

**MARKET INVESTIGATION INTO SUPPLY OF BULK LIQUEFIELD PETROLEUM
GAS FOR DOMESTIC USE**

Proposed final report

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The Competition Commission has excluded from this report information which the inquiry group considers should be excluded having regard to the three considerations set out in section 244 of the Enterprise Act 2002. The omissions are indicated by [✂].

Proposed final report

Market investigation into supply of bulk liquefied petroleum gas for domestic use

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Summary

1. On 5 July 2004, the Office of Fair Trading (OFT) referred to the Competition Commission (CC) the supply in the UK of bulk liquefied petroleum gas for domestic use (which we refer to as domestic bulk LPG). The reference was made following a number of complaints to the OFT, particularly in relation to pricing of domestic bulk LPG, the difficulty of switching between suppliers and certain other aspects of the relations between customers and their suppliers. The CC is required to determine whether any feature, or combination of features, of the relevant market for the supply of domestic bulk LPG prevents, restricts or distorts (ie 'adversely effects') competition in the UK.
2. Domestic bulk LPG is used by almost 150,000 households in the UK. Only natural gas supplied via the mains grid (mains gas) provides the same range of functions as LPG; but the cost of LPG is significantly higher than that of mains gas reflecting in part the need to deliver LPG by tanker to households in mainly rural areas, and its use, except in parts of Northern Ireland, is largely confined to areas situated away from the mains grid.
3. Domestic bulk LPG is a hazardous product. Safety is a key concern to the suppliers, and was so in our own consideration of this industry. The supply of domestic bulk LPG is subject to a legislative regime, supplemented by voluntary codes of practice, but also by the suppliers' own practices which sometimes go beyond the codes to ensure legislative requirements are satisfied. We saw no evidence that the UK industry had any serious safety problem, a fact which suppliers partly attributed to the current arrangements for supply of domestic bulk LPG; in particular to the integration of the supply of LPG with ownership of the tanks.

4. Four suppliers (referred to as the ‘major suppliers’)—BP, Calor, Flogas and Shell—supply about 90 per cent of domestic bulk LPG in Great Britain, two of which—Calor and Flogas—are the only suppliers in Northern Ireland. The major suppliers argued that there was strong competition to domestic bulk LPG from other fuels, in particular heating oil. But we found the price constraint on domestic bulk LPG from such other fuels was not sufficient for them to be regarded as part of the same economic market, and that the supply of domestic bulk LPG in Great Britain and Northern Ireland could be regarded as separate economic markets from those for other fuels.

5. We found that the rate of switching between LPG suppliers was very low, even among customers who could obtain significant net savings by switching.¹ Suppliers normally retain ownership of bulk tanks on domestic customer premises and it is standard practice, when a customer switches, for the outgoing supplier to remove its tank, to be replaced by an essentially similar tank owned by the incoming supplier. Customers face charges from both the incoming and outgoing supplier, to cover or contribute to the suppliers’ switching costs. Customers are often uncertain as to their liability for such charges. Charges are not always set out in contracts, and in practice the charges actually levied depend on the discretion of suppliers. The inconvenience involved in switching tanks can be considerable. Moreover, customer perceptions of, or uncertainty as to, the level of inconvenience may also discourage switching; the extent of such inconvenience is not known to customers in advance, and in practice depends on the efficiency and care with which suppliers complete the switch. The practice of requiring three months’ notice periods, which is standard in the domestic market,² may add to the perceived inconvenience of the switching process. Customers may also be prevented from switching by lengthy minimum-term contracts

¹A small proportion of customers obtain savings by negotiating discounts rather than switching, as we discuss later.

²Three months’ notice periods are justified by suppliers by the need to run down the gas in the tank before removal. However, if the customer is switching to another LPG supplier this is often unnecessary, as the gas can be transferred to the new supplier’s tank.

(standard among new customers but also applied to some established customers, for example as a condition of receiving a discounted price).

6. We found that customers had little awareness of alternative suppliers, and tended not to be approached by other suppliers, although this may be explained in part by the difficulties in switching outlined above. The limited extent to which suppliers approach one another's customers may also be explained by the difficulty in identifying such customers and the use of selective discounts (see below). We regard the following as features of the markets for the supply of domestic bulk LPG in Great Britain and Northern Ireland which adversely effect competition:
 - (a) the practice of uplifting and replacing tanks when a customer switches supplier (which increases the charges and inconvenience—whether actual or perceived—faced by customers when switching, and discourages other suppliers from competing for their competitors' customers);
 - (b) the lack of information available to customers on the costs and benefits of switching and on the level of inconvenience involved in the switching process;
 - (c) the imposition of contractual restrictions on switching, which affect the level of switching costs and inconvenience of the switching process; and
 - (d) the limited ability of suppliers to identify and target their marketing efforts on each others' customers.

7. Several aspects of the pricing of domestic bulk LPG support the view that competition is constrained in this market. There are sustained differences between average prices of suppliers and a degree of independence (from one another) in the movements of these average prices. Individual suppliers also charge different prices to different customers, largely unrelated to differences in cost. Low switching rates exist despite the availability of lower prices from other suppliers and despite little

evidence that customers have any loyalty towards, or preference for the service of, their existing supplier.

8. We regard the offering of selective discounts to customers as a feature of the market in Great Britain which adversely effects competition, in that this reduces the potential rewards to competitors for attempting to win customers away from their current suppliers and thereby discourages firms from competing to win customers from one another. Lack of transparency in prices is also likely to deter customers from switching to another supplier and is a further feature of the market in Great Britain adversely affecting competition. These features do not, however, apply in Northern Ireland, where standard prices are charged.
9. We accept that the major suppliers have made efforts to compete on non-price factors, but found little evidence that consumers perceive differences in quality of service between suppliers.
10. We also found barriers to expansion by smaller suppliers in the Great Britain and Northern Ireland markets, which constitute a feature of the markets we are examining that adversely effects competition. Switching costs (referred to above) create a barrier to expansion in that, in trying to win a customer, an entrant or smaller competitor will always be at a disadvantage to the current supplier. This disadvantage is particularly significant in a mature market such as that for domestic bulk LPG. With relatively few new-to-market customers, a new or expanding supplier has limited scope to expand without winning customers from larger incumbent suppliers. Selective discounting in Great Britain also enables existing firms to respond to specific competitive threats without lowering prices to their broader customer base. In consequence, the threat of entry or expansion by smaller

suppliers is likely to provide only a very limited constraint on the prices charged by LPG suppliers.

11. We also considered two other aspects of the market which, although not necessarily features adversely effecting competition, are relevant to our assessment of competition.
12. First, the major suppliers in Great Britain earned on average over the period 2001 to 2004 returns on capital employed that were in excess of the weighted average cost of capital which we have calculated, although none of them earned returns that were both persistently and substantially in excess.
13. Secondly, we considered whether any of the business practices which contributed to the low rates of switching (exclusive supply of LPG, ownership of tanks by the LPG supplier, uplift of tanks when the customer switches to a new supplier and the three month notice period) were required in order to comply with the existing safety management framework. We found that the exclusivity of supply is a practice which helps to satisfy the safety requirements under the current UK legal regime and may be a more efficient means of managing safety than non-exclusive supply. While ownership of tanks by LPG suppliers is not necessarily the only safe model, and is not a requirement of the current legal regime, it presents significant advantages over customer ownership (under which some of the existing health and safety regulations would not apply) and appears to be a more legally certain and efficient way of managing safety than ownership of tanks by commercial third parties. We do not accept, however, that the practices of uplifting tanks and requiring a three months' notice period for terminating supply are required under the existing regulatory regime, nor that they are necessarily the most efficient way of safely managing the supply of domestic bulk LPG.

14. In summary, there are features of the markets for the supply of domestic bulk LPG in Great Britain and Northern Ireland which adversely effect competition in the UK. While some marginal customers may negotiate competitive prices, we conclude that the large majority of customers in the market are paying higher prices than would be the case if these features did not exist.

Proposed final findings

1. The reference

- 1.1 On 5 July 2004, the OFT referred to the CC the supply in the UK of bulk LPG for domestic use³ (which we refer to as 'domestic bulk LPG'). Our terms of reference are set out in Appendix A.
- 1.2 The reference was made to the CC following a number of customer complaints to the OFT, particularly in relation to:
- (a) the pricing of domestic bulk LPG;
 - (b) the difficulty of switching between suppliers; and
 - (c) certain other aspects of the relations between customers and their suppliers.
- 1.3 Under section 134 of the Enterprise Act 2002 (the Act), the CC is required to investigate whether any feature, or combination of features, of each relevant market⁴ prevents, restricts or distorts competition in connection with the supply or acquisition of any goods or services in the UK or a part of the UK. If so, there is said to be an 'adverse effect on competition'.⁵
- 1.4 If the CC decides that there is an adverse effect on competition, it is required under Section 134(4) of the Act to decide whether action should be taken by it, or whether it should recommend the taking of action by others, for the purpose of remedying,

³Originally the terms of reference referred to the supply of 'domestic bulk LPG' with domestic being defined as supplied for use by households as well as for use by businesses whose consumption of LPG by volume was similar to that of households. Following consultation by the OFT, the terms of reference were amended on 20 October 2004 to refer to the supply of 'bulk LPG for domestic use' and the definition of domestic was removed. 'Bulk' means supplied by tanker to fixed storage tanks, as opposed to cylinders.

⁴For the purposes of the CC's investigation, 'relevant market' is defined in Section 134(3) of the Act as a market in the UK for goods or services of a description specified in the reference concerned.

⁵Section 134 of the Act is reproduced in Appendix A. The Act states (section 131(2)) that, for the purpose of a market investigation reference, a feature of a market in the UK shall be construed as:

- (a) the structure of the market concerned or any aspect of that structure;
- (b) any conduct (whether or not in the market concerned) of one or more than one person who supplies or acquires goods or services in the market concerned; or
- (c) any conduct relating to the market concerned of customers of any person who supplies or acquires goods or services.

mitigating or preventing the adverse effect on competition concerned or any detrimental effect on customers⁶ so far as it has resulted from, or may be expected to result from, the adverse effect on competition; and, if so, what action should be taken and what is to be remedied, mitigated or prevented.

1.5 During the course of this investigation, we have placed a number of documents on our web site including evidence from suppliers and customers of domestic bulk LPG; an Issues Statement, an Emerging Thinking Statement and a Statement of Provisional Findings; a qualitative and a quantitative survey of domestic bulk LPG customers by ORC and a report by technical consultants, Mott McDonald, all of which were commissioned for the purposes of the investigation; a working paper on safety; and comments from suppliers on some of that material. In reaching our findings, we have taken into account all of the evidence received during the course of this investigation, including comments made in written submissions and hearings and the responses of parties to consultation documents such as the Emerging Thinking Statement and Provisional Findings. This Report—including the Appendices—sets out the CC's decisions on the questions which it is required to answer under the Act, together with the reasons for our decisions and sufficient information to facilitate a proper understanding of them.⁷ The Report does not seek to address every point that has been put to us by interested parties, but focuses on the issues which are of material relevance to the CC's decision-making and reasoning.

2. Domestic bulk LPG

2.1 Domestic bulk LPG is used by almost 150,000 households in the UK. In Great Britain, almost all customers of LPG are located away from the main gas grid,

⁶A detrimental effect on customers is defined in section 134(5) of the Act as one taking the form of:

(a) higher prices, lower quality or less choice of goods or services in any market in the UK (whether or not the market to which the feature or features concerned relate); or

(b) less innovation in relation to such goods or services.

⁷As required by section 136(2) of the Act.

although in Northern Ireland a significant proportion of customers are located in areas served by mains gas. LPG performs the same household functions as mains gas, but at greater cost reflecting in part the need to deliver LPG by tanker to individual households situated in mainly rural areas. Unlike mains gas or other network utilities, there is no price regulation of LPG. As noted in Appendix E, heating oil performs many of the functions of bulk LPG but is less suitable for cooking, for which only a restricted range of equipment can be used; generally, therefore, customers of heating oil would have to use an electric cooker. Descriptions of LPG, for which only propane is used in domestic bulk tanks in the UK, and of the supply chain for bulk LPG, are set out in Appendices B and C respectively.

2.2 Four suppliers (referred to as the ‘major suppliers’)—BP LPG UK (BP), Calor Gas Limited (Calor), Flogas UK Limited (Flogas) and Shell Gas Limited (Shell)—supply about 90 per cent of domestic bulk LPG in Great Britain.

- (a) BP’s UK domestic bulk LPG operations form a small part of BP plc’s total UK operations. The LPG business has grown organically and through acquisitions (including the businesses of North East Farmers, Border Gas and Mobil Gas). BP plc is a wholesale supplier of LPG to other suppliers of bulk LPG globally.
- (b) Calor is focused on marketing and distributing LPG. It is the largest supplier of domestic bulk LPG in the UK by 2004 tonnage, having grown organically from its original LPG cylinder operation. It is wholly owned by the private Dutch group SHV which has LPG and other operations across the world.
- (c) Flogas is a wholly owned subsidiary of DCC plc, a company based in the Republic of Ireland, with LPG and other operations predominantly in the UK and the Republic of Ireland. Flogas is focused on marketing and distributing LPG. In November 2002, Flogas acquired the LPG business of British Gas from Centrica. This business now represents the bulk of Flogas’s enlarged domestic bulk LPG operations.

(d) Shell's UK domestic bulk LPG business grew out of its cylinder operations through a number of acquisitions, including that of Esso in 1997, and represents a small part of its total UK operations. In 2000, Shell divested its cylinder business and some of its small bulk LPG to British Gas plc (at the same time receiving some other non-domestic bulk LPG business from British Gas plc).

We are aware of over 20 other suppliers of domestic bulk LPG in Great Britain.

2.3 There are only two suppliers of domestic bulk LPG in Northern Ireland, Calor NI and Flogas NI,⁸ where the total volume sold is small in comparison to the total UK market.

Safety

2.4 As noted in Appendix D, LPG is a hazardous product. The safe delivery, containment and use of this product are paramount. High standards in tank and valve design, manufacture, installation and maintenance, and appropriate emergency response are all necessary to minimize LPG leaks and mitigate associated risks.

2.5 The supply of domestic bulk LPG in the UK is subject to a legislative regime⁹ governing its safety which comprises:

- (a) legislation designed to protect the health and safety of employees and other persons affected by the activities of a commercial undertaking; and
- (b) certain EU regulations intended to harmonize product safety standards throughout the EU.

This legislative regime is supplemented by codes of practice approved under the statutory regime by the Health and Safety Commission (known as Approved Codes

⁸We use the name Flogas NI to refer to the LPG business of DCC Energy Limited, a DCC subsidiary, in Northern Ireland.

⁹For more detail of the Great Britain and Northern Ireland regulatory regimes, see Appendix D.

of Practice or ACoPs) and voluntary codes of practice of the main industry trade association, the Liquefied Petroleum Gas Association (the LPGA CoPs). In so far as these affect the supply of tanks and domestic bulk LPG, these legal requirements relate almost exclusively to suppliers. Customers, in contrast, have limited legal responsibilities other than certain general duties under civil law (including the Occupiers' Liability Acts 1957 and 1984) to ensure the safety of their premises, and their responsibilities under contracts with their suppliers (for example, to protect the tank from damage, or to insure a tank other than from damage for which suppliers are liable), of which they may not always be aware.

2.6 The Health and Safety at Work etc Act 1974 (the 1974 Act)¹⁰ imposes a number of general obligations on employers to ensure, so far as is reasonably practicable, the health, safety and welfare at work of their employees, including a requirement to ensure the safe use, handling, storage and transport of substances. Employers' (and self-employed persons') obligations extend to persons not in their employment who may be affected by the activity of their undertakings. Equivalent provisions applicable in Northern Ireland are contained in the Health and Safety at Work (Northern Ireland) Order 1978 (the Northern Ireland Order).¹¹

2.7 LPG suppliers, along with all other employers, are under an obligation to comply with the general duties laid down in the 1974 Act. They are required to ensure, so far as is reasonably practicable, the health, safety and welfare of any employees engaged in activities 'at work', which include installing and maintaining bulk LPG tanks and delivering LPG to domestic premises. Suppliers are also required to ensure, so far as is reasonably practicable, that domestic LPG customers are not exposed to risks to their health and safety as a result of such commercial activities.

¹⁰c.37.

¹¹1978 No 1039 (NI 9). For further details of the Northern Ireland regime, see Appendix D.

2.8 The 1974 Act confers powers on the Secretary of State to make 'health and safety regulations' for securing the health, safety and welfare of persons in connection with work. A number of these regulations, the details of which are set out in Appendix D, affect the activities of LPG suppliers, in particular:

- (a) the *Gas Safety (Installation and Use) Regulations 1998*¹² (GSIUR);
- (b) the *Pressure Systems Safety Regulations 2000*¹³ (PSSR) ;
- (c) the *Dangerous Substances and Explosive Atmospheres Regulations 2002*¹⁴ (DSEAR);
- (d) the *Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004 (CDGR)*;¹⁵ and
- (e) the *Management of Health and Safety at Work Regulations 1999*¹⁶ (MHSWR).

Of these, for example, the PSSR apply to pressure systems such as bulk LPG tanks and associated pipework which are 'used or intended to be used at work'. They regulate certain matters related to tank installation and (for older tanks) design and construction, and require the 'user' of the pressure system to establish the safe operating limits of the tank, ensure that the tank is properly maintained and implement a written scheme of examination, including periodic inspections.¹⁷

2.9 Compliance with the specific regulations affecting LPG activities (and with the ACoPs and LPG CoPs) will very often be relevant in determining whether an LPG supplier has taken such action as is 'reasonably practicable' to protect its employees and others. However, such compliance will not necessarily guarantee that the underlying obligations contained in the 1974 Act (or, as appropriate, the Northern Ireland Order) have been satisfied, and it will be for the LPG suppliers to take a view on how a

¹²SI 1998 No 2451.

¹³SI 2000 No 128.

¹⁴SI 2002 No 2776.

¹⁵SI 2004 No 2095.

¹⁶SI 1999 No 3242.

¹⁷For further details, see section 2 of the annex to Appendix D.

particular activity affects the health and safety of employees and other persons affected.

2.10 Any breach of the general obligations under the 1974 Act (or the Northern Ireland Order) and the health and safety regulations gives rise to an offence. Proceedings for an offence may be brought by an inspector appointed by the relevant enforcing agency, which in most cases involving domestic bulk LPG in Great Britain we understand will be the Health and Safety Executive (HSE).¹⁸ In addition, inspectors have the power to issue improvement notices where the 1974 Act (or the Northern Ireland Order) itself is being contravened and prohibition notices where there is a risk of serious personal injury. As well as the possibility of prosecution, breach of the relevant regulations may in some circumstances result in an action for damages by someone suffering harm as a result. The HSE is not, however, in a position generally to carry out individual site inspections.

2.11 In addition to health and safety regulations made under the 1974 Act (and its Northern Ireland equivalent), there are other regulations relevant to the bulk LPG industry which implement EU obligations intended to harmonize product safety standards throughout the EU,¹⁹ most notably:

- (a) the *Pressure Equipment Regulations 1999*²⁰ (*PER*); and
- (b) the *General Product Safety Regulations 2005* (*GPSR*).²¹

More details of these are also set out in Appendix D.

¹⁸In Northern Ireland, the enforcement authority will be the Health and Safety Executive for Northern Ireland, the relevant government department or such other class of person as may be prescribed (Northern Ireland Order, article 20(1)).

¹⁹There is a degree of overlap between regulations made under the 1974 Act and those implementing EU obligations. A number of the health and safety regulations outlined above implement EU obligations (eg DSEAR, CDGR) or have been made under both the 1974 Act and the European Communities Act 1972 (eg MHSWR).

²⁰SI 1999 No 2001, as amended.

²¹SI 2005 No 1803. The Regulations, which apply to the UK, replaced S.I. 1994 No 2328 and implement Directive 2001/95/EC. Changes include new enforcement provisions and extending the scope of products.

2.12 Safety is a key concern to the suppliers of LPG and in our own consideration of this industry. Suppliers own practices sometimes go beyond the codes of practice, they told us, to ensure legislative requirements are satisfied. We received no evidence that the industry has had any serious safety problems, which was partly attributed by the major suppliers to the current arrangements for supplying bulk LPG. In particular, it was argued that safety was ensured by integrating the supply of bulk LPG with ownership of the tank—the suppliers taking full responsibility for procurement and installation of the tank, for its subsequent maintenance, refurbishment and if necessary replacement, and for supply of LPG to that tank. We noted that there are, however, exceptions to this integrated model, for example where suppliers have acquired other companies and their installed tank base, or a customer or group of customers from another supplier, including in some cases a small number of customers owning their own tanks. Some smaller suppliers also supply customers with their own tanks. But we were told that even in those cases the supplier generally takes full responsibility for the maintenance of the tank. As a result of that integrated supply of bulk LPG and of bulk LPG tanks, changes of bulk LPG suppliers in practice generally involve a change of LPG tank.

2.13 We received evidence from the HSE, which told us (as noted in the summary of its evidence on our web site) that its concern was that the duties under the legislation should be carried out, rather than that they were carried out by one firm or several firms. The HSE also stated that the ownership of equipment was one of the issues excluded from the regulations. In its view, the practice of changing tanks on changing supplier, for example, was a commercial decision, which could not be hidden behind considerations of health and safety.

2.14 We also commissioned technical consultants, Mott McDonald, to provide advice on safety issues. As noted above, Mott McDonald's report and contribution to our own

Safety Working Paper were published on our web site. Annex 3 of the Safety Working Paper gives Mott McDonald's opinion on regulation in the bulk LPG industry. In its view, formed after talking to a number of suppliers and visiting a small number of sites, the bulk LPG industry has a robust legislative and standards regime, which is well understood by operators and generally well applied. It did, though, note that the sites it visited could be improved to comply with the industry ACoPs and LPGA CoPs, but it did not regard the differences it observed to be departures from the spirit of the ACoPs and LPGA CoPs or unsafe. It also noted some areas where there was a range of interpretation of the codes of practice and the health and safety regulations. However, its view was that there was no monitoring or enforcement of specific practices for industry participants except prosecution following an incident, when the relevant enforcement authority intervened; and furthermore that there were no regulatory barriers to entry, no licensing required, and no consultative technical body (with enforcement powers) to authorize new practices or equipment.

- 2.15 We also published on our web site the comments of the major suppliers on the Mott McDonald report and the Safety Working Paper. They made a number of criticisms of the Mott McDonald analysis. Among other things, they believed Mott McDonald did not visit a sufficient number of sites to allow it to judge the practice of all suppliers, and also referred to their own experience following acquisition of other companies when they had found it necessary to undertake extensive rectification programmes and to replace a number of tanks. But Mott McDonald was not carrying out full safety audits of individual suppliers or of the industry as a whole, nor would it have been practical or appropriate for them to seek to do so. Despite the criticisms made by them of the Mott McDonald report, some of the major suppliers accepted many of the points made by Mott McDonald and relied on its findings in their own submissions.

- 2.16 We have reached our own views on safety issues, having regard to all of the relevant evidence presented to us, including the comments from the HSE and from suppliers of LPG and the technical advice of a consultant provided by one of the major suppliers. We have noted in paragraph 2.12 that we saw no evidence of any serious safety problems, even though in Great Britain small bulk LPG tanks at domestic premises do not currently attract proactive inspections by the HSE and the safety regime is focused on avoiding prosecution. We saw no reason to doubt that the systems of the major suppliers are effective, although, as apparent also from some of the sites we ourselves saw, the codes of practice are not always applied to the letter.
- 2.17 The integrated supply of bulk LPG and tanks we noted above distinguishes domestic bulk LPG from the supply of heating oil, where customers generally own their tanks. The major suppliers argued that this different approach reflected the greater hazards involved with supply of domestic bulk LPG and the associated safety concerns. We consider in section 5 and Appendix D below whether alternative arrangements to the integrated model could have been developed for the supply of bulk LPG without putting safety at risk.

3. Market definition

3.1 The relevant market²² (or markets) which the CC is required to examine is the market (or markets) for the goods or services of a description specified in the terms of reference (the reference goods or services). In order to carry out its assessment it is necessary therefore for the CC to identify the economic market (or markets) in which the reference goods or services compete. In this section, we consider the economic market (or markets) for the products concerned. We then go on in the next sections to assess competition within that economic market (or markets), before considering whether any feature of the relevant market adversely affects competition.

The goods and services market—demand-side substitution

3.2 We discuss economic market definition in Appendix E. The conceptual approach applied here to economic market definition is to consider whether a hypothetical monopolist (or all suppliers acting in concert) of certain products or services could profitably sustain a small but significant non-transitory price rise (normally in the region of five per cent) above the competitive level.²³ If the price rise would be unprofitable, because customers would switch their consumption to certain other products, then these products are added to the product group and the procedure is repeated.²⁴ The relevant product market is the smallest group of products for which a hypothetical monopolist could sustain the price rise profitably.

3.3 From a customer's perspective, only mains gas provides the same range of functions as LPG. The cost of LPG is approximately double that of mains gas (see paragraph 3 of Appendix E), hence use of LPG in Great Britain is largely confined to areas

²²As defined in section 134(3) of the Act.

²³We explain in paragraph 2 of Appendix E why we refer to prices above the competitive level rather than existing prices in our consideration of market definition.

²⁴Very few domestic bulk LPG customers appear willing to switch to an alternative bulk LPG supplier (for reasons which we discuss below), even in response to a substantial difference in relative prices, and suppliers can offer discounts, on an individual basis, to customers who express an intention to switch. As such, it could be argued that any domestic bulk LPG supplier could behave as a monopolist with respect to its own customer base. This is further considered in paragraphs 11 to 13 of Appendix E.

situated away from the mains gas.²⁵ Despite the advantages of LPG over other fuels such as heating oil to which we referred in paragraph 2.1, a larger proportion of households located away from the mains gas grid use heating oil than use bulk LPG (see also paragraph 3.5(c)).

3.4 The major suppliers argued that there was strong competition from other fuels, in particular heating oil, and that in the long term heating oil and (to a lesser extent) other fuels (eg wood and coal) place some constraint on the price of domestic bulk LPG, though most did not contend that they are close enough substitutes to be considered part of the same market.

3.5 On the basis of the evidence we received, however, we found:

(a) There is limited switching in Great Britain between domestic bulk LPG and other fuels in response to price changes or otherwise. On the figures we have seen, for example, in 2003 only 1 per cent of domestic bulk LPG customers switched to heating oil (see table 10 of Appendix G) (although this is more than switched to another supplier of LPG or to any other fuel).

(b) The scope for substitution between domestic bulk LPG and other fuel sources is limited by factors such as the costs of converting to other fuels from LPG and the limited periods within which a customer is likely to consider switching (for example, given the cost of a new boiler, when a boiler needs to be replaced, which is usually after a period of between 15 and 20 years: see paragraph 4 of Appendix E).

(c) The retail price of domestic bulk LPG is around double that of heating oil (on a per kilowatt hour basis) (see paragraph 8 of Appendix E).²⁶ Prices of both domestic bulk LPG and heating oil depend on input costs linked to crude oil

²⁵In some areas of Northern Ireland where mains gas has been introduced relatively recently, a substantial number of households have not (at least yet) switched to mains gas. (See further consideration at paragraph 3.8 below.)

²⁶Part of this differential can be explained by the inclusion in LPG prices of an element of tank costs (including some installation costs), which are not included in prices of heating oil.

prices, so the two tend to move together over the longer term, although the premium of domestic bulk LPG over heating oil has varied widely in recent years (see paragraph 9 of Appendix E).

3.6 Calor argued that heating oil constrained LPG prices over the longer term, because (a) of the need to maintain an acceptable differential between the prices of LPG and heating oil, and (b) heating oil was a good substitute for LPG at critical stages in the life of a central heating boiler, ie when a boiler comes up for replacement. We note that some aspects of the major suppliers' marketing efforts were directed against heating oil.

3.7 While we recognise that there is some competition from heating oil (particularly for new customers or when the boiler comes up for renewal) we found this to be limited. Given that bulk LPG customers do not appear to respond to the considerable fluctuations in the relative prices of domestic bulk LPG and heating oil (which are shown in figure 2 of Appendix E), we consider that, if a hypothetical monopolist of domestic bulk LPG raised prices to five per cent above the competitive level, customers would not switch to heating oil at a sufficient rate to make such a price rise unprofitable. We acknowledge that the long-term objective of LPG suppliers is to attract new-to-market customers from alternatives such as heating oil. However, as we have noted in Table 9 of Appendix G, the rate of new customers, including those coming into the market, is small relative to the size of the market overall. We therefore conclude that domestic bulk LPG in Great Britain is not in the same economic market as heating oil. Similar arguments apply in relation to other fuels such as wood and coal and we have seen no evidence that domestic bulk LPG is in the same economic market as these other fuels.

3.8 We reached a similar conclusion in respect of Northern Ireland, although circumstances are to some extent different. We noted above that, unlike Great Britain, a significant proportion of customers in Northern Ireland is in areas also supplied by mains gas, following the recent introduction of mains gas in those areas. As a result of this mains gas development, use of domestic bulk LPG has declined and, on the evidence we saw, is likely to continue to do so. The up-front cost of connection from the mains supply to domestic premises (and possibly the cost of converting household appliances from consuming LPG to mains gas) may slow the speed of the switching by customers to mains gas, and [§<] suggested that some domestic customers considered gas stored in a bulk tank to give them greater security of supply (see paragraph 15 of Appendix E). However, the price difference between domestic bulk LPG and mains gas is such that domestic bulk LPG cannot compete on price with mains gas, and most LPG customers in areas supplied by mains gas are likely to switch in the medium term as they become aware of the scale of the price differential and (to the extent that they perceive security of supply as an issue) more confident as to the reliability of mains gas delivery. In the longer term, however, it is unlikely that the mains gas grid will extend to the entire country, and bulk LPG will continue to be an option in areas not covered by the grid. The two Northern Irish suppliers also told us that, in areas not served by mains gas, there was a strong preference there to use heating oil rather than domestic bulk LPG, but again with limited price competition between the two (see paragraph 17 of Appendix E). We therefore also regard domestic bulk LPG as a distinct market from heating oil in Northern Ireland. Again, similar arguments apply in relation to other fuels such as wood and coal and we have seen no evidence that domestic bulk LPG is in the same economic market as these other fuels.

Supply-side substitution

3.9 Some major suppliers told us that supply to domestic bulk LPG customers was not a distinct market from supply to non-domestic customers, since it was often economic for LPG tankers to deliver to a mix of customers, and suppliers of non-domestic customers (commercial, industrial and agricultural) could choose also to deliver to domestic customers. But almost all bulk LPG retailers supply both domestic and non-domestic customers. Hence, in our view, such firms are best considered already as competitors within the domestic market, rather than potential sources of supply-side substitution. Although there may be some potential for competition from the small number of companies currently only supplying non-domestic customers, that is likely to be limited by some of the constraints on entry on any scale into supply of domestic bulk LPG, which we consider in paragraphs 4.90 to 4.96. A commercial-only bulk LPG supplier could not, for example, readily respond to an increase in domestic prices by starting to supply domestic customers given the difficulty of identifying those customers and inducing them to switch. The extent of potential competition from suppliers of non-domestic customers is therefore limited and we believe the domestic market, in both Great Britain and Northern Ireland, can be regarded as distinct.

Metered estates

3.10 We also considered whether domestic customers in metered estates should be considered as belonging to a separate economic market. While metered estate customers are typically charged lower prices (see paragraph 37 of Appendix I), suppliers told us that this reflected the lower unit costs of supply and we have seen no evidence that prices to metered estates are inconsistent with those to non-estate customers (other than due to the logistical efficiency advantages noted above and to the possibility that metered estate purchasers may have a slightly better negotiating position because of the higher volumes of LPG they buy—see paragraph 4.13

below). The same firms supply to both types of customers, and while supply to metered estates may have some distinct characteristics, we have not seen evidence that they are sufficiently distinct to be treated as a separate economic market.

- 3.11 In our view, therefore, the supply of domestic bulk LPG, ie the relevant market as defined in the terms of reference, can be regarded as the economic market in both Great Britain and Northern Ireland.

Geographic markets

- 3.12 As noted in paragraph 20 of Appendix E, the logistics of bulk LPG supply require the supplier to use a depot within at most around 100 miles of all customers who are served from that depot. Apart from a small amount of cross-border trade from the Republic of Ireland to Northern Ireland, we found no evidence that any customers in the UK were supplied by companies located outside the UK, nor arguments that there was scope for such supply to take place.
- 3.13 Northern Ireland appears to be a distinct market, both from Great Britain and from the Republic of Ireland. Although LPG is internationally traded, at the domestic level supply from Great Britain, from a firm not already present in the Northern Ireland market, would require substantial investment in marketing and distribution. This is also true of supply from the Republic of Ireland, albeit that (as noted above) a small amount of cross-border trade occurs at present. The two companies with a substantial presence in Northern Ireland do not supply outside Northern Ireland, although the parent companies of both also own companies which supply to other markets, including Great Britain.
- 3.14 We have not identified any distinct local markets within Great Britain or Northern Ireland: pricing appears to be broadly similar in all regions of Great Britain, while

each of the suppliers in Northern Ireland charges a standard price. In Great Britain, one of the major suppliers [X] maintains standard prices that differ to some extent by region, but this variation seems to be insufficient to suggest that local or regional markets exist.

Aspects of the terms of reference

3.15 In its response to the Emerging Thinking Statement, Shell told us that, as the CC's terms of reference made no mention of the supply or maintenance of tanks for storage of LPG, the CC 'would need to take a view on the scope of market definition before reaching any conclusions in relation to particular features of the relevant market'. We have done so.

3.16 We have noted above the current integrated supply of tanks and domestic bulk LPG, which requires customers to change tank in order to change supplier, and allows for the recovery of tank and installation costs partly through LPG prices. Given the existence of widespread integrated supply, we believe it is valid to regard supply of both LPG and tanks as part of the relevant market (ie the market for the reference goods or services) and of the economic market (see paragraph 14 of Appendix E), and that inclusion or exclusion of tanks from the economic market would not significantly affect our competition assessment. But, even if the supply of tanks could be regarded as a separate economic market, the Act provides that a 'feature' capable of adversely affecting competition includes conduct of one or more than one person who supplies goods or services in the relevant market, whether or not that conduct is in the relevant market concerned.²⁷ Hence, since domestic bulk LPG suppliers and tank suppliers are to a large extent one and the same, any conduct relating to tanks which was undertaken by LPG suppliers and which we might identify as adversely

²⁷Section 131(2)(b) of the Act.

affecting competition would qualify as a 'feature' of the relevant market capable of preventing, restricting or distorting competition.

3.17 About 9 per cent of domestic bulk LPG customers are residents of metered estates, from whom, as noted in the Issues Statement, we received a number of complaints. The term 'metered estate' is used to describe a number of possible arrangements, which are set out in detail in paragraphs 4 to 15 of Appendix A. In some cases the supplier supplies the domestic bulk LPG customer directly, through a central fixed storage tank which also supplies other customers. In other cases the LPG supplier's customer is an intermediary such as a developer or estate owner, who resells the LPG to domestic users on the estate. LPG suppliers typically regard such supply as part of their commercial business. As discussed in Appendix A, since such intermediaries supply LPG from a central tank through pipes to individual sites, in our view they cannot be regarded as supplying to fixed storage tanks, as specified in our terms of reference.²⁸ However, supply to those intermediaries, even where dealt with by LPG suppliers as commercial customers, can be regarded as falling within the terms of reference since such supply is ultimately for domestic use.

3.18 As noted in paragraph 3.10 above, in terms of the economic market definition, we have seen no evidence to suggest that supply to customers on metered estates should be treated as a separate market from the remainder of domestic bulk LPG supply, albeit that they may have some distinct characteristics, such as lower prices

²⁸We are aware of other measures that to some extent address the supply by developers and estate owners to customers. Firstly, the Office of Fair Trading in September 2005 issued a guidance note on unfair terms in holiday caravan agreements (Guidance on unfair terms in holiday caravan agreements, Office of Fair Trading, September 2005). The guidance included as examples of terms that could potentially be considered unfair those which without good reason tie caravan owners to purchasing services supplied by the park owner such as caravan accessories or the supply of LPG. The guidance related inter alia to the provision of services including LPG and addresses the unfairness of terms imposing an unfair financial burden upon residents or allowing for unilateral variation by the landlord and emphasises the need for transparency in fees. The document also noted more generally that occupiers of park homes may have additional protection under other legislation. We also noted that the Office of the Deputy Prime Minister issued a consultation document on Park Home Statutory Instruments (Park Home Statutory Instruments, Consultation on Implied Terms and Written Statement, Office of Deputy Prime Minister, July 2004), responses to which were published in February 2005 (Implied terms and written statement for park homes, Consultation Summary of Responses, Office of Deputy Prime Minister, February 2005), and we understand that a statutory instrument may be laid before Parliament to amending Schedule 1 of the Mobile Homes Act 1983.

(due to the efficiency advantages noted above) and additional barriers to switching, for example due to ownership by the supplier of the pipework and/or land on which the tank is sited or the fact that in many cases it may be impossible or unattractive for a householder to install his or her own individual tank (see paragraphs 39 to 41 of Appendix G).

4. Market features

4.1. We now consider whether there are possible features, as explained in paragraph 1.3 above, of the relevant markets that may prevent, restrict or distort competition. We discuss in turn the structure of the markets; switching; pricing; non-price competition; and entry. In each case, we first discuss possible features relating primarily to the Great Britain market; and then the extent to which they may also apply in the Northern Ireland market.

A. Market structures

4.2. As noted above and in paragraph 7 of Appendix F, the major suppliers account for about 90 per cent of supply of domestic bulk LPG in Great Britain; Calor alone accounts for almost one-half of supply.

4.3. Whilst Calor's market share has reduced since the early 1980s when it held over 75 per cent, the combined share of the major suppliers appears to have risen from about 75 per cent in 1995 to about 90 per cent in 2003, mostly as a result of acquisitions.

4.4. We considered whether the current level of market concentration, in the supply of an essentially homogenous product, might give scope for coordination²⁹ between firms. We carried out an econometric study into whether the prices charged by the major

²⁹See paragraph 3.61 of Market Investigation References: Competition Commission Guidelines, CC3, June 2003.

suppliers over time supported a conclusion of coordinated effects. We considered that the results of the study did not provide clear evidence that coordination was occurring in the market for domestic bulk LPG.³⁰ Indeed, the extent to which the average prices charged by suppliers diverge over sustained periods tends to indicate that suppliers price with a degree of independence. A smaller supplier alleged that it had been put under pressure to offer its customers similar contract terms to those offered by the larger suppliers. On the whole, however, we have not found sufficient evidence to conclude that any of the major suppliers are engaging in any practices which it would not be in their interests to engage in unilaterally. Nevertheless, as discussed in paragraphs 42 to 48 of Appendix I, there is some evidence to suggest that the conditions for coordination may be met in this market, and it is possible, in principle, that such coordinated effects could emerge in future if the suppliers' incentives to coordinate were to increase.

- 4.5. In Northern Ireland there has been little change in market structure in the last ten years (see Table 2 of Appendix F). [S&C] has been the largest supplier throughout that time. Between 1995 and 1998, there were effectively three companies in the market: Calor NI, Flogas NI and Blugas. In 1998, Calor NI bought Blugas NI Ltd.

B. Switching

Background

- 4.6. We discuss switching costs in Great Britain in Appendix G. As noted above, domestic bulk LPG suppliers in general retain ownership of the tanks which they install in domestic premises and seldom, if ever, allow customers to receive domestic bulk LPG from another supplier into their tanks or themselves supply into tanks they do not own.

³⁰Particularly in view of missing data and some structural shifts over the period studied.

Level of switching costs and charges

- 4.7. Switching supplier therefore usually entails removal of the remaining LPG from the existing tank, removal of that tank, and installation of a tank belonging to the incoming supplier. As shown in Table 1 of Appendix G, the costs of installing an overground tank (excluding the costs of the tank itself) were estimated by the major suppliers at between £250 and £650; and of removing an overground tank at between £200 and £250. (These figures relate to Great Britain. Information on equivalent switching costs in Northern Ireland is at paragraphs 7 to 10 and Table 1 of Appendix H.) Costs of installing and removing underground tanks can be several times higher than this (as noted in paragraph 20 of Appendix G, estimated removal costs are as high as [redacted]). There is some evidence that installation and removal costs may be lower when the customer is switching between suppliers, rather than entering or leaving the market, as set out in paragraph 12 of Appendix G. While the figures above suggest combined costs of installation and removal of between £450 and £900 (for an above-ground tank), supplier estimates of the costs when the customer was switching supplier ranged from £330 to £700.
- 4.8. In considering switching costs, it is important to distinguish between the total costs resulting from a switch from one LPG supplier to another and the costs borne by customers through up-front charges. As set out in paragraphs 10 to 18 of Appendix G, suppliers adopt different policies on the extent to which costs of removal and installation of a tank are met by up-front switching charges on customers; are subsequently recovered in other charges, particularly LPG prices, levied on those specific customers; or are borne by the supplier (and likely to be largely reflected in the overall level of LPG prices). Customers are not always informed of their suppliers' charges for tank uplift in advance of their initially contracting for LPG. While some contracts state the uplift charge, others note the customer's liability for the cost of removal, without indicating what this cost will be (see paragraphs 30 and

31 of Appendix G). In practice, moreover, the stipulated charges for uplift and installation are often waived either fully or in part (see Table 1 of Appendix G). Even if customers are not therefore actually charged the stipulated amounts for uplift and installation, they will reasonably believe such charges will be levied because the charges are stipulated in the contract. Hence, there is considerable scope for uncertainty on the part of customers as to the charges they will face when switching.

- 4.9. As a result of differing policies, and an element of discretion in applying those policies, the upfront charge to a domestic customer of removing one LPG tank and installing another when switching between suppliers varies widely between customers of the same, and different, suppliers. Among the major suppliers in Great Britain, the weighted average standard installation charge is about £100 and the weighted average standard removal charge is £135 (see Table 1 of Appendix G). The standard charges were applied to around half of all customers of the major suppliers for whom a tank was installed and removed (respectively) in 2003. No charges were applied in a substantial proportion (around [8] per cent) of cases of both installation and removal. Among those charged, the weighted average charges were about £155 and £120 respectively (ie £275 in total). (We note that the average removal charge for those charged is lower than the standard charge; while the opposite is true for installation charges.) Over all installations and removals—those charged and those for which no charge was levied—the weighted average charges were about £90 and £70 respectively (ie £160 in total for switching a tank). The charges for installation of underground tanks, which are not widely used at present but have become more common, are considerably greater (see Appendix G, paragraphs 19 and 22), and it is likely that uplift charges will also be higher, reflecting the higher costs to the supplier (though there has been very little switching of underground tanks to date). In addition, customers commonly incur excavation costs in order to prepare their land for installation of the tank.

Inconvenience and uncertainty of the switching process

4.10. The average annual bill for domestic bulk LPG was about £800 in 2003, as set out in the annex to Appendix G, paragraph 6; hence these upfront charges are substantial in relation to the potential savings available to a customer by switching (a 10 per cent saving would, for example, be some £80 a year, or 20 per cent saving £160). However, as we note in paragraph 58 of Appendix G, even where there is apparent scope for savings by switching, customers on the whole do not switch. An important reason for this may be that the inconvenience involved in switching tanks can be considerable. As set out in paragraph 24 of Appendix G, inconvenience can incorporate a number of different elements, including the need to collect and compare quotes from different suppliers, the need to monitor the level of gas in the tank over the (often lengthy) notice period, the process of arranging removal and replacement of the tank by outgoing and incoming suppliers, the actual uplift and replacement, which normally involves the use of one or more cranes, and the length of time and degree of contact with suppliers it takes to complete the process. As noted at paragraph 24 of Appendix G, the process may take up to four or five months (including time for the customer to find the best deal, a three months' notice period (discussed below), and time for the suppliers to coordinate switching), although one of the major suppliers [redacted] denied this (see paragraph 26 of Appendix G).

4.11. We note that perceptions of inconvenience are to a degree subjective, and individual customers may ascribe different levels of inconvenience to the same switching process. Moreover, an individual customer's expectations as to the level of inconvenience may act as a disincentive to switching even where the actual inconvenience involved would not be substantial. We consider that, in addition to the actual inconvenience of switching, customer perceptions of inconvenience—whether due to individual aspects of the switching process, the switching process as a whole or uncertainty as to what the process entails—may also constitute a disincentive, and

hence a barrier, to switching. Where we refer to inconvenience in this report, we include (i) the actual inconvenience of switching, (ii) customer perceptions of inconvenience and (iii) uncertainty about the degree of inconvenience involved in switching.

Contract terms

4.12. Several industry standard contract terms have the potential to impede customer switching, in particular:

- (a) As set out at paragraph 36 of Appendix G, three months' notice periods are common, and are justified by suppliers as allowing customers time to run down the supply of gas in their tank before uplift. However, most suppliers seem to see this as necessary only when the customer is switching to another fuel: if a new tank is being installed, gas remaining in the outgoing tank can be transferred to the new tank so there is less need to 'run down' supply. Despite this, suppliers do not usually make arrangements for switching tanks until the notice period has expired.
- (b) As set out at paragraphs 32 to 35 of Appendix G, suppliers generally require new customers to enter into minimum contract terms of three or five years, which have been justified by suppliers as being necessary to recover installation costs. In some cases, existing customers who have successfully negotiated a discount are also required to enter into fixed term contracts.

Metered estates

4.13. Customers on metered estates face additional barriers to switching, such as the need for cooperation between those on the estate.³¹ On the other hand, if residents on a metered estate work together to obtain the lowest price for LPG they may be able to

³¹In principle, it would be possible for individual customers to have a tank installed in their own garden, but this may often be impracticable or unattractive, for example due to lack of available space or the greater expense to the supplier of delivering to a single household rather than an entire estate. See further paragraph 39 of Appendix G.

do so more effectively than individual domestic customers: the volume of business makes it more valuable to the current supplier and more attractive to competitors, and some switching costs can potentially be divided up between the properties on the estate (see further paragraph 4.54 below).

Switching rate

4.14. Each year, around 3 per cent of the major suppliers' customers end their supply arrangement. Only one in six of these (0.5 per cent of the customer base) do so to switch to an alternative bulk LPG supplier (see Tables 9 and 10 of Appendix G).³²

The major suppliers argued that a switching rate of 0.5 per cent should not be regarded as particularly low.³³ However, the switching rate of 0.5 per cent appears low compared to other industries. For example, annual switching rates for mains gas and electricity respectively are around 15 per cent and 22 per cent.³⁴ We acknowledge, as some suppliers have argued, that there are differences between the mains utility market and LPG,³⁵ but we consider the figure for LPG to be low whatever the benchmark used.³⁶

4.15. In addition to those customers which actually switch to another supplier, some customers threaten to switch in order to negotiate lower prices from their suppliers (or plan to switch and change their mind because their supplier offers a discount). There is some uncertainty regarding the proportion of the customer base (at any given time) receiving lower prices because they have threatened to switch: details of

³² The other reasons for leaving an LPG supplier are customers switching to heating oil (1 per cent), vacating premises (0.3 per cent), switching to natural gas (0.2 per cent), and "other" or "unknown" reasons (1.1 per cent).

³³ The suppliers argued that regard should be had to the total number of customers who were lost and gained over an extended period. One of the major suppliers [redacted], for example, told us it lost [redacted] customers over a five-year period. However, the majority of these losses were due to customers switching to other fuels or no longer requiring a fuel supply (for example, when a property is vacated), and we do not believe that these should be regarded as switchers within the relevant market. (The event of a customer moving out of a property and the new occupant signing a contract for supply of LPG from the same supplier is not counted as a loss or gain in the 0.5 per cent switching figure.)

³⁴ Source: Ofgem—Domestic Competitive Market Review 2003.

³⁵ For example, mains utility suppliers are not involved in physical delivery of energy products.

³⁶ In the SME banking inquiry in 2002, the Commission considered an annual rate of switching of 4 to 6 per cent to be "very limited" (*The supply of banking services by clearing banks to small and medium-sized enterprises: A report on the supply of banking services by clearing banks to small and medium-sized enterprises within the UK*, Cm 5319, at paragraph 275.)

price negotiations are not always recorded accurately, and price differences between customers (or price changes) may reflect other factors such as different costs of supply or compensation for service problems. As set out in paragraph 4.42 below, we estimate that close to five per cent of customers at any one time are receiving discounts because of an actual or implied threat to switch, although some of the major suppliers have argued that the proportion is considerably higher.

- 4.16. One supplier [X] argued that, in considering the percentage of customers switching, we should exclude the proportion of customers who accepted fixed-term contracts in return for lower introductory prices, or subsequent discounts as, even if they wanted to, such customers were not free to switch. But we note in this regard that lengthy fixed term contracts may themselves constitute a barrier to switching with the potential to impede competition (see paragraph 4.27 below), and that, even as a proportion of those who were free to switch, the number of switchers from this supplier was still relatively low (see paragraph 52 of Appendix G).

Assessment of effect of barriers to switching on competition

- 4.17. As indicated in the previous section, we consider that the switching charges and inconvenience of the switching process are often considerable and amount to barriers to switching between domestic bulk LPG suppliers.³⁷ Uncertainty as to the extent of the switching charges may also act as a disincentive to switching, and certain standard contract terms have the potential to impede switching or increase the uncertainty of the switching process further. In this section, we consider the effect of these barriers to switching on competition in the market for domestic bulk LPG in Great Britain.

³⁷About 70 of the 140 letters of complaint from customers to the OFT and ourselves (some of which we put on our website) referred to tank uplift and installation as a barrier to switching (see paragraph 44 of Appendix G).

Effect of switching costs and charges

- 4.18. Some of the major suppliers told us that switching charges were not sufficient to deter switching in return for lower prices (although one acknowledged that switching costs had some effect). However, in our view, the up-front switching charge to the customer on switching supplier—the weighted average among the major suppliers being approximately £100 for installation and £135 for removal (see paragraph 4.9 above)—is significant in relation to the savings available (for example, the illustrative range of £80-£160 noted in paragraph 4.10). One of the major suppliers [redacted] claimed that the majority of cases where little or no charges have been levied for tank installation and removal relate to customers switching between suppliers, yet (as regards removal charges) this appears to be inconsistent with evidence it provided that around [redacted] per cent of customers who switched from it to another LPG supplier did not pay a removal charge, whereas a higher proportion of customers (over [redacted] per cent) who stopped using it for other reasons did not pay such a charge.
- 4.19. As regards these up-front charges to customers for switching, the major suppliers noted that the ORC survey suggested that customers were not deterred by such charges, with 62 per cent of those who had switched paying between zero and £10. However (as noted in paragraph 29 of Appendix G), we believe that data from the ORC survey about customers who switched supplier should be treated with caution due to the small sample size,³⁸ and that more comprehensive data, summarised in Table 1 of Appendix G, on charges provided by the major suppliers confirmed that average switching charges were considerably higher than those reported by survey respondents, on average (as noted in paragraph 4.9) some £160 across all customers who switched, but £275 to those who were charged.³⁹ As shown in the

³⁸Although over 1,000 customers were surveyed by ORC, only around 60 had switched supplier.

³⁹One of the parties [redacted] argued that Table 1 is not a valid comparison with the ORC survey since it is not limited to customers who switched LPG supplier. The figures in Table 1 are not confined to switchers from one LPG supplier to another, but also relate to customers who have stopped using LPG for another reason, for example because they have switched to another fuel. However, the major suppliers told us that they did not have a policy of levying different charges on such customers (and, as

annex to Appendix G, such charges have a substantial impact on the net financial benefit of switching.

4.20. We consider that, to the extent switching costs are initially borne by individual customers through up-front switching charges, these costs must necessarily reduce the net benefit to a customer of switching and therefore discourages them from doing so. Costs of tank installation and removal were the most common disincentives to switching among respondents to the survey by ORC. When prompted, six in ten said these costs were a disincentive (see Table 8 of Appendix G). On the other hand, to the extent these costs are initially borne by incoming suppliers, they must necessarily reduce the net benefit to a supplier of winning a new customer and may consequently reduce the incentive to suppliers competing for the business of existing customers of other suppliers. Switching costs may also lead the supplier to offer a less competitive price than would otherwise be the case. A large number of smaller suppliers who gave evidence to us supported the view that switching costs act as a barrier to suppliers in competing for each other's customers (see paragraph 50 of Appendix G).

4.21. As discussed in paragraphs 103 and 104 of Appendix G, in some circumstances markets with switching costs may be competitive. For example, the ability to price discriminate between new and established customers may give firms more scope to compete aggressively for each others' customers, leading to lower prices generally. But the use of introductory prices in the domestic bulk LPG market has not led a significant number of customers to switch supplier to obtain a lower price, or to negotiate a lower price from their existing supplier. The existence of price discrimination does not itself indicate a lack of competition in the market for the

noted in paragraph 4.18 above, evidence from one supplier indicates that to the extent that different charges might be levied for removal, customers switching to another LPG supplier may actually pay charges more often than those switching for other reasons).

supply of domestic bulk LPG, but rather the customers' failure to switch in order to avail themselves of lower introductory prices or to negotiate a better deal on the basis of those prices. The use and effect of introductory prices and selective discounting is considered further in the section on suppliers' pricing policies in Appendix I, paragraphs 103 to 113 of Appendix G and from paragraph 4.71 below.

Effect of inconvenience and uncertainty

4.22. It was put to us by one of the major suppliers [X] that we do not have sufficient evidence to make a formal finding of inconvenience caused by tank uplift. However, the relevant evidence seems to us to be as follows:

(a) *Survey evidence:* respondents to the ORC survey commissioned by the CC were asked to identify reasons that would discourage them, or had discouraged them from switching supplier. When prompted, more than half identified the inconvenience of tank installation and removal, while four in ten identified the inconvenience of changing contract and six in ten identified contractual restrictions or uncertainty as to the scope of such restrictions (respondents were allowed to give more than one reason for switching—see Table 8 and paragraphs 42 and 43 of Appendix G). One of the major suppliers [X], in arguing that there were no barriers to switching, noted that 54 per cent of respondents to the ORC survey who switched supplier found it was easy to do so. For the reasons set out at paragraph 4.19 above, we do not consider that aspect of the ORC survey findings to be reliable. However, even assuming the data were reliable, we note that a substantial minority (35 per cent) said that it was difficult to change suppliers (see paragraph 29 of Appendix G) and that a customer's expectations as to the level of inconvenience may act as a disincentive to switching even if he expresses satisfaction with the actual process of switching after the event (see paragraph 4.11 above);

- (b) *Letters of complaint:* around half of the LPG customers who complained to the OFT and the CC referred to the inconvenience of switching tanks (examples are given at paragraph 44 of Appendix G, and more letters were published on the CC website); and
- (c) *Nature of the switching process:* there are several steps required for the switching process and customers need to be involved at a number of stages throughout the process (summarised in Tables 5 and 6 of Appendix G).

4.23. It was also argued to us that the inconvenience and time taken to switch were 'perceived' barriers to switching rather than actual barriers. However, where a customer needs to expend time and effort in identifying the most competitive supplier and organising a switch to that supplier, this amounts to a cost to that individual, which is a disincentive to switch. Moreover, as noted in paragraph 4.11 above, while perceptions of inconvenience are to a degree subjective, and individual customers may ascribe different levels of inconvenience to the same switching process, an individual customer's expectations as to the level of inconvenience will strongly influence their switching behaviour.

4.24. One of the major suppliers [X] has argued that the LPGGA has sought to simplify the switching process and that the relevant LPGGA CoP⁴⁰ achieves this by providing for coordination between the outgoing and incoming supplier in the exchange of tanks and ensuring that there is little or no risk of a break in supply during the process. [X] said that the prospect of winning customers back disciplines suppliers into facilitating a smooth switch. We have seen no evidence in support of this claim. We acknowledge that the LPGGA CoP may go some way to reducing the potential for delays in switching following expiration of the notice period, and the number of interfaces between the customer and the incoming and outgoing suppliers. However,

⁴⁰LPGA CoP 26.

the LPGA CoP is voluntary, established by a trade body to which not all suppliers belong and is not always adhered to by suppliers. The letters of complaint we have received from customers, the varying interpretations of the LPGA CoP provided to us by the suppliers themselves and evidence received from some suppliers that delays and frustrating action by the incumbent supplier do occur and that the switching process is held out by incumbents as difficult and potentially dangerous (see, for example, paragraphs 47 to 49 of Appendix G) lead us to conclude that the LPGA CoP does not solve all of the difficulties inherent in the existing switching process. Some of the major suppliers also acknowledged that comprehensive details on the switching process may not always be given to all customers and that there was scope for making more information about the transfer process available to customers.

Effect of contractual barriers to switching

- 4.25. On contractual terms, we referred in paragraph 4.12 to three months' notice periods being common and to lengthy minimum contract terms being widely used for new customers and in some cases for existing customers as a condition for negotiated discounts.
- 4.26. Whilst it may be necessary to have a reasonable notice period, if it is too long, this can inhibit switching. One of the major suppliers [X] suggested to us that long notice periods increase the scope for the incumbent supplier to price defend. The current three month period offers the incumbent supplier a 'tactical advantage' and suppliers often negotiate discounts during the notice period to retain the customer⁴¹ (as discussed further at paragraph 4.78, this allows incumbent suppliers to retain most of

⁴¹We noted that [X] contract contained a requirement that 'if following expiry of the minimum period you [ie the customer] feel that a third party can make (in total) a more competitive offering, you agree to give us the right to meet such offering or to make such proposals as are, in all the circumstances, equally competitive'. [X] told us that the objective of the clause was to make it clear to the customer that [X] would provide a competitive service at a competitive price, but, since the clause might be misinterpreted, it would be dropped.

their marginal customers while maintaining higher prices across the vast majority of the market). In addition to providing an opportunity for the incumbent supplier to respond with a lower price (which may discourage suppliers from seeking to win customers and facilitate higher prices across the rest of the market), we are concerned that the use of three months' notice periods increases the inconvenience of the switching process (including the need to monitor the amount of LPG remaining in the tank). Some suppliers acknowledged that the three months' notice period was currently longer than necessary, particularly for consumers switching to another LPG supplier, in which case remaining gas in the outgoing tank can be transferred to the new tank.

4.27. We recognise that initial fixed-term contracts can be pro-competitive by allowing suppliers to recoup initial investment, and hence incentivising them to compete for new business. However, minimum contract terms may limit the ability of customers to avail themselves of better offers from other suppliers, for example where the costs of installation are recoverable in a shorter period than the fixed term, and the length of the term may dampen rather than encourage competition. In practice, penalties for early termination of contracts are often waived, but this is not known to customers in advance, and depends on negotiation between customer and supplier.⁴²

4.28. As indicated in paragraph 4.8 and the preceding paragraph, the opacity of the contractual relationship may also impede switching. Customers are often not clear about the terms of their contracts, or about the extent to which they would be enforced, and we have heard of instances where the suppliers themselves may not be certain of the terms on which they are supplying. The ORC survey asked customers to identify, from a prompted list, reasons that had discouraged them from

⁴²We understand that a number of aspects of contract terms have been modified or accepted as unenforceable by suppliers as a result of discussion with the Contract Regulation Unit at the Office of Fair Trading, but such changes may not apply to customers supplied under existing contracts and, even where this is the case, consumers with existing contracts may not always be aware of this.

switching supplier. While cost and inconvenience were the most frequently identified, around half of respondents also identified uncertainty about what their contract allowed, cost penalties for cancelling the contract, and uncertainty about what the penalties were as reasons that had discouraged them from switching (see further Table 8 of Appendix G).

- 4.29. Given the discretion that suppliers can exercise over which contract terms to enforce and which to waive, suppliers would have the ability and incentive to increase the barriers to switching by changing their practices in the future—for example, by enforcing contract terms relating to removal charges strictly rather than waiving charges—in response to an increase in competition.⁴³
- 4.30. Overall, we conclude that the contractual barriers to switching identified above enhance the inconvenience of the switching process, increase uncertainty as to the level of switching charges, and consequently reduce the level of switching.

Relevance of safety to switching costs

- 4.31. It was also argued that the actual costs faced by suppliers during the switching process resulted from the current arrangements for integrated supply of LPG and the LPG tank, which were essential in achieving customer benefits, including safety, efficiency and service. We discuss below, at paragraphs 5.17 to 5.33, the health and safety rationale for certain business practices which result from the integrated supply model, and consider whether alternative arrangements could have developed which would achieve those benefits without imposing the same level of switching costs.

⁴³As noted in paragraph 4.24, one of the major suppliers [redacted] argued that they had no incentive to make the switching process more difficult, but rather that the prospect of winning customers back disciplines suppliers into facilitating the smooth switch to a new supplier of their former customers. While we accept that this may be a factor which some suppliers take into account, we are not persuaded that it is sufficient to preclude any incentives to increase the cost or inconvenience of switching.

Assessment of other factors influencing the level of switching

4.32. As set out in paragraph 4.14 above, the rate of switching appears to be low, with around 0.5 per cent of customers switching from one LPG supplier to another each year.

4.33. The previous section discussed the effect of switching costs, the perceived inconvenience and uncertainty of the switching process and contractual terms on competition in the market for domestic bulk LPG. In this section, we consider the relevance of several other factors which may influence the rate of switching, or have been suggested as doing so, namely:

- (a) high levels of customer satisfaction;
- (b) low levels of customer awareness of alternative suppliers; and
- (c) the practice of offering customers discounts to dissuade them from switching.

High levels of customer satisfaction

4.34. The major suppliers told us that there was a strong link between levels of customer satisfaction and switching, and that high satisfaction levels were the primary explanation for low switching rates. Customer surveys by suppliers tend to show high levels of satisfaction with service quality (in recent surveys, [X] per cent of [X] customers and 60 per cent of [X] customers said they were likely to recommend their supplier, while a further 23 per cent of [X] customers would 'possibly' do so) and this was largely confirmed by our own survey, which indicated that far more customers are satisfied than dissatisfied with their LPG supplier (76 per cent compared with 14 per cent).

4.35. That reported satisfaction is high is not in question. However, as discussed in paragraph 66 of Appendix G, these results do not necessarily support the view that the very low rate of switching is due to customer satisfaction. Responses to the ORC

survey indicate that, although most customers find their supplier satisfactory, about 70 per cent do not have a view as to whether the service from other suppliers would be any less satisfactory, while those that expressed a view were most likely to think that other suppliers were about the same as their current supplier: only 4 per cent believed other suppliers offered a poorer service. A recent qualitative survey for one of the major suppliers [redacted] (discussed in paragraph 71 of Appendix G) concluded that customers had very low expectations of service, primarily because of the difficulty of switching and the resultant lack of competition. As such, reported satisfaction with the present supplier does not necessarily equate to a strong preference for that supplier's service over others. Indeed, around half of domestic bulk LPG customers started using their current LPG supplier by moving into a house to which the company had been supplying, in contrast to the one in ten who did so by switching from another supplier, suggesting that convenience and the desire to avoid installation charges has at least as much influence on the choice of supplier as personal preference.⁴⁴

- 4.36. We received evidence (discussed in paragraphs 67 and 68 of Appendix G) that customers attach greater importance to price than service quality, and satisfaction with bulk LPG prices tends to be significantly lower than satisfaction with service. In the ORC survey, more customers were dissatisfied than satisfied with the value for money they get from their LPG supplier (54 per cent compared with 33 per cent). The major suppliers argued that, following a period of rising prices due to increases in wholesale propane prices, it was unsurprising that, although customers were satisfied overall with their supply of LPG (reflecting the importance and value of service levels in this sector), they expressed dissatisfaction with the cost of LPG.

⁴⁴It has been put to us by a major supplier [redacted] that house movers are merely potential customers and need to be persuaded to buy from the current supplier to the property. However, such house movers would still be subject to installation charges and the inconvenience and uncertainty of the switching process, and therefore have an incentive to contract with the "incumbent" supplier. Moreover, the same supplier pays its sales staff more for signing a completely new domestic supply contract than one where the property owner has changed, suggesting that the former are seen as more difficult to acquire (see paragraph 70 of Appendix G).

The major suppliers also noted that 46 per cent of customers in the ORC survey who experienced price increases thought that other suppliers made similar increases, reducing their likelihood of their wishing to change supplier in response.

- 4.37. We accept that customers will rationally prefer a lower price to a higher price, and that the proportion of customers who express dissatisfaction with prices or value for money in part reflects increased LPG prices resulting from the current level of input prices. Similarly, as regards the complaints by some customers to us that LPG prices are significantly greater than those of mains gas, it would be unreasonable to expect the level of LPG prices to be equivalent to that of mains gas given the different costs of supply. However, we note that even though many customers in the ORC survey describe themselves as dissatisfied with value from their supplier, and many (36 per cent) think that other LPG suppliers offer a lower price, 45 per cent of those who described themselves as dissatisfied (overall) with their supplier had never considered switching.
- 4.38. Some of the major suppliers [redacted] and [redacted] criticised us for being “highly selective” or inconsistent in our use of the ORC survey and one of those suppliers [redacted] also argued that we had unfairly favoured the ORC survey over other customer survey evidence. As noted in paragraph 69 of Appendix G, we consider the ORC survey to be a particularly important source of evidence, because we were able to monitor the sample selection process, and because the questions were designed with the current inquiry in mind. However, we interpreted the results with caution, taking into account sample sizes for specific question responses, internal consistency of responses, consistency with evidence from other sources, and more generally how responses should be interpreted in the light of evidence from other sources.

4.39. In summary, while we accept that there may, in principle, be a relationship between customer satisfaction and switching rates, we do not consider that the reported satisfaction with the service quality of incumbent suppliers demonstrates a strong preference for that supplier's service over others. There is little evidence to support the proposition that customers remain with a supplier because they believe the quality of service from that supplier to be greater than other suppliers. Customers appear to attach significantly more importance to price than to service quality in comparing suppliers. In any event, there appears to be a large degree of passivity in the customer's choice of supplier and even among customers who expressed dissatisfaction with their supplier, almost half had never considered switching.

Low awareness of competing offerings

4.40. The ORC survey provided evidence of low customer awareness of alternative suppliers. Nine out of ten customers (91 per cent) said that they had never been approached by another LPG supplier. Over half could not name or did not know any other suppliers, although identifying local suppliers does not appear difficult. We also note in paragraph 82 of Appendix G the difficulty in comparing prices, for those who may wish to do so, given the absence of readily available published prices and the inability, due to fluctuating costs of propane, of most suppliers fully to commit to future prices. While suppliers told us that they quoted indicative prices to prospective customers who contacted them, several customers who wrote to us found suppliers unwilling to quote for business and the ORC survey found that around a third of customers had experienced difficulty when seeking to compare prices (see paragraphs 77 and 79 of Appendix G).

4.41. The effects of low customer awareness of offers from alternative suppliers is likely to be exacerbated by the barriers to switching identified above—with customers having

limited incentive to investigate these offers, and the alternative suppliers having limited incentive to market them.

Ability to negotiate lower prices without switching

4.42. Another reason suggested by suppliers for the low rate of switching was the practice of offering discounts to customers who threatened to switch. The suppliers argued that such discounts enabled customers to benefit from competition without having to switch. We consider the effects of such selective discounts on competition in paragraphs 4.76 to 4.78. We note here that estimates of the extent to which customers obtain discounts by threatening to switch are highly uncertain (the question of whether a discount was motivated by an expectation that the customer would switch is in some cases subjective). Estimates of the proportion of the customer base in receipt of discounts after threatening to switch range from less than five per cent to more than 20 per cent at any one time. On the whole, however, we consider, from the balance of the evidence set out in paragraphs 83 to 96 of Appendix G, that the correct figure is at the low end of that range (close to five per cent), and the number of customers, at any given time, enjoying discounts which they have won by threatening to switch, represents a small proportion of the market. Moreover, where discounts are offered, they are not necessarily equivalent to the savings the customer could have made by switching.

4.43. While the level of switching would probably be higher if suppliers did not offer selective discounts to those customers who threaten to switch, it is not clear that every individual who threatens to switch would actually go ahead and do so. Even if all threats to switch were carried out, the overall level of switching would still not be particularly high (the major suppliers estimate that in 2003, three per cent of their customers threatened to switch—see paragraph 87 and Table 12 of Appendix G). On

this basis, we do not consider that low levels of switching can be explained simply on the ground that suppliers offer customers discounts to dissuade them from switching.

- 4.44. Some smaller suppliers were also concerned that the ability of incumbent suppliers to offer a selective discount increased the costs of winning customers. They cited examples where, after they gave a competitive quote, and sometimes even after they had signed a new customer, that customer then decided to stay with its existing supplier in response to the offer of a price reduction, reducing their incentive to compete for such customers. The effects of this practice are considered further in paragraphs 4.76 to 4.78 below.

Northern Ireland

4.45. As we note in Appendix H, there is virtually no switching between suppliers in Northern Ireland and the market exhibits a number of the barriers to switching similar to those identified in Great Britain, in particular:

- (a) the model of integrated supply, which would result in substantial costs to both the incoming and outgoing firm were a customer to switch suppliers;
- (b) charges for tank installation and removal (on average a customer switching from one supplier to another can expect to pay charges of at least £[redacted], though less than they would expect to pay in Great Britain);
- (c) supply agreements that specify minimum periods of exclusive supply of either 15 months or five years;
- (d) three months' notice periods in contracts, although there is some indication that these are waived with greater regularity than in Great Britain; and
- (e) some (limited) evidence that, as in Great Britain, customers have limited awareness of ability to switch supplier or of alternative suppliers, and that uncertainty as to the costs and inconvenience of switching (including tank uplift and penalties) has discouraged customers from switching.

4.46. However, the outgoing supplier appears to have less control over the switching process in Northern Ireland than in Great Britain: we were told that suppliers do not find out that a customer wants to stop using them until they are asked to collect the disconnected tank. There are, moreover, no selective discounts in Northern Ireland, each supplier charging uniform prices to its customers, although, as we note in paragraph 4.81, these prices are not published.

Conclusions on barriers to switching

4.47. As discussed in paragraph 4.14 above, we regard the extent of switching in this market as very low. We accept that low switching is not of itself sufficient to conclude that there is weak competition: competition could still be effective if a large proportion of customers negotiated lower prices without needing to switch; and/or the benefits of price competition to prevent customers from switching were passed on to the generality of a suppliers' customers. However, as we discuss in paragraph 4.53, there are substantial differences in average prices between suppliers, between new and established customers, and between customers who have and have not negotiated discounts and we saw no evidence that these price differences reflect varying costs of supply. In our view the ability to maintain such price differentials without customers switching to other suppliers is itself indicative of switching costs or other barriers to switching. The proportion of customers who threaten to switch each year or who otherwise successfully negotiate some reduction in prices without actually switching is low; and in contrast to utilities such as gas and electricity, the ability of suppliers to price discriminate between customers means that they can respond to competitive threats at a lower cost, by reducing prices only to those customers who appear likely to switch.

4.48. We believe the following are important barriers to switching:

- (a) the widespread practice, when a customer switches supplier, of the outgoing supplier removing its LPG tank from the site and of the incoming supplier replacing it with an essentially similar tank, with the consequential costs of removing and installing tanks, which:
- (i) to the extent that these costs are reflected in up-front charges to individual customers, acts as a barrier to customer switching;
 - (ii) to the extent that these costs are borne by the incoming supplier, acts as a disincentive to competing for the business of existing LPG customers and/or leads them to offer a higher price than would otherwise be the case; and
 - (iii) to the extent that the practice gives rise to customer inconvenience (whether actual or perceived), acts as an additional barrier to customers switching;
- (b) the lack of information among customers in that:
- (i) some customers are not aware of their ability to switch supplier or of alternative suppliers;
 - (ii) suppliers often do not provide sufficient information in advance about customers' liability for switching charges;
 - (iii) there is uncertainty about the likely level of inconvenience of the switching process, which contributes to customer perception of inconvenience; and
 - (iv) customers generally are not aware of prices on offer from alternative suppliers and face some search costs in finding the cheapest supplier;
- (c) the imposition of contractual restrictions on switching, including the use of lengthy fixed minimum terms in introductory contracts; requiring contract renewal (with a further lengthy fixed minimum term) as a condition of selective discounts; three months' notice periods for termination; and (as noted in (b)(ii) above) lack of clarity as to the extent of contractual liability; and
- (d) the limited ability of suppliers to identify and target their marketing efforts on each others' customers.

- 4.49. The major suppliers have argued that a lower rate of switching means lower total switching costs—to the benefit of consumers as they will ultimately pay for these costs. However, the negative effect on competition associated with a low switching rate may be considerably more detrimental to customers than any increase in costs resulting from a higher switching rate. At the current rate of switching between suppliers (0.5 per cent) the total cost of such switching is around £350,000 a year. An increase in competition which reduced all LPG prices by as little as 0.35 per cent would be sufficient to compensate consumers for this level of switching costs (assuming all switching costs were ultimately borne by consumers). In view of this, we consider the potential gains from increasing competition could be expected to outweigh any additional costs, even if switching were to increase tenfold. (This is before considering any reductions in the cost of switching that may also result from making the process of switching easier.)
- 4.50. In our view, the barriers to switching identified in paragraph 4.48 reduce the ability of and/or incentives on customers to switch to lower priced suppliers or reduce the incentives on suppliers to compete for the business of their competitors' customers. We conclude that these barriers to switching (whether individually or in combination) are features of the supply of domestic bulk LPG in Great Britain which prevent, restrict or distort competition in that market. We received a number of complaints from LPG consumers on metered estates outlining the difficulties in switching, and we consider that the barriers to switching identified above apply equally to metered estates (indeed, as noted in paragraph 4.13 above, customers on metered estates may face additional barriers to switching).
- 4.51. We consider in paragraphs 5.17 to 5.35 whether, as argued by the major suppliers, requirements of safety justify all the precautions taken in supply of domestic bulk LPG and ownership of tanks which may inhibit switching.

Conclusions on barriers to switching in Northern Ireland

4.52. We discussed barriers to switching in Northern Ireland in Appendix H and paragraph

4.45. In our view the following barriers to switching are features of the supply of domestic bulk LPG also in Northern Ireland which prevent, restrict or distort competition in that market:

(a) the widespread practice, when a customer switches supplier, of the outgoing supplier removing its LPG tank from the site and of the incoming supplier replacing it with an essentially similar tank, with the consequential costs of removing and installing tanks, which:

- (i) to the extent that these costs are reflected in up-front charges to individual customers, acts as a barrier to customer switching;
- (ii) to the extent that these costs are borne by the incoming supplier, acts as a disincentive to competing for the business of existing LPG customers; and
- (iii) to the extent that the practice gives rise to customer inconvenience (whether actual or perceived), acts as an additional barrier to customer switching;

(b) the lack of information among customers in that:

- (i) some customers are not aware of their ability to switch supplier or of alternative suppliers;
- (ii) suppliers often do not provide sufficient information in advance about customers' liability for switching charges; and
- (iii) there is uncertainty about the likely level of inconvenience of the switching process, which contributes to customer perception of inconvenience;

(c) contractual restrictions on switching, including the use of lengthy minimum terms in introductory contracts; three months' notice periods for termination; and lack of clarity in contracts; and

(d) the limited ability of suppliers to identify and target their marketing efforts on each others' customers.

C. Pricing

Background

Price variation between customers

- 4.53. In 2003, a wide range of prices was charged to domestic bulk LPG customers in Great Britain, the highest prices charged to individual customers being over 50 per cent more than the lowest prices. Much of this variation appeared to be random, although some of it was explained by the identity of the supplier (average prices charged by the major suppliers for LPG varying by about 10 per cent but this range would be greater if smaller suppliers were included—see paragraphs 8 and 33 to 34 of Appendix I), by whether the customer was new or established, and by whether the customer had negotiated a lower price. Variations in the cost of supplying different customers (depending on factors such as the volume of LPG purchased and the distance of a customer from the supplier's depot) are reflected in prices at most only to a limited extent, and explain only a small part of price differences between customers (see paragraph 38 of and Annex 1 to Appendix I). As set out in paragraph 3.14 above, with one exception [§<] the major suppliers told us that they do not, on the whole, charge systematically different prices between regions, and this is supported by our analysis.
- 4.54. As discussed in paragraph 4.13, metered estate customers may face some additional barriers to switching but may also, for various reasons, find it easier to negotiate a lower price. Domestic customers in metered estates tend to pay lower prices, as set out at Table 3 of Appendix I. However, this reflects the lower delivery costs of supplying to metered estates than to individual premises. (With lower unit costs, and other things being equal, the supplier has an incentive to charge a lower price in order to sell more units.) On balance, we have not concluded that the extent of competition in supplying to metered estates is any different from that in supplying to individual customers.

Pricing policies of suppliers

- 4.55. Some suppliers offer standard prices to domestic bulk LPG customers while others calculate prices on an individual basis. Most suppliers offer introductory discounts for periods varying from six months to three years, though in some cases the contract length exceeds the period of the introductory offer.
- 4.56. In Great Britain, none of the major suppliers publishes its prices, for example on its web site. Verbal, indicative offers may be made in response to telephone queries, but final, written price quotations normally require a visit to the site (see paragraph 24 of Appendix G). Some suppliers do at that stage provide information on the current level of standard prices as well as any lower introductory prices, and may commit themselves as to the prices that will be charged for between one and three years. However, the period over which the customers will in practice be supplied by that supplier is typically somewhat longer than the period for which prices are agreed. None of the major suppliers commits to prices (whether fixed or explicitly linked to costs such as propane) over the life of the supply relationship; nor is there any commitment within the contract to reduce prices if input prices fall.
- 4.57. Price changes by the major suppliers appear, recently, to have been caused mainly by changes in the wholesale price of propane, which has fluctuated considerably over the past few years (see paragraph 9 of Appendix I). The major suppliers told us that they attempt to keep to a minimum the frequency of such price changes, increases and decreases in propane prices not being passed on immediately. Although we received some representations that suppliers were quicker to increase than decrease LPG prices to reflect changes in propane prices, this was not supported by our analysis of historical prices (see paragraph 9 and Annex 2 of Appendix I).

4.58. As well as the LPG price, the major suppliers also levy a standing charge for tank rental and maintenance—typically £[x] to £[x] a year. The level of that standing charge, however, is not sufficient to cover the costs of the tank and its installation and maintenance, which are therefore partly recovered through up-front charges and the price of LPG.

Scope for negotiation of prices

4.59. The evidence we have received indicates that the large majority of customers are not aware that there is any scope to negotiate on price. As set out in paragraph 88 of Appendix G, it appears that at most around one customer in four is aware of the scope to negotiate prices. Moreover, customers who try to negotiate discounts are not always successful; very few customers are actually receiving a negotiated discount. The major suppliers disagreed that the number of customers who successfully negotiate a price reduction was so low but, as set out in paragraph 4.42 above, having weighed up the evidence, we consider that the number of customers, at any given time, enjoying discounts which they have won by threatening to switch, represents a small proportion of the market (close to five per cent). Among those customers who successfully negotiate a discount, an average discount of three pence per litre (just over ten per cent, based on typical average prices) appears to be broadly typical, although some customers receive substantially deeper discounts (see paragraph 89 of Appendix G).

4.60. Suppliers told us that price reductions to domestic customers usually led to requests for a lower price from customers in the same locality (see paragraph 80 of Appendix G). While some customers requesting price reductions may refer to prices offered to their neighbours, we have seen no evidence that such comparing of prices is widespread in the market as a whole: the fact that the large majority of customers are

unaware of the ability to negotiate itself suggests there is no widespread conferring amongst them.

- 4.61. One supplier [X] told us that the number of price query telephone calls it received rose after implementing a price increase: according to its records, around 1 per cent of customers queried a price increase in this way, half of whom received a discount from the standard price increase (see paragraph 86 of Appendix G). But price increases by an individual supplier do not appear to increase the rate of account termination (see, for example, paragraph 93 of Appendix G). One explanation offered for this was that all suppliers increased their prices together, so customers had little to gain from switching in response to an increase; however, historical data on price changes (set out in Chart 1 of Appendix I) do not support this.

Monitoring of competitor pricing

- 4.62. Of the major suppliers, only one [X] systematically collects information on competitor prices, monitoring a sample of its competitors' customers (see paragraph 39 of Appendix I). It referred to its doing so as evidence of price competition. But that supplier also told us that changes to its standard prices to the bulk of its existing customers in recent years had not been in response to changes in prices of other suppliers. [X] argued that because wholesale costs are at high levels and volatile, it is not surprising that wholesale prices may have had more of an influence on LPG prices than competitor's prices. As noted in paragraph 4.4, the divergence in average prices of all the major suppliers over sustained periods indicate to us that they price with a degree of independence, and are not constrained to price at the lowest competitive level.

Northern Ireland

4.63. As noted above and in paragraph 3 of Appendix H, in contrast to Great Britain, customers in Northern Ireland pay standard prices from which discounts are seldom, if ever, available. Prices are lower in Northern Ireland than in Great Britain, as discussed further in paragraph 4.82.

Assessment of pricing

Evidence of price competition

4.64. The major suppliers in Great Britain argued that there was effective price as well as non-price competition not only between themselves but also, on a regional level, between the major and smaller suppliers. As considered in more detail in Appendix F, paragraphs 70 to 76, suppliers' strategy plans and other documents did provide evidence of some competition between LPG suppliers, but on the whole tended to focus more on retaining customers and winning domestic customers new-to-LPG, for example new rural developments, than on winning customers from existing suppliers. Whilst we recognise that there have been some examples of competition between LPG suppliers for existing customers,⁴⁵ this competition appears to be weak. The focus is on marketing efforts to new customers of LPG. (We discuss the effectiveness of non-price competition in paragraphs 4.87 to 4.89 below.)

4.65. The major suppliers also told us that customers were sensitive to prices; hence the prices had to be competitive relative both to other LPG suppliers (including smaller suppliers) and other fuels (in particular heating oil). As set out in paragraph 4.36 above, we received evidence that customers appeared to attach more importance to price than to other aspects of the supply relationship (such as service quality). But we also noted that few customers switch suppliers to get a better price (or for any

⁴⁵For example [redacted] sending its magazines to competitor customers and winning [redacted] customers from competitors in [redacted] following a sales drive, and reports by two of the major suppliers [redacted] and [redacted] of competitive activity from another supplier [redacted].

other reason), and most have not tried to negotiate lower prices with their existing supplier.

4.66. A major supplier [X] told us [X].

4.67. An alternative argument put to us by the same major supplier was that customers switch in relation to an “accumulation of grievances”, rather than on the basis of short-term price changes, especially since, so it was claimed, prices are “broadly in line with each another”. We consider, however, that the fact that customers only switch after an accumulation of grievances rather than in response to what are in fact persistent price differences between suppliers is consistent with our view that customers face significant switching costs.

Effect of lack of price transparency

4.68. On price transparency, most of the major suppliers argued that they themselves were not in a position readily to compare their prices with those of other suppliers, although one [X] told us that it goes to some lengths to try to achieve this. Nonetheless, they argued that prices were reasonably comparable for customers. As set out in paragraph 4.56 above, the major suppliers told us that they generally give indicative prices over the telephone (one of the major suppliers [X] told us that it would quote prices currently available to new customers, as well as standard prices and price calculation methodology, over the telephone), though most suppliers will not provide a binding written quote until they have visited the customer’s premises.

4.69. This limitation on price transparency, and the unwillingness of suppliers to commit themselves to future prices⁴⁶ (set out in paragraph 4.56 above) mean that customers,

⁴⁶We acknowledge that there are some inherent difficulties in suppliers committing themselves to future prices due to fluctuating propane costs. However, one means of making pricing more transparent might be to link LPG prices to propane costs, which the parties do not currently do (see further paragraph 2.4 of Annex 2 to Appendix I).

when choosing a supplier, cannot accurately assess which supplier will be most competitive over the 'whole life' of the supply arrangement. In our view, this is likely to inhibit customers from seeking alternative price quotations, and to deter switching to another supplier.

- 4.70. We also noted in paragraph 4.58 that the cost of tanks (including installation costs) is currently recouped in part through LPG prices. Several of the major suppliers told us that customers preferred such a price structure: since an LPG tank was only of value to allow the use of LPG, customers would prefer to be charged on the basis of use of LPG. They also regarded such a pricing structure as increasing their ability to compete with heating oil, and as an aspect of the integration of tank and LPG. Although such a pricing structure reduces the transparency of charges to consumers, to some extent it reduces switching charges, since customers are not charged the full cost associated with switching supplier (but not to such an extent, as we have discussed above, as to remove the disincentives to switch). While we were concerned about the competitive effects of integrated supply of tanks and LPG due principally to the costs of switching under such an integrated system, we have not reached a view, given that such integrated supply exists, that any additional anti-competitive effects currently occur as a result of the cross-subsidization between charges for the tank and LPG prices.

Effect of price discrimination

- 4.71. Some suppliers told us that differences in prices between customers reflected differences in costs, although this argument was not put forward by all suppliers. As noted in paragraph 4.53 above, however, our analysis in Annex 1 of Appendix I indicates that price differences were at best explained to only a very limited extent by characteristics that might lead to cost differences.
- 4.72. We consider in this section the effects of price discrimination between new and established customers, and between price-sensitive and non-price-sensitive established customers. It was argued by the major suppliers that such price discrimination allowed them to compete aggressively to win new customers and to retain existing customers. Price differences, they argued, would result in a more efficient outcome overall, which might allow wider distribution of LPG than would otherwise be the case; if standard prices were used in Great Britain, prices would not fall to the lowest currently available price.
- 4.73. The effect of price discrimination on competition is complex in that, compared to the case where firms have to charge a single standard price to all customers, price discrimination may mean that some customers pay more, but others, who would not have purchased at the standard price, may pay less. The effect is complicated further when price discrimination takes place in a market with switching costs.

Introductory pricing to new customers

- 4.74. LPG suppliers' introductory discounts are typically available both to new-to-LPG customers and to customers of other suppliers. In principle, such discounts can lead to competitive prices prevailing despite the presence of switching costs: each firm is willing to offer aggressive prices to other firms' customers because it can do so without having to offer the same lower prices to its own customer base. If all firms

behave in this way, the customer base of each firm can avail itself of the aggressive prices from the other firms, leading to prices across the whole of the market close to the competitive level.

4.75. However, there is no evidence that this is happening in the market for domestic bulk LPG. The market is characterised by low rates of switching, limited numbers of customers threatening to switch and substantial price differences, both on average between suppliers and among the customers of each major supplier, which are not explained by differences in quality (between suppliers) or cost of supply (between customers). Evidence we received in relation to supplier strategies indicate that, when trying to grow their business (rather than simply retaining customers), suppliers tend to focus on new-to-LPG business rather than attracting their competitors' customers (see paragraphs 70 to 76 of Appendix F). The situation in which suppliers mutually constrain prices by offering introductory discounts to each others' customer bases does not appear to apply to the market for domestic bulk LPG. This appears to be due to a combination of reasons:

- (a) Although competition between suppliers for new-to-LPG customers may be stronger than for existing customers, the number of new to LPG customers is a small proportion of the market⁴⁷ and we do not consider that this is sufficient to lead to a competitive outcome in the market overall.
- (b) The extent of barriers to switching is such that even the discounted introductory prices on offer are not sufficient to induce a significant degree of switching or threatening to switch. Customers appear reluctant to switch even to obtain a substantially lower price, in view of the cost and inconvenience of switching.
- (c) A customer who wishes to achieve the lowest possible price must regularly seek alternative quotes and/or renegotiate prices with the existing supplier

⁴⁷As indicated in Tables 9 and 10 of Appendix G, three per cent of customers are gained each year, of which 2.5 per cent are new-to-LPG customers and 0.5 per cent are gained from other LPG suppliers.

(another aspect of switching costs), and may be unable accurately to assess which supplier will be most competitive over the whole life of the supply arrangement (see paragraph 4.69 above). Introductory discounts tend to be strictly time-limited, with the length of the discount in some cases shorter than that of the contract. A number of customers told us that, if they switched, they would expect to face the same problem with the next supplier—taking advantage of switching costs to offer an uncompetitive price—further reducing their incentive to switch. This evidence was supported, to a degree, by our survey, as half of the respondents said they were discouraged from switching because they saw no long-term benefit or would not expect to get a better deal elsewhere.

Price defending by incumbent suppliers

- 4.76. In pricing to established customers, incumbents can price discriminate between marginal, or price-sensitive, and infra-marginal, or non-price-sensitive, customers. Because of this, any attempt by a competitor to win an existing LPG customer is likely to lead to an aggressive pricing response from the incumbent—offering the customer a selective discount to deter switching. The incumbent’s advantage in defending its customer base could also influence a competitor’s behaviour when considering whether to approach a customer of another supplier. If the likelihood of winning the customer is small, then the competitor, by quoting aggressively, would gain no advantage for itself. In this way, selective discounts deter suppliers from investing resources into winning their competitors’ customers.
- 4.77. We noted in paragraph 4.42 that the offering of negotiated discounts when customers threatened to switch was put forward by the major suppliers as a justification of the low level of switching, as well as evidence of competition working. The major suppliers told us that reducing prices to customers threatening to switch was

standard in consumer markets. They argued that the fact that some customers negotiated lower prices was not discriminatory, but demonstrated that the market was competitive. Similarly, it was argued that individual pricing in response to switching reflected the vigorous operation of the competitive process.

- 4.78. We do not regard selective discounting in itself as an anti-competitive practice. Indeed, as set out in paragraph 4.74 above, we acknowledge that such price discrimination can potentially lead to a better outcome for customers and, specifically, greater competition in a market with switching costs. However, given the extent of switching costs in the domestic bulk LPG market, there is only a limited number of marginal customers who will seriously contemplate switching to get a lower price. By offering selective discounts, incumbent suppliers can retain most of these customers whilst maintaining higher prices across the vast majority of the market. In our view, the offering of selective discounts in the market for domestic bulk LPG restricts competition since, in combination with the barriers to switching identified in section B above, it discourages firms from competing to win customers from one another.

Level of pricing in domestic bulk LPG market

- 4.79. It was also argued that neither high profits nor high operating costs appear to be prevalent in the industry suggesting that competitive pressures do operate to maintain overall competitive prices for consumers. (Profitability is considered below at paragraphs 5.2 to 5.16.)
- 4.80. We consider, however, that prices to a large majority of bulk LPG customers in Great Britain are higher than might have been the case in a market without the features identified having an adverse effect on competition. The cost to LPG customers of the adverse effect on competition which we have identified cannot be measured

accurately. However, we have sought to estimate what the minimum cost might be. Details of how our estimates were arrived at are set out in Annex 3 to Appendix I. We began by identifying the lowest non-introductory price charged in Great Britain by each major supplier to a substantial number ([redacted] per cent) of its customers in 2003. For each customer of the major suppliers, we calculated the premium (if any) paid above this price and multiplied this by the customer's annual consumption in 2003. The alternative approaches to estimating consumer detriment arising from anti-competitive features of the domestic bulk LPG market in Great Britain lead to a range of figures. [redacted]

Northern Ireland

- 4.81. As noted in Appendix H, several of the factors set out in this section suggesting that price competition is ineffective in Great Britain also apply in Northern Ireland: in particular those derived from switching costs and other constraints on switching, previously identified in paragraph 4.52. But in contrast to Great Britain, uniform prices are offered by each supplier to domestic customers in Northern Ireland, although these prices are not published by the suppliers. Suppliers do not offer selective discounts to customers who are threatening to switch, or low prices to new customers. As such, suppliers may be more constrained in the standard price they set, as too high a standard price may lead to customers switching, and make the supplier less competitive in winning new customers.
- 4.82. [redacted] Price levels in Northern Ireland are consistently below those in Great Britain; in addition, CGNI's prices to domestic customers are below those to commercial customers—the opposite of the situation in Great Britain.

Conclusions on pricing

4.83. We regard the following aspects of the pricing of domestic bulk LPG as evidence that competition is prevented, restricted or distorted in the Great Britain market:

- (a) The sustained differences between average prices of suppliers and a degree of independence (from one another) in the movements of these average prices.
- (b) Individual suppliers charging different prices to different customers, largely unrelated to differences in cost.
- (c) The existence of low switching rates and the limited number of customers threatening to switch, despite the availability of lower prices from other suppliers, and despite evidence (as referred to in paragraph 4.35) that customers do not have any strong preference for the service of their existing supplier.

4.84. For the reasons set out in our consideration of pricing above, we regard the following features of the supply of domestic bulk LPG in Great Britain, in combination with those identified in paragraph 4.48, as preventing, restricting and distorting competition in the relevant market:

- (a) The lack of transparency in prices, such that customers, when choosing a supplier, cannot accurately assess which supplier will be most competitive over the 'whole life' of the supply arrangement. This is likely to inhibit customers from seeking alternative price quotations and to deter them from switching to another supplier.
- (b) The practice among most suppliers of offering selective discounts to customers when they threaten to switch. Given the high level of switching costs in the market for domestic bulk LPG, such 'price defending' reduces the potential rewards to competitors for attempting to win customers away from their current suppliers and thereby discourages firms from competing to win customers from one another.

4.85. As we have noted in paragraph 4.54, prices are generally lower on metered estates, reflecting costs differences and possibly a higher level of negotiating power on the part of these customers. However, we have received a number of complaints from LPG consumers on metered estates outlining the difficulties in switching and we believe the features identified in paragraph 4.84 above apply also in relation to metered estates. We therefore conclude that the adverse effects on competition identified apply also to metered estates.

Pricing in Northern Ireland

4.86. However, the use of selective discounts identified as a feature of the market in paragraph 4.84 in relation to Great Britain does not, for the reasons set out in paragraphs 4.81 and 4.82, apply in Northern Ireland. Although prices are not published by suppliers, the use of standard prices (and the limited number of suppliers) should allow easier comparison of prices than in Great Britain; there is insufficient evidence therefore to suggest that lack of transparency of prices can also be regarded as a feature of the Northern Ireland market.

D. Non-price competition

4.87. The major suppliers all argued that there was strong non-price as well as price competition between them. We discuss the extent of non-price competition in Appendix F. We asked the suppliers for evidence of non-price initiatives that they had carried out; in general terms, the main examples we were given were marketing activity (including advertising, direct mail, Internet, exhibitions and leaflet distribution) and better customer service.

4.88. Whilst the major suppliers have told us that the level of non-price competition is high, we have seen little evidence, despite claims to the contrary, of any unique features in their offerings which distinguish one from the other such as might suggest significant

non-price competition in the market. All suppliers in the market appear to offer basically the same product and service, more or less to the satisfaction of their customers. We also note that:

- (a) As noted above, at paragraph 4.35, many customers acquired their supplier 'passively' in the sense that they moved into a property which it already supplied and would have had to incur switching costs to use a different supplier.
- (b) Most customers who expressed a view were not of the view that quality of service from other suppliers was any worse than what they got now (over 70 per cent of ORC survey respondents did not have a view, most that did thought others were about the same or better).
- (c) Price was the main factor customers would think about if they had to switch supplier (mentioned by 80 per cent of ORC survey respondents when prompted).
- (d) As noted at paragraph 4.40 above, there is low customer awareness of alternative LPG suppliers (albeit that contact details for local LPG suppliers are widely available) and low level of solicitation of customers by other suppliers.

4.89. We accept that the major suppliers have taken steps to improve their distribution and sales support systems, albeit that some of these improvements were aimed at reducing costs in addition to improving customer services. However, as noted in the previous paragraph, there is little evidence that customers perceive differences in the quality of service from their own and other suppliers. We have seen no evidence that any recent innovation in service quality has caused large numbers of customers to switch to a particular supplier, or a greater proportion of new customers to choose that supplier over another. We saw no reason for any different assessment in relation to Northern Ireland.

E. Barriers to entry and expansion

Great Britain

4.90. We discuss barriers to entry and expansion in Great Britain in Appendix F. As shown in Table 3 of Appendix F, 19 suppliers have started supplying domestic bulk LPG in the last ten years. All of these suppliers are small. However, as apparent from paragraph 4.3, the smaller suppliers' share of the market fell between 1995 and 2003. This indicates that, whilst there has been small scale entry, there has been very little expansion by the smaller suppliers.⁴⁸

4.91. The major suppliers told us that the competitive strength of the smaller suppliers should not be underestimated. The fact there had been new suppliers itself suggested that barriers to entry were 'perceived rather than actual'. As to expansion, they suggested to us that, while it took time, there was no reason why the 10 per cent share of the smaller suppliers could not increase to 15 or 20 per cent: one of the major suppliers said that it was unwillingness rather than inability to expand that prevented smaller suppliers from doing so. As to economies of scale, the major suppliers argued that smaller competitors could get similar economies in the areas in which they operate by having a high density of customers. Regional suppliers, they argued, also benefited from being hands-on, family businesses, operating in dense areas with a personal service and therefore able to exercise a wide impact on prices in an area. Whilst small suppliers, they said, had relatively small shares on a national basis, a large number had established viable businesses on a local/regional basis with a very strong brand.

⁴⁸As noted in paragraph 28 of Appendix F, one supplier gave us a number of examples of expansion by 21 smaller suppliers, but their market share remains small.

- 4.92. While some small scale entry into the domestic LPG market has therefore occurred in recent years, we are aware of only one supplier [X] which has expanded other than by acquisition, to a share of about five per cent of the market.
- 4.93. A main concern we received from some smaller suppliers was that incumbent suppliers could take action to retain customers by offering discounts to customers who are considering switching (see paragraph 4.44 above). As noted in paragraph 4.84(b), we regard such selective discounts as reducing the incentive to attract customers from existing suppliers, and, should suppliers attempt to do so, increasing the ability of incumbent suppliers to resist attempts to win customers from them.
- 4.94. The market in Great Britain is characterized by at most a slow rate of growth (though with some suppliers expecting the number of domestic bulk LPG customers to remain broadly at the present level or even to grow slightly—see paragraphs 52 to 57 of Appendix F). We note in Table 9 of Appendix G that only a relatively small percentage of customers ceases to use or start to use LPG in any year. Given the current low rate of switching, due in part to selective discounting referred to in the previous paragraph, a new entrant would need to develop a customer base by winning new-to-LPG customers of which there are limited numbers. These are both factors that are likely to deter significant new entry to and inhibit expansion in the market.

Northern Ireland

- 4.95. We noted in paragraph 4.5 and in Appendix H there has been little change in market structure in Northern Ireland, and no new entry into the market, in the last 10 years. There is also very little prospect of entry into supply of domestic bulk LPG in Northern Ireland, given the continued development of mains gas in some of the areas in which LPG is currently supplied and, on the evidence we saw, the prospects for continued

decline in the domestic bulk LPG market. Switching costs also create a barrier particularly to expansion in Northern Ireland. However, we noted in paragraph 4.81 that there is no price discrimination in Northern Ireland.

Conclusions on barriers to entry and expansion

4.96. While there has been some small-scale entry in the market for domestic bulk LPG, we consider that there are barriers particularly to expansion by smaller suppliers in the Great Britain market, namely:

(a) that switching costs referred to in paragraph 4.48 create a barrier particularly to expansion, since:

(i) in trying to win a customer, a competitor will be at a disadvantage to the incumbent supplier as, faced with equivalent price offers, the customer's incentive will normally be to stay with the current supplier to avoid switching costs; and

(ii) any such disadvantage would be particularly significant in the domestic bulk LPG market given the relatively low number of new customers and where a new or expanding supplier would have less scope to grow its customer base by winning customers as it enters the market (see paragraph 4.94); and

(b) that, as noted in paragraph 4.84(b), selective discounting enables existing firms to respond to specific competitive threats without lowering prices to their broader customer base, deterring both entry and expansion.

4.97. In consequence, the threat of entry or expansion by smaller suppliers is likely to provide only a very limited constraint on the prices charged by LPG suppliers. The barriers to entry and expansion listed in paragraph 4.96 are therefore features of the supply of domestic bulk LPG in Great Britain which prevent, restrict or distort competition in the relevant market.

Conclusions on barriers to entry and expansion in Northern Ireland

4.98. As discussed in paragraph 4.95, switching costs, which create a barrier particularly to expansion, are features of the supply of domestic bulk LPG which prevent, restrict or distort competition in Northern Ireland since:

- (a) in trying to win a customer, a smaller competitor will be at a disadvantage to the market supplier as, faced with equivalent price offers, the customer's incentive will normally be to stay with the current supplier to avoid switching costs; and
- (b) any such disadvantage would be particularly significant given the prospect for decline in the market for the supply of bulk LPG in Northern Ireland (see paragraph 4.95).

5. Other aspects of the market

5.1 We also considered a number of other aspects of the market which, although not necessarily features as such, are relevant to our assessment of the adverse effects on competition identified above.

Profitability

5.2 As a further possible indicator of the extent of competition, we have assessed in Appendix J the profitability of the domestic bulk LPG businesses of the major suppliers. As stated in our Guidelines,⁴⁹ a competitive market is likely over time to generate significant variations in profit levels between firms as supply and demand conditions change, but with an overall tendency towards levels commensurate with the cost of capital of the firms involved. At points in time, the profits of some firms may exceed what might be termed the 'normal' level. Reasons for this could include, for instance, cyclical factors, transitory price or other initiatives, the fact that some firms may be more efficient than others and the fact that some firms may be earning

⁴⁹CC3, Market Investigation References: Competition Commission Guidelines, paragraphs 3.81 et seq.

profits gained as a result of past innovation. However, competition should result in pressure on profit levels towards the cost of capital in the medium to long run. A situation where, persistently, profits are substantially in excess of the cost of capital for firms that represent a substantial part of the market could be an indication of limitations in the competitive process. Alternatively, if firms with market power are able to operate with higher costs than would be sustainable with keener rivalry in the market, this could be another indication of limitations in the competitive process.

5.3 The reference relates to only part of the suppliers' businesses and, as this generally does not correspond directly to existing segmental reporting, it has been necessary for the major suppliers to 're-create', inter alia, a domestic bulk profit and loss account. For this purpose, the major suppliers have allocated specific costs and apportioned common costs to the various segments.

5.4 We have based our assessment on the major suppliers' accounting profits and capital employed, produced in line with generally accepted accounting practice in the UK, but with certain adjustments as detailed in Appendix J. Our aim was to estimate the profits of each major supplier had they been a stand-alone supplier of domestic bulk LPG. In addition to the adjustments we proposed, we received a large number of suggested amendments throughout the investigation, nearly all of which tended to decrease the major suppliers' return on capital employed (ROCE). We accepted and have included in our profitability analysis those which we considered appropriate. Set out below are the key adjustments we have made to the financial information provided by the major suppliers to arrive at the figures used in our profitability analysis.

(a) We have excluded the acquired goodwill and associated amortization costs from the accounts of one supplier [X] as we have no reason to believe that the

assets acquired were not fairly valued and so any excess represents the capitalisation of future profits.

- (b) Our preferred treatment is to exclude [redacted]. We have, also, however, considered the implications of that supplier's preferred treatment of such costs, and shown this adjustment separately in Table 1 below. This is discussed further in Appendix J.
- (c) For one supplier [redacted] we have based our analysis on their management accounts. The supplier would prefer us to use a different, less detailed, set of accounts [redacted], although it only provided us with the last two years of these (we have four years of data for the management accounts). We used the management accounts, but have adjusted them to accept the re-allocation of engineering costs. We have not been persuaded of the other adjustments which the supplier has proposed (see Appendix J).

5.5 We have used ROCE as the relevant measure of profitability in this industry. Our Guidelines state that in the context of a market reference, the Commission will normally consider profit levels, usually in terms of rates of return on capital in the market concerned, as a further indicator of competitive conditions.⁵⁰ While some suppliers queried whether ROCE was the best measure of profitability, none provided an alternative.

5.6 We compared the returns on capital employed (as set out in Table 1 below) with the weighted average cost of capital calculated in accordance with the capital asset pricing model. This is discussed further in Appendix K.

5.7 Table 1 summarizes the returns on capital employed for the major suppliers for a six-year period.

⁵⁰Competition Commission, (2003), Market Investigation References Competition Commission Guidelines, paragraph 3.82.

TABLE 1 Returns on capital employed of the major suppliers (nominal)

ROCE	per cent					
	1999	2000	2001	2002	2003	2004
Calor	[
Flogas				×		
Shell						
BP						

Source: CC analysis of information supplied by the major suppliers.

Notes:

1. Flogas figures prior to 2003 are not representative of the ongoing business of Flogas and therefore are not shown.
2. All figures to the year ended 31 December, except Flogas for which figures are to the year ended 31 March of the following year.

5.8 The two suppliers which operate in Northern Ireland (Calor NI and Flogas NI) are run as separate entities and have provided separate information (set out in Appendix J). The Northern Ireland market is less than [×] per cent of the size of the market in Great Britain by tonnes of domestic bulk LPG sold. Prices for domestic bulk LPG in Northern Ireland are lower than in Great Britain and the average ROCEs of the two suppliers in Northern Ireland are lower than in Great Britain and [×] their WACC, as estimated by us. As can be seen in paragraph 52 of Appendix J, the ROCE figures of the two suppliers are not instructive on their own as they are very volatile [×]: due in part to large fluctuations in the capital employed.

5.9 As can be seen from Table 1, the returns on capital employed of the major suppliers in Great Britain have been above the weighted average cost of capital of between 8.3 and 12 per cent we estimated in Appendix K as appropriate for the supply of domestic bulk LPG for some or all of the period under consideration. We only have consistent data for two suppliers prior to 2001 and the [×]. Set out below are the returns on capital employed of the major suppliers in Great Britain since 2001 expressed as a number of percentage points in excess of a mid-point estimate WACC of 10 per cent.

(a) BP: between [×] percentage points [×].

- (b) *Calor*: between [X] percentage points [X]; between [X] percentage points, [X].
- (c) *Flogas*: [X] percentage points [X] in the last two years. We have considered only the last two years to be indicative of Flogas' returns, due to the fundamental change (a tenfold increase in volumes) in Flogas' business on the acquisition of the British Gas business in 2002. The earlier years showed [X].
- (d) *Shell*: between [X] percentage points [X] in the last two years, and between [X] percentage points in the two years prior to that. We do not have data for the earlier years.

5.10 We note with interest that those companies which earn the highest ROCEs are not those that charge the highest prices.

5.11 The major suppliers have argued that their returns reflect a normal level of profitability and a reasonable return for this sector compared with their cost of capital and given the risk taken on the investment made. The principal arguments proposed by the major suppliers against our findings are set out below (these are discussed further in Appendices J and K):

- (a) that the WACC which we have calculated may be too low;
- (b) that we have excluded valid costs borne by the suppliers or excluded valid assets from their balance sheets, as discussed above; and
- (c) that the period for which we have data is not sufficient for a finding of persistent excess profits.

5.12 In addition, [X] provided us with further analysis of its financial information in which it had revalued all of its tanks on a depreciated replacement cost basis in each of the years we are considering: the supplier believed that its balance sheet, based on

historical cost accounting, understated the true position. The methodology the supplier used as well as our concerns are described more fully in Appendix J.

5.13 The results of this exercise as well as the [redacted] are shown below in Table 2. As explained in Appendix J, the correct comparator for these results is a real WACC. As can be seen in the table if this methodology were accepted, [redacted], the return on capital for this supplier would be closer to the real WACC of approximately 8 per cent (which we estimate in Appendix K as appropriate for the supply of domestic bulk LPG) than the figure in Table1.

TABLE 2 [redacted] ROCE with holding gains

							<i>per cent</i>
<i>Year ended 31 December</i>	1999	2000	2001	2002	2003	2004	<i>Average</i>
ROCE (historical cost)	[[redacted]]
ROCE with revalued assets							
ROCE with revalued assets (averaged holding gain)							
ROCE (lowest) (averaged holding gain)							

Source: CC analysis of information supplied by [redacted].

5.14 We had a number of concerns with the data used in this calculation and with the precise methodology and we remain of the view that [redacted] has earned returns on its capital employed in all years following 2001 [redacted].

Summary

5.15 As described in paragraph 5.2 above. In a competitive market we would expect competition to result in pressure on profit levels towards the cost of capital. We therefore considered whether the evidence on profitability was consistent with our conclusions on the competitiveness of the industry.

5.16 We have found that the major suppliers have earned on average over the period 2001 to 2004 returns on capital employed in excess of the weighted average cost of capital which we have calculated in Appendix K, although none of them earned returns that were both persistently and substantially in excess. The evidence on profitability of the major suppliers between 2001 and 2004, is therefore not inconsistent with a finding of a lack of competitive pressure on the major suppliers, but not conclusive on the point either.

Health and safety rationale for business practices

5.17 We have noted above that LPG is a hazardous product, and its supply is therefore subject to a regulatory regime. Safety considerations are therefore a key issue in this investigation and the major suppliers maintained that there was a safety rationale and justification for a number of business practices, namely:

- (a) exclusivity of supply;
- (b) ownership of tanks by the LPG supplier;
- (c) uplift of tank when the customer switches to a new supplier; and
- (d) the requirement for a three months' notice period.

5.18 We set out in Appendix D our assessment of the impact of safety management on business practices. We noted in that appendix (as we have in paragraph 2.12 above) that the major suppliers' approach to safety management involves an integrated safety management system, whereby the LPG supplier takes full responsibility for the installation and the underlying liability associated not only with the delivery of the LPG, but also with the installation of the tank and associated fittings and their ongoing maintenance. Within this system, the major suppliers tend to subcontract some of the activities, such as the provision of emergency services out of working hours, engineering services, tank installation, and uplift. They argued,

however, that they were nonetheless able to maintain responsibility for such activities, and control over their performance.

5.19 The major suppliers argued that, within the current legislative framework, the integrity of the safety management system described above, including the clear allocation of roles and responsibilities, is paramount. We have noted above that certain features of this system may contribute to switching costs and higher barriers to entry, in particular, the uplift of the tank at the end of the supply relationship.⁵¹ Some smaller suppliers from whom we heard (for example, the evidence of ALGED on our web site) also argued strongly that suppliers should retain ownership of tank: but suggested that transfer of the ownership of a tank from the old to the new supplier, rather than to require the change of the tank itself, would give the consumer the benefit of 'virtually owning' the tank. Some smaller suppliers, moreover, quite readily supply to customer-owned tanks. Some customers from whom we heard also argued that they should be able to own their own tank and seek competing offers from LPG suppliers.

5.20 We have noted above the three aspects of the safety management framework: overriding general and in some cases more detailed legal obligations; the ACoPs and LPG CoPs; and finally the variations between each of the major supplier's own safety policies. As noted by the HSE, however, current safety practices may also reflect the commercial approach of the suppliers. In principle, it would be possible for the safety regime to amount to a cloak for anti-competitive behaviour, in which case the practices outlined above would not be justified on safety grounds and might have evolved differently. The major suppliers disputed this, arguing that the agreed practices reflected the requirements of the underlying regulatory regime, and that it was wrong to attempt to divorce commercial and safety issues. We therefore

⁵¹Switching costs and barriers to entry are addressed above.

considered whether the business practices outlined above, which contribute to the cost and inconvenience of switching, were required under the existing regulatory regime or were otherwise required to ensure the safety of LPG supply.

5.21 As noted at paragraph 3 of in Appendix D, the integrated approach under the current supply model has recognizable advantages from a safety perspective: clear responsibilities; and simplicity for the customer. The analysis in Appendix D also points to the following conclusions in relation to each business practice identified above.

Exclusivity of supply

5.22 In principle, the relevant safety legislation does not require or favour the use of exclusive LPG supply contracts. However, if exclusivity were not the norm, there would be some uncertainty as to which supplier was responsible for dealing with gas escapes under the GSIUR (see paragraph 1.22 of Annex 1 to Appendix D).

5.23 Moreover, if a customer had gas delivered from a series of suppliers, the safety obligations on each delivery may be more onerous, and there may be duplication of functions. For example, inefficiencies would be likely to result from suppliers' obligation to satisfy themselves that the tank is safe before delivering LPG, and the need to replace the emergency notice each time a new supplier fills the tank, potentially two to three times a year (for further details, see paragraphs 1.21, 2.33, 4.22 and 6.8 of Annex 1 to Appendix D).

5.24 We therefore accept that exclusivity of supply appears to be a practice which helps to satisfy safety requirements under the current UK legal regime. The practice provides clarity as to whose gas is in the tank and which supplier is responsible for delivering emergency services. Moreover, in the absence of an approved certification system

and an industry-wide emergency service, it would seem to constitute a more efficient means of complying with the current safety regime than non-exclusive supply.

Ownership of tank by LPG suppliers

5.25 In order to test bulk LPG suppliers' arguments in support of their ownership of domestic bulk LPG tanks, we asked them to contrast the current ownership situation to alternative ownership models⁵² (namely ownership by customers or ownership by third parties). The comments we received are set out in detail in Appendix D.

5.26 As noted by the HSE in their evidence on our web site (to which we referred in paragraph 2.13), none of the obligations currently imposed on LPG suppliers by the legislation outlined in paragraphs 2.5 to 2.8 appears to derive from ownership of the tank itself. Hence, if ownership were vested in the customer or a third party but the LPG supplier remained responsible for carrying out the "safety activities" (maintenance and repair) associated with that tank under contractual arrangements, there would not appear to be any significant difference from the present situation in terms of the scope and applicability of the regulatory obligations. Separation of maintenance and repair from installation and removal activities has the potential, in certain circumstances, to reduce the overall integrity of the safety management framework. But we note that some of the major suppliers currently use subcontractors to perform the installation and uplift of its tanks. This suggests that, even if tank installation and removal were the responsibility of a third party, this would not necessarily affect to a material extent the effectiveness of the existing regulatory regime, providing that the supplier was able to carry out due diligence when it took over the safety activities to ensure the tank was of a good quality and had been installed properly.

⁵²The various ownership models are hypothetical scenarios used to test the strength of the parties' arguments.

5.27 As we discuss further in Appendix D, if the LPG supplier did not own the bulk LPG tank and was not responsible for ‘safety activities’ such as the installation, maintenance, repair and removal of tanks, the application of the relevant legislation set out in paragraph 2.8 would differ from the present situation. For example, the obligations under the PSSR to establish and operate within safe operating limits, to maintain the pressure system in good repair and to set up a written scheme for periodic examination of the tank by a competent person attach to the ‘user’ of the tank, as defined in the PSSR, that is the employer or self-employed person who has control of the operation of the tank. A tank under the full control of a domestic customer (ie where the domestic customer has not contracted a commercial entity to take responsibility for safety activities) would not be covered by these regulations. In addition, there is a degree of doubt as to whether these safeguards would apply where a tank-leasing company or other third party was responsible for maintaining and repairing a tank. In such a situation, it is unclear whether the person responsible for maintenance and repair or the person responsible for LPG delivery would be the user for the purpose of the regulations. (For further details, see paragraphs 2.21 to 2.31 of Annex 1 to Appendix D. The Appendix also sets out the uncertainty that may result in the application of other health and safety regulations—the GSIUR, the DSEAR and the MHSWR—if the LPG supplier does not own the tank.) In addition, one of the major suppliers argued that separation of the supply and safety activities could affect liability under the GPSR. It was also noted to us that domestic customers, unlike companies, are not subject to criminal sanctions.

5.28 We concluded that ownership of domestic bulk tanks by LPG suppliers is not necessarily the only safe model and is not a stated requirement of the relevant regulations, but it presents significant advantages over alternatives. We note that there is universal opposition by bulk LPG suppliers to the ownership of tanks by customers, even though the supply of LPG to a relatively small number of customer-

owned tanks is not unknown in the industry. Widespread ownership of tanks by domestic customers does not appear to be a workable model under the current legal regime. Ownership of tanks by a third party would create some legal difficulties, could lead to duplication of safety management costs and could result in the lowering of safety standards due to potential uncertainties over the allocation of safety responsibilities.

Uplift of tank when customer switches to new supplier

- 5.29 The relevant legislation does not require tanks to be uplifted on change of supplier. To the extent that the PSSR applies to domestic bulk LPG tanks, where a tank changes ownership, there is an obligation on the previous owner to pass certain documents on to the new owner, such as tank examination reports (see paragraph 2.16 of Annex 1 to Appendix D) though one of the major suppliers commented that the provisions of the PSSR do not provide for the complete history of the tank or the pipework to be transferred to the new owner.
- 5.30 In order to test suppliers' arguments in support of the uplift of tanks on change of supplier, we asked them to contrast the current business practice with the alternative of transferring the LPG tank to the incoming supplier. The supplier's views and comments are set out in detail in Appendix D.
- 5.31 We concluded that the widespread practice of uplifting tanks instead of selling them to the incoming supplier is not compelled on safety grounds: the tanks are broadly similar; key differences due to historically lower levels of standardisation are being addressed and the quality/safety of an acquired installation can be ascertained by reviewing statutory tank safety records and if needed carrying out a site inspection. There are risks associated with uplifting tanks, though these are normally small and controllable. The transfer of tanks by mutual agreement between suppliers also

carries certain risks, but these can also be managed and tank transfer is not inherently unsafe. Overall, we see no reason to prefer tank uplift to tank transfer on safety grounds. The safety management framework could have evolved or been adapted to allow transfer arrangements, on reasonable terms and conditions (including the price of the transferred tank), without compromising safety. In the course of the inquiry, the HSE consistently supported the view that tank uplift on change of supplier cannot be justified on safety grounds, and we note that several suppliers have transferred tanks in-situ on occasion.

Three months' notice period

5.32 We do not consider that a three months' notice period for changing supplier is necessary on safety grounds. The notice period is not fixed at three months either by safety regulations or by codes of practice; coordinating the logistics of tank exchange can be achieved within 14 days in accordance with LPGA CoP 26; and it is not necessary for a customer to use all the gas remaining in the tank, as it can be transferred into the new supplier's LPG tank.

5.33 In the course of the inquiry bulk LPG suppliers accepted that existing notice periods could be significantly reduced.

Overall conclusions

5.34 We have acknowledged the importance of safety, and accept that current arrangements do represent one way to ensure safety. But we were concerned to examine to what extent the business practices set out at paragraph 5.17 above are necessary to ensure safety. (We are not, however, expressing any view on whether any feature of the market resulting from these business practices could be regarded as having had adverse effects on competition even if the business practices were required on the grounds of safety.)

5.35 We found that the exclusivity of supply is a practice which helps to satisfy the safety requirements under the current UK legal regime and may be a more efficient means of managing safety than non-exclusive supply. While ownership of tanks by LPG suppliers is not necessarily the only safe model, and is not a requirement of the current legal regime, it presents significant advantages over customer ownership (under which some of the existing health and safety regulations would not apply) and appears to be a more legally certain and efficient way of managing safety than ownership of tanks by commercial third parties. We do not accept however that the practices of uplifting tanks and requiring a three months' notice period for terminating supply are required under the existing regulatory regime, nor that they are necessarily the most efficient way of managing the supply of domestic bulk LPG.

6. Provisional findings

6.1 We concluded in paragraphs 3.11 to 3.14 that the supply of domestic bulk LPG in Great Britain and in Northern Ireland can each be regarded as an economic market in which to assess competition.

Great Britain

6.2 The market in Great Britain is highly concentrated, one supplier currently accounting for almost one-half of the market and the four major suppliers for about 90 per cent of supply. The following features of the market, either alone or in combination with each other, prevent, restrict or distort competition in the supply of domestic bulk LPG in Great Britain:

- (a) the widespread practice, when a customer switches supplier, of the outgoing supplier removing its LPG tank from the site and of the incoming supplier replacing it with an essentially similar tank, with the consequential costs of removing and installing tanks, which:

- (i) to the extent that these costs are reflected in up-front charges to individual customers, acts as a barrier to customer switching;
 - (ii) to the extent that these costs are borne by the incoming supplier, acts as a disincentive to competing for the business of existing LPG customers and/or leads them to offer a higher price than would otherwise be the case;
 - (iii) to the extent that the practice gives rise to customer inconvenience (whether actual or perceived), acts as an additional barrier to customer switching; and
 - (iv) given the cost disadvantages potential competitors face in competing with an incumbent supplier and given the relatively low number of new customers in the market for the supply of domestic bulk LPG, acts as a barrier to expansion (see paragraphs 4.48(a) and 4.96(a));
- (b) the lack of information among customers in that:
- (i) some customers are not aware of their ability to switch supplier or of alternative suppliers;
 - (ii) suppliers often do not provide sufficient information in advance about customers' liability for switching charges;
 - (iii) there is uncertainty about the likely level of inconvenience of the switching process, which contributes to customer perception of inconvenience;
 - (iv) customers generally are not aware of prices on offer from alternative suppliers and face some search costs in finding the cheapest supplier; and
 - (v) customers cannot accurately assess which supplier will be most competitive over the "whole life" of the supply arrangement, which is likely to inhibit them from seeking alternative price quotations and switching to another supplier (see paragraphs 4.48(b) and 4.84(a));
- (c) the imposition of contractual restrictions on switching, including the use of lengthy fixed minimum terms in introductory contracts; requiring contract renewal (with a further lengthy fixed minimum term) as a condition of selective discounts;

three months' notice periods for termination; and lack of clarity as to the extent of contractual liability (see paragraph 4.48(c));

(d) limited ability of suppliers to identify and target their marketing efforts on each others' customers (see paragraph 4.48(d)); and

(e) the practice among most suppliers of offering selective discounts to customers, in that, given the high level of switching costs in the market for domestic bulk LPG, they reduce the potential rewards to competitors for attempting to win customers away from their current suppliers and thereby discourage firms from competing to win customers from one another (see paragraphs 4.84(b) and 4.96(b)).

6.3 That competition is constrained in this market is evidenced by:

(a) Sustained differences between average prices of suppliers and a degree of independence (from one another) in the movements of these average prices (see paragraph 4.83(a)).

(b) Individual suppliers charging different prices to different customers, which are largely unrelated to differences in costs (see paragraph 4.83(b)).

(c) Low switching rates and limited numbers of customers threatening to switch, which exist despite the availability of lower prices from other suppliers, and despite evidence that customers do not have a strong preference for the service of their existing supplier (see paragraph 4.83(c)).

6.4 We note also that we found that the major suppliers earned on average over the period 2001 to 2004 returns on capital employed that were in excess of the weighted average cost of capital which we have calculated, although none of them earned returns that were both persistently and substantially in excess.

6.5 In our view, none of the above adverse effects of the features of the British market is a necessary consequence of existing safety requirements.

6.6 We conclude that there are features of the market for supply of domestic bulk LPG in Great Britain which prevent, restrict or distort competition. While some marginal customers may negotiate competitive prices, we conclude that the large majority of customers in the market are paying higher prices than would be the case if these features did not exist. (An estimate of the minimum cost to customers is at paragraph 4.80.)

Northern Ireland

6.7 We have noted in paragraphs 4.45, 4.81 and 4.95 that the Northern Ireland market shares a number of characteristics with that in Great Britain, but to differing extents.

6.8 In our view, the following features of the market, either alone or in combination with each other, prevent, restrict or distort competition in the supply of domestic bulk LPG in Northern Ireland, with the further detrimental effects of higher prices for customers of domestic bulk LPG than would otherwise have been the case:

(a) the widespread practice, when a customer switches supplier, of the outgoing supplier removing its LPG tank from the site and of the incoming supplier replacing it with an essentially similar tank, with the consequential costs of removing and installing tanks, which:

(i) to the extent that these costs are reflected in charges to individual customers, acts as a barrier to customer switching;

(ii) to the extent that these costs are borne by the incoming supplier, acts as a disincentive to competing for the business of existing LPG customers;

(iii) to the extent that the practice gives rise to customer inconvenience (whether actual or perceived), acts as an additional barrier to customer switching; and

- (iv) given the cost disadvantages potential competitors face in competing with an incumbent supplier and given the prospect for decline in the market for the supply of bulk LPG in Northern Ireland, acts as a barrier to expansion (paragraphs 4.52(a) and 4.98);
- (b) the lack of information among customers in that:
 - (i) some customers are not aware of their ability to switch supplier or of alternative suppliers;
 - (ii) suppliers often do not provide sufficient information in advance about customers' liability for switching charges; and
 - (iii) there is uncertainty about the likely level of inconvenience of the switching process, which contributes to customer perceptions of inconvenience (paragraph 4.52(b));
- (c) contractual restrictions on switching, including the use of lengthy minimum terms in introductory contracts; three months' notice periods for termination; and lack of clarity in contracts (paragraph 4.52(c)); and
- (d) limited ability of suppliers to identify and target their marketing efforts on each others' customers (paragraph 4.52(d)).

6.9 In our view, none of the above features of the market in Northern Ireland is a necessary consequence of existing safety requirements.

6.10 We conclude that there are features of the market for supply of domestic bulk LPG in Northern Ireland which prevent, restrict or distort competition. While some marginal customers may negotiate competitive prices, we conclude that the large majority of customers in the market are paying higher prices than would be the case if these features did not exist.