Transco in physically balancing the system on their behalf. In this way the Network Code places economic incentives on shippers and provides balancing tools for Transco (in the form of the flexibility mechanism) to ensure that the system continues to operate in a safe manner.

The contract itself is supported by a suite of complex and interrelated computer systems known collectively as "UK Link". With the introduction of full domestic competition this year, the database holds records for all 19.5 million output points (end user premises).

The Network Code is continually being developed. During 1997 a total of 85 modifications were raised, of which 58 were implemented, these covered subjects as diverse as domestic competition, storage unbundling and the energy balancing regime. The effects of some of these changes are discussed in Sections 1.4 and 1.7.

Appendix 2 reviews the operation of the Network Code through the winter of 1997/8.

1.7 Standards of Service

Transco provides a wide range of services to shippers, consumers and the public. Several of these services are monitored and measured against two packages of standards: the Transportation Standards of Service and Public Standards of Service.

The performance levels achieved during 1997 reflect the challenges faced by Transco in providing the highly complex information systems needed for domestic competition and the new commercial regime. During this period of unprecedented change, Transco has striven to facilitate the move towards a fully liberalised gas market, yet still maintain and improve standards of service.

1.7.1 Transportation Standards of Service

As part of ongoing negotiations between shippers, Ofgas and Transco, the Network Code includes a Transportation standards regime initially developed in 1996. Transco reports results against these standards and planned performance levels (PPLs) on a monthly basis. The Transportation Standards and Transco's 1997 performance are described in detail in Appendix 3. It should be noted that the numbering system has changed since the 1997 Ten Year Statement was published.

Once again, performance against Supply Point Administration (SPA) standards hs met or exceeded the planned performance levels, reflecting the continued efforts made by Transco to establish and maintain this service during the introduction of domestic competition. Overall Transco paid slightly over £6,000 to shippers in SPA liabilities during 1997. This takes account of reductions in liabilities due to the implementation of standard number 10 - Shadow Log in February 1997.

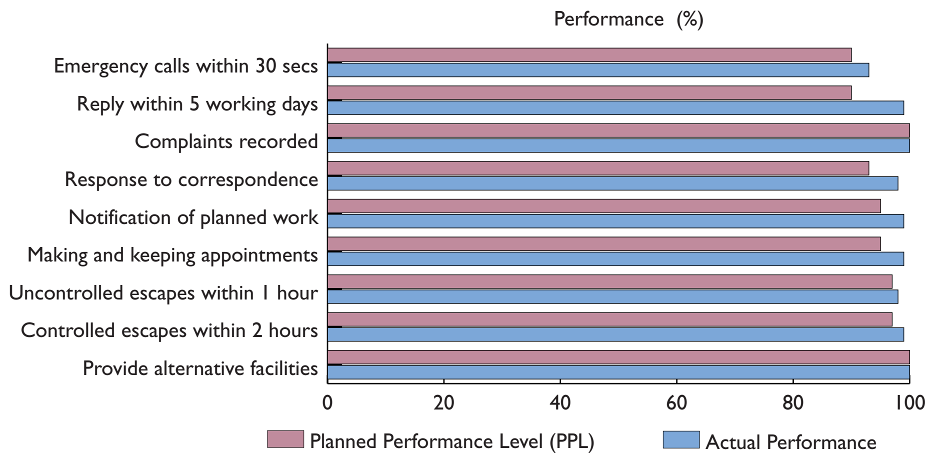
Transco's provision of meter readings has shown a steady improvement in performance, with information for monthly read sites being passed to shippers within 5 days 90% of the time in 1997, compared to 69% in 1996. The total amounts paid to shippers in metering liabilities was £16.8 million.

Standards 11a and 11b were introduced into the Network Code during 1997 and represent a standard to provide updated meter information following a meter exchange or fix. There are currently two methods of transmitting this information, hence two separately reported standards, however with full domestic competition Standard 11a will be the sole reporting mechanism. The introduction of these standards represents Transco's ability to respond to feedback from shippers on the critical needs of their business.
As part of Transco's policy to continually review the Standards of Service, a Network Code Review Group has made proposals to re-balance the current package and recommended additional areas which may benefit the industry. Ofgas have also issued a consultation document and Transco is working towards implementing proposals to ensure that Transco is focused on the needs of the Industry.

1.7.2 Public Standards of Service

Transco is committed to providing high levels of service to gas consumers, its performance against the planned performance levels is shown below and in Appendix 3.

Figure 1.7.2 Public Standards of Service



During 1997, Transco exceeded the planned performance level for all of its Public Standards of Service. Two standards attract fixed levels of compensation and in the twelve month period from 1 January 1997 to 31 December 1997, Transco made payments totalling £46,950.

Transco also works closely with the Gas Consumers Council (GCC) to resolve specific consumer issues. Transco's drive to improve standards of service has led to a reduction of 42% in the number of complaints made to the GCC by consumers compared to 1996.

1.8 Marketing Initiatives

During 1997 Transco developed a range of initiatives that will remove some of the barriers to increased use of gas by consumers. "Performance through Partnership" characterises the approach which has been followed. Most initiatives require a joint approach to enable solutions to be formulated and delivered.

By being proactive in developing the gas market, Transco also delivers opportunities for increased value to its customers by creating new or enlarged markets which shippers can exploit.

Transco's drive towards development of the gas market is underpinned by the fact that, for the most part, its price control formula enables it to recover additional revenue for extra volumes of gas transported through its system.

During 1997, Transco has developed and implemented a range of initiatives which seek to encourage and sustain the future use of gas across a broad range of markets. These initiatives have been designed to overcome specific market barriers which are preventing gas from achieving its full market potential. The market sectors which have been targeted include:

- **Industrial & Commercial** where partnership with the Combined Heat and Power Association has enabled the delivery of feasibility grants for new CHP schemes in public and private applications. In addition financial tools to overcome consumers' capital constraints have been developed through partners.
- **Natural Gas Vehicles** through partnerships with the Natural Gas Vehicles Association, Energy Savings Trust, British Lung Foundation, fuelling equipment and vehicle manufacturers. This has enabled an increase in product availability and much greater awareness of the potential environmental benefits which gas can deliver.