

Competition in gas and electricity: companies profit, consumers pay¹

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In netto anticipo rispetto al processo di apertura del mercato dell'energia e gas in Europa, il processo di liberalizzazione inglese rappresenta un esempio concreto di come sono andate le cose.

Dall'aprile 2002 gli utenti del servizio elettrico e gas inglese stanno sperimentando gli effetti della liberalizzazione. Mentre la possibilità di scegliere un fornitore è stata scadenzata tra il 1996 ed il 1999, è stato solo con il 2002 che è venuto meno qualsiasi tipo di controllo e intervento sui prezzi del mercato elettrico e gas per gli utenti domestici.

Da quel momento in poi la storia che si è scritta denuncia una crescita dei prezzi molto più veloce e sostenuta della crescita dell'inflazione.

La spiegazione più diffusa delle conseguenze, non certo positive per i consumatori nella fase finale di liberalizzazione, è che l'andamento del mercato energetico mondiale e l'aumento del prezzo di acquisto del gas all'ingrosso sul mercato internazionale siano stati fattori determinanti e non controllabili dalle stesse compagnie fornitrici del servizio di approvvigionamento di luce e gas. Queste ultime si sono dichiarate vittime, al pari dei consumatori, di questi rialzi dei prezzi, che hanno scaricato sui loro clienti finali.

In realtà il fatto che le compagnie si siano limitate a scaricare i costi direttamente sugli utenti finali è indice di mancanza di vera concorrenza o, comunque, rivela che lo stimolo concorrenziale non è stato tale da indurre comportamenti virtuosi per le imprese e profittevoli per i consumatori.

Due sono le domande a cui si cerca di dare una risposta in questo articolo: verificare se il rialzo dei prezzi all'ingrosso sia stato l'unico elemento responsabile del sostanziale incremento dei prezzi di energia e gas per gli utenti domestici in UK; verificare se e come i maggiori fornitori del servizio abbiano beneficiato dei rincari, aumentando i loro profitti laddove gli utenti hanno visto aumentare i costi in bolletta.

Sono sei le compagnie fornitrici di luce e gas al mercato britannico: Powergen (di proprietà del gigante tedesco E.ON), Npower (di proprietà del gigante tedesco RWE), EDF Energy (di proprietà della compagnia pubblica francese Electricité de

¹ Di seguito pubblichiamo una ricerca sugli effetti per i consumatori dell'apertura del mercato inglese dell'energia, commissionata al Professor Philip Wright da Which?

- associazione inglese membro del BEUC - già pubblicata su Consumer Policy Review n.17 di Gennaio-Febrero 2007.

France), Scottish power (da poco acquisito dalla spagnola Iberdrola), Scottish & Southern Energy e British Gas (Centrica). Cinque di queste compagnie sono state talmente poco trasparenti da impedire un vero confronto e un'analisi sul fatto che i rialzi siano stati scaricati effettivamente sugli utenti finali. Fortunatamente l'unica compagnia che ha consentito l'accesso ai dati, Centrica, commercialmente nota come British gas, è anche la principale compagnia operante nel mercato elettrico e del gas britannico. Detto in altri termini, il comportamento di Centrica ha un impatto su 17 milioni di consumatori britannici, di cui 11,1 milioni clienti della rete gas e 5,9 milioni clienti del servizio elettrico.

L'esperienza inglese di Centrica, esplorata dettagliatamente nell'articolo, porta alla conclusione secondo la quale il modo in cui è stato liberalizzato il mercato dell'energia elettrica e del gas in Gran Bretagna non ha generato benefici ai consumatori, ma profitti alle imprese.

Ne conseguono, secondo l'autore, tre possibili ipotesi d'intervento regolamentare per tentare di modificare la situazione attuale.

La prima ipotesi è l'introduzione di un obbligo di trasparenza affinché le compagnie fornitrici del servizio elettrico e gas mettano a disposizione delle autorità e del pubblico informazioni sufficientemente dettagliate da consentire una vera analisi dei loro comportamenti economici rilevanti per il consumatore finale e per il mercato.

Una seconda ipotesi, che può essere considerata un livello intermedio d'intervento, consiste nell'assicurare che possano essere caricati sul consumatore finale solo i costi effettivamente sostenuti dalle imprese per acquistare il gas o l'energia sul mercato all'ingrosso, costi ovviamente passati al vaglio dell'autorità di controllo del settore. Questo nel caso in cui le imprese insistano nel ritenere di avere il diritto di scaricare arbitrariamente sul cliente finale i loro maggiori costi. Il problema con questo tipo di intervento regolamentare è che non si incentivano le imprese ad acquistare e approvvigionarsi sul mercato internazionale a costi più bassi.

La terza ipotesi è la reintroduzione del regime di controllo dei prezzi per i clienti domestici di luce e gas. E perché no? Del resto ciò è quanto succede nel resto del mondo. Il comportamento dei "Big six", i sei grossi fornitori di energia e gas in UK, è risultato essere imperturbato dalla concorrenza, quasi legittimato dal mercato e dal quadro regolamentare e legislativo esistente in UK a scaricare ogni rischio legato all'oscillazione verso l'alto del prezzo di acquisto delle risorse energetiche sul consumatore finale.

Quale lezione possono trarne i paesi in procinto di aprire il proprio mercato? È rilevante che il consumatore faccia scelte "apparentemente" informate se nel passaggio tra un operatore e l'altro rischia comunque di pagare di più, a causa della struttura verticalmente integrata di molte compagnie e della volatilità a monte del mercato dell'approvvigionamento energetico, che rende difficile capire quali siano gli effettivi margini di guadagno delle compagnie?

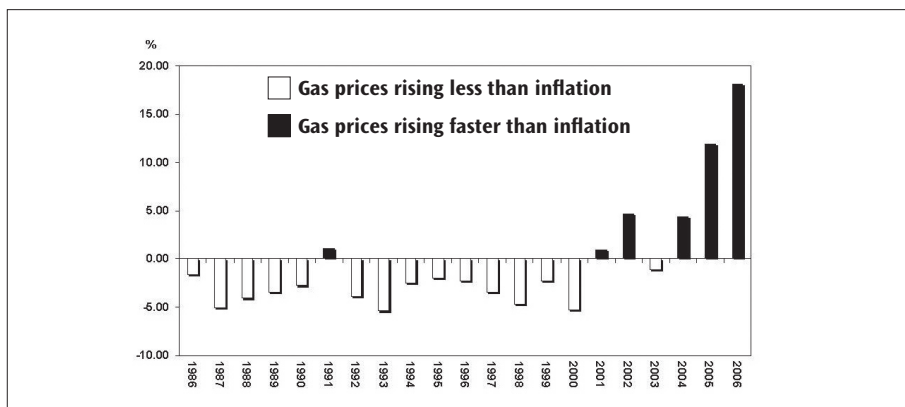
La cautela nel creare pesi e contrappesi pare non essere mai troppa. Certo è che gli utenti inglesi hanno dunque imparato, a loro spese, che i prezzi dell'energia elettrica e gas sono molto flessibili e sensibili al rialzo, ma piuttosto rigidi quando si tratta di scendere.

Research of the UK domestic energy market: competition is not working for the consumer

Gas and electricity prices for domestic consumers have been rising faster than inflation since the UK gas and electricity markets ceased to be subject to any form of price control regulation in 2002. This research, commissioned by Which?, finds that, in order to increase profits, gas prices have been raised more than might be warranted by increasing gas wholesale prices and that companies have developed portfolios of assets up and down the gas and electricity “chains”, allowing them to profit while consumers pay.

Since April 2002, the UK’s household gas and electricity consumers have been experiencing the endpoint of liberalisation. While the possibility of choosing a supplier had been opened up to them in stages between 1996 and 1999, it was only in April 2002 that the remaining price controls were removed, moving domestic prices completely into the marketplace. There these prices would now be established by the major supply companies but constrained, it was anticipated by competition. This was the end point of liberalisation because regulated prices were always viewed as transitional for the supply function in the gas and electricity industries. This was one of the potentially competitive segments of these industries and the UK has been the first country in the world to make it completely so. However, Fig. 1 and 2 confirm for us what consumers know to be the case from their escalating gas and electricity bills: that this has not been a happy experience.

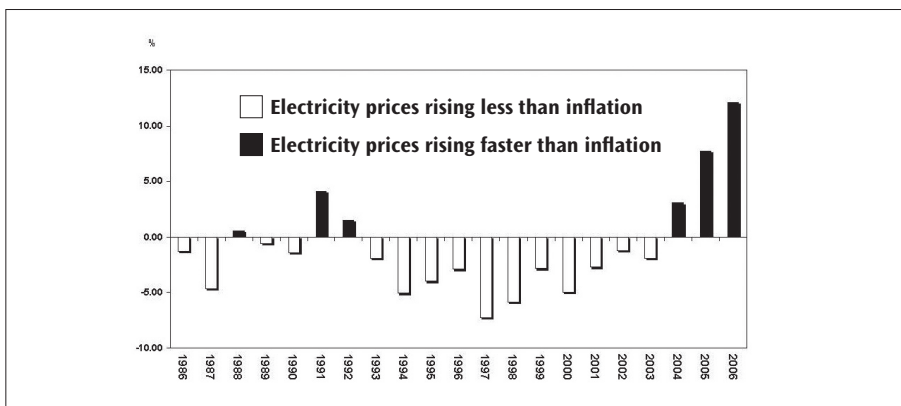
Fig. 1 – Gas prices to domestic consumers 1986-mid-2006



Source: derived from UK Department of Trade & Industry, Quarterly Energy Prices.²

² Available at: <http://www.dti.gov.uk/energy/statistics/publications/prices/index.html> (accessed 02/01/07).

Fig. 2 – Electricity prices to domestic consumers 1986-mid-2006



Source: derived from UK Department of Trade & Industry, Quarterly Energy Prices.³

These figures subtract the annual rate of inflation from the annual increase in gas and electricity prices and the columns above the 0.00 baseline therefore show the extent to which gas and electricity prices have been rising faster than inflation. Since the prices of gas and electricity paid by domestic consumers ceased to be regulated, the story has mainly been of these prices rising faster than inflation (rising in “real terms”): whereas the previous regulatory regime generally resulted in consistently falling real prices.

A widespread explanation of these unambiguously negative consequences for consumers at the endpoint of liberalisation has been that they are simply a result of events outside supply company control - it is world energy markets and rising wholesale gas prices which are the culprits. Supply companies have lamented that they are just as much victims as consumers, and that it has been painful indeed for them to have to inflict inevitable price rises on their customers. Already this perspective should raise suspicions about the quality of the competitive environment which UK gas and electricity consumers have been experiencing: the idea that companies should simply be able to pass on their increased costs to consumers, whether immediately or with a delay, indicates that competition is not proving effective as a constraint on company behaviour. But there are other equally serious problems.

The rest of this paper will highlight two major issues. Firstly, it will challenge the view that it is solely rising wholesale prices which have been responsible for the substantial price increases experienced by the UK households.

Secondly, it will expose how the major supply companies have in fact benefited from rising prices - seeing their profits increase as consumers have paid more.

³ Ibid.

Just rising wholesale prices?

There are six major supply companies which now occupy the whole of the UK domestic markets for gas and electricity (from this point on referred to as the Big Six). These are Powergen (owned by the German energy giant E.ON), npower (owned by the German energy giant RWE), EDF Energy (owned by the French state company Electricité de France), Scottish Power (just taken over by Iberdrola of Spain), Scottish & Southern Energy (SSE) and British Gas (parent company Centrica plc). Their market shares are shown in Tab. 1.

Tab. 1 – Market shares of domestic energy supply companies in March 2006

	Domestic market share gas in March 2006 (by customer numbers)	Domestic market share electricity in March 2006 (by customer numbers)
CENTRICA (British Gas)	52%	22%
E.ON (Powergen)	13%	20%
SSE	10%	16%
RWE (npower)	10%	15%
SCOTTISH POWER	9%	13%
EDF	6%	13%
OTHERS	0%	0%

Source: OFGEM, Domestic Retail Market Report, 2006.⁴

Five of these six do not publicly disclose enough data to enable us to assess the extent to which the automatic pass-through of higher energy input costs has been the only cause of price increases to domestic customers. Fortunately, however, the company which does disclose sufficient data is Centrica which, trading as British Gas, is the largest supply company in both gas and electricity markets. Whatever is discovered about Centrica's behaviour would therefore be significant for approximately 17 million domestic customers, of whom 11.1 million were gas customers and 5.9 million electricity customers.⁵

Gas

For Centrica's domestic customers the overall average price of their gas supply has been rising every year since 2001. In order to analyse whether increases in the wholesale cost of gas have been exclusively responsible, the average price can be broken down into its three main components: the wholesale cost of the gas itself; the cost of transporting it long distance at high pressure and distributing

⁴ Available at: www.ofgem.gov.uk (accessed 02/01/07).

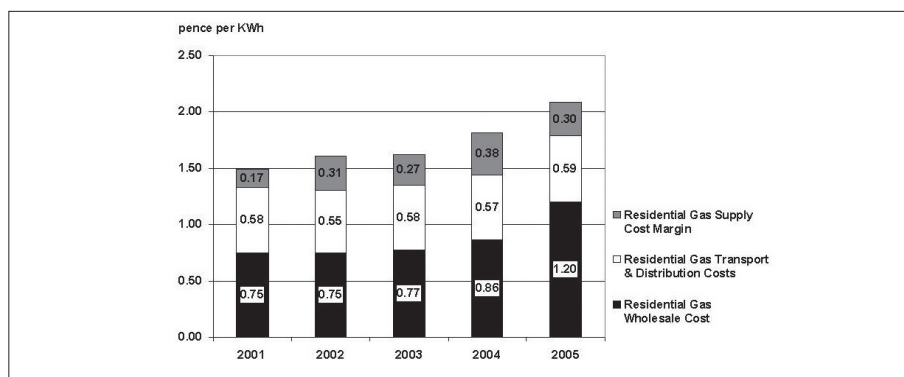
⁵ This 2005 data accounts dual fuel customers sepa-

rately as two customers, one for gas and the other for electricity.

it locally at lower pressure; and the cost of “supply” (the cost of winning and managing customer accounts plus a profit margin). These three component costs take us down the gas supply chain from wellhead to burner tip.

From Fig. 3 it can be seen that regulated transport and distribution costs have been generally passive, changing by at most three hundredths of a penny between 2001 and 2005. And changes in gas costs were insignificant price drivers in 2001, 2002 and 2003. During the immediate aftermath of the final lifting of price controls it was therefore a sharp increase in the supply cost margin which most affected domestic gas prices in 2002.

Fig. 3 – British Gas gas: price breakdown into component costs



Source: derived from Centrica plc, Annual Reports & Accounts.⁶

As we move into 2004 and 2005, we can begin to observe the effect of sharply increasing wholesale gas costs. But in 2004 it was clearly not exclusively responsible for all of the 0.21 pence/kilowatt-hour (KWh) increase in price paid by Centrica’s customers: the increase in Centrica’s gas wholesale costs between 2003 and 2004 was only 0.11 pence (from 0.77 to 0.86 pence). Of equal importance was a 0.11 pence increase in the supply cost margin. In contrast 2005 saw a 0.28 pence/KWh increase in the average price paid by Centrica’s customers, while the gas wholesale cost increased by 0.34 pence/KWh: in 2005 there was therefore some squeeze on the supply cost margin as prices rose less than the increase in wholesale gas costs. However, this should be seen in context: the supply cost margin in 2005 was still higher than it had been in 2003, and was still 76% greater than the 0.17 pence/KWh of 2001.

Our conclusion as far as gas is concerned is therefore clear: it has not just been the pass-through of increasing wholesale gas costs which has been responsible for the increase in prices experienced by Centrica’s customers; increases in the supply cost mark-up, which includes a margin for profits, have also been important.

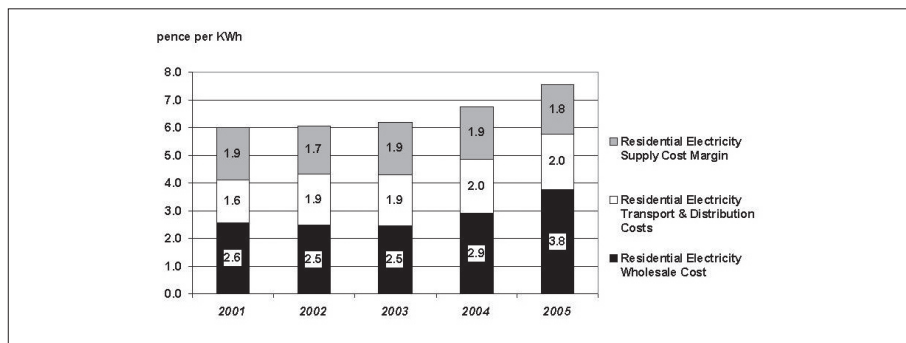
⁶ Available at: www.centrica.com (accessed 02/01/07).

In 2002 it was just the increase in the supply cost mark-up which drove up prices, while in 2004 the impact of a rising supply cost mark-up was just as important as the increase in wholesale gas costs. An increasing supply cost mark-up could be due to an actual increase in the costs of supply in a fully liberalised market. However, the sudden changes which Centrica's supply cost margin has been registering already suggest that this is unlikely to have been the cause. Further evidence will confirm that Centrica was simply raising its gas prices by more than the increase in wholesale gas costs in order to increase profits.⁷

Electricity

Fig. 4 shows the changing breakdown of costs in the electricity chain from generation to use in the home. It reveals that, unlike gas, it is true that changes in the wholesale cost of electricity have been the dominant factor driving increases in the price of electricity paid by Centrica's customers. On the other hand, there is no reason to draw much satisfaction from this discovery, because the ease with which such cost increases are being passed on to consumers suggests that competition is hardly proving effective. Other industries do not generally find it so easy to pass on cost increases in this way. Indeed, an inability to pass on energy cost increases has recently been driving some businesses into bankruptcy.

Fig. 4 – British Gas electricity: price breakdown into component costs



Source: derived from Centrica plc, Annual Reports & Accounts.⁸

⁷ This practice is made easier by the confusion which both OFGEM and the media have sown in the minds of consumers. This has been achieved by implying that the increases in final prices which residential consumers may legitimately expect should be the same in percentage terms as any increase wholesale gas costs for example, that if wholesale gas costs increase by 20 per cent that it might be legitimate for customers to pay 20 per cent more. In fact of course such an implication deceptively fails to take into account: (a) that the wholesale cost of gas only contributes about half of

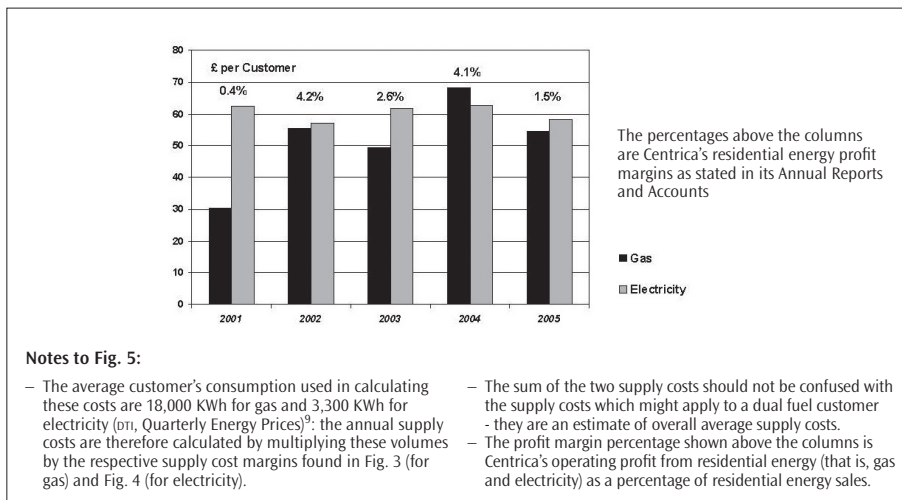
the price paid by consumers (as shown in Fig. 3); and (b) that the current wholesale price does not price all of the supplies procured by companies. For an example of misleading or less than complete information coming from a regulator see OFGEM's "Factsheet" No.66 (8/11/06), "Household Bills Explained" (available at: www.ofgem.gov.uk, accessed 03/01/07), later uncritically recycled by the Financial Times on 5 December, 2006 (available from: www.ft.com, accessed 03/01/07).

⁸ Available at: www.centrica.com (accessed 02/01/07).

Supply costs, prices and profits

The influence of the domestic gas supply cost mark-up on both the gas prices paid by domestic customers, and on the profits made by Centrica, is examined further in Fig. 5. This shows what average UK gas and electricity consumers, as defined by the UK's Department of Trade & Industry, would have paid in supply costs each year if they had been paying at the rates which Centrica has been charging for supply (see Fig. 3 and 4).

Fig. 5 – Annual supply costs for average customers



While annual electricity supply costs for an average UK customer fluctuate within a relatively restricted range, between about £57 and £63, those for gas started at around £30 in 2001, jumped to £55 as price controls were lifted in 2002 and peaked at around £68 per customer in 2004. Recalling that the supply cost mark-up includes a margin for profit, these changes were clearly the main driver of the sharp increases in the profit margin on Centrica's residential energy business in both 2002 and 2004 (also shown in Fig. 5). The fact that the margins appear to be small, and the changes even smaller, does not mean that they are unable to deliver large increases in profit, as we shall see in the next section. Moreover, as will be shown, by the time it comes to add on its gas supply mark-up, Centrica has already made most of its profits from upstream gas production.

⁹ Available at: <http://www.dti.gov.uk/energy/statistics/publications/prices/index.html> (accessed 02/01/07).

Portfolios and profits

Tab. 2 shows the energy chain portfolios held by the UK's Big Six suppliers of gas and electricity to households. Clearly, there is a broad similarity with the exception of Centrica which, unlike the other companies, has substantial gas production assets but doesn't have the same presence in the regulated gas and electricity transportation and distribution segment. However, the companies' intentions are the same: to manage their risks by holding a portfolio of assets up and down the gas and electricity chains. Have these strategies been successful?

Tab. 2 Energy chain portfolios held by the UK's Big Six domestic energy suppliers

	Production of gas/electricity generation	Wholesale trading	Transmission & distribution	Gas storage	Non-domestic supply	Domestic supply
CENTRICA	g e	g e	g (minor)	g	g e	g e
SSE	e	g e	g e	g	g e	g e
SCOTTISH POWER	e	g e	e	g	g e	g e
E.ON (Powergen)	g e	g e	e	g	g e	g e
RWE (npower)	e	g e	e		g e	g e
EDF	e	g e	e	g	g e	g e

Key: g = gas, e = electricity.

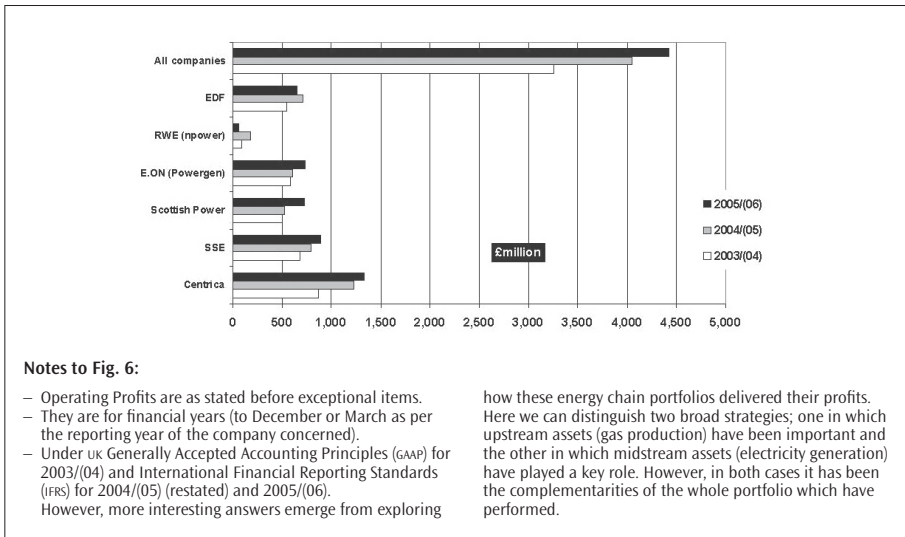
Source: Company Annual Reports and Accounts.¹⁰

The general answer is yes: Fig. 6 shows five out of the Big Six increasing their operating profits during the last three financial years, despite stagnation in the demand for electricity and gas. Overall, profits from UK energy operations increased by 35.7%, or £1.2 billion. In addition, there is also evidence of shareholder rewards: the combined Earnings per Share for the three companies whose fortunes are mainly based on their UK energy operations rose by 26%¹¹ over the same period.

¹⁰ For Centrica, SSE, Scottish Power, E.ON and RWE, their Annual Reports & Accounts are available respectively at: www.centrica.com, www.scottish-southern.co.uk, www.scottishpower.com, www.eon.com, www.rwe.com. For EDF Energy plc, its Annual Report & Accounts may be obtained from UK Companies House ([\[house.gov.uk\]\(http://house.gov.uk\)\) \(accessed 08/01/07\).](http://www.companie-</p>
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¹¹ Annual Reports & Accounts for Centrica, SSE and Scottish Power. Available at: www.centrica.com, www.scottish-southern.co.uk and www.scottishpower.com (accessed 02/01/07).

Fig. 6 – Operating profits for energy suppliers, 2003/04-2005/06



Source: Company Annual Reports and Accounts.¹²

Portfolio with gas production

The breakdown of Centrica's profits (see Tab. 3) immediately draws attention to the most important feature of Centrica's operations. While it bemoans the increasing cost of wholesale gas, which "regrettably" compels it to increase its prices to domestic customers, it is itself making large profits from these wholesale prices as it sells its own gas production. Between 2001 and 2005, almost three-quarters of Centrica's £4.8 billion of profits came predominantly from Gas Production, but also from Gas Storage and Wholesaling and Trading. In terms of the sources of its profits, Centrica therefore emerges as principally an upstream company. However, observing the pattern of shaded cells in Tab. 3, which identify where profits have increased compared with the previous year, it is also clear that Centrica has usually been able to make profits either upstream or directly from its domestic customers, But when things are going well, as they were in 2004, Centrica is able to do both at the same time. The loss of over 2 million residential gas customers through "switching" since 2001 must be seen in this context - it has not affected Centrica's ability to make profits from the upstream, or even from its remaining (large) domestic customer base. Moreover, it might

¹² For Centrica, SSE, Scottish Power, E.ON and RWE, their Annual Reports & Accounts are available respectively at: www.centrica.com, www.scottish-southern.co.uk, www.scottishpower.com, www.eon.com, www.rwe.com. For

EDF Energy plc, its Annual Report & Accounts may be obtained from UK Companies House (www.companies-house.gov.uk) (accessed 08/01/07).

even be suggested that British Gas has been deliberately relieving itself of some of its domestic gas customers in order to discharge the risk of supplying them in the future onto other suppliers (Centrica is only able to supply 40-50 per cent of its domestic and business volumes from its own production of gas).

Tab. 3 – Centrica’s profits from its UK energy businesses (operating profit before exceptional items and remeasurements)

Financial Years ending December £million	British Gas Residential Gas & Electricity	British Gas Home Services	British Gas Business	Wholesaling & Trading	Gas Production	Gas Storage	TOTAL UK ENERGY Operating Profit £million	% Increase in Operating Profit
2001	-46	na	44	573		na	571	
2002	218	61	65	72	447	1	864	51,3
2003	136	84	51	81	480	40	872	0,9
2004	242	72	68	-6	779	69	1.224	40,4
2005	90	111	77	-117	1.020	154	1.335	9,1
TOTAL PROFIT 2001-2005	640	328	305	3.329		264	4.866	% increase 2001 to 2005 =134%

Notes to Tab. 3:

- Electricity Generation (7 wholly-owned CCGT stations and an offshore wind farm which has just gone operational) is not identified as a separate segment, apparently being embraced by “Centrica Energy” which also groups together Wholesaling & Trading, Gas Production and Gas Storage. However, these three activities actually account for all of the profits of Centrica Energy, such that Electricity Generation must be being attached to one of them, Wholesaling & Trading being the most likely candidate.
- It is not possible to disaggregate Wholesaling & Trading from gas production before 2002.
- Home Services include the profits/losses made by British Gas Communications, which it is not possible to disaggregate for the whole period.
- The introduction of the new international accounting standard, IFRS, in 2005, affects comparability with earlier years. Here we adopt the approach used by Centrica in presenting its 5-year record for the whole group: 2001, 2002 and 2003 are under UK GAAP and 2004 and 2005 are as reported under IFRS (with 2004 restated).
- Centrica’s remeasurements related to contracts added £456 million to profits in 2005.

Source: Centrica plc, Annual Reports & Accounts.¹³

By developing and sustaining its portfolio (for example, Centrica acquired the Rough Storage field in 2002¹⁴) Centrica’s operating profits have increased by 134% since 2001, including a quite dramatic upturn in 2004 and 2005 when households were on the receiving end of considerable price pain.

¹³ Available from: www.centrica.com (accessed 02/01/07).

¹⁴ Centrica acquired the Rough gas storage facility in November 2002. The facility consists of a partially depleted gas field (the Rough field) in the Southern North Sea, approximately 18 miles off the east coast of Yorkshire,

together with an onshore gas processing terminal at Easington, approximately 27 miles south east of Hull. Further information available at: <http://www.centrica.com/index.asp?pageid=25> (accessed 19/12/06).

Portfolio with generation

The five supply companies other than Centrica are mainly dependent on mid-stream and downstream portfolios to manage their risk, although two of them, E.ON and RWE, are consciously moving upstream in order to cover at least part of their gas requirements from their own production.

How were their increases in profits achieved? In this section we look mainly at two companies, Scottish & Southern Energy (SSE) and German-owned E.ON - the two companies which provide the best, although far from ideal, level of disclosure for our purpose.

From Tab. 4, it can be seen that SSE's profits increased substantially in both 2005 and 2006 financial years ending in March. However, the increase may largely be related to increased volumes of business, both in generation & supply (in 2004, SSE bought the Fife Power Combined Cycle Gas Turbine (CCGT) Plant, and Fiddlers Ferry and Ferrybridge coal-fired power stations in 2005 and, as can be seen, increased the number of its supply customers) and in its other main business segment, energy systems (it acquired a 50% stake in Scotia Gas Networks¹⁵).

Tab. 4 – SSE's customers, electricity generation and operating profits from its UK energy businesses (before exceptional items and remeasurements)

Operating Profit (£m) Financial Years to end March	2001/02	2002/03	2003/04	2004/05	2005/06
ENERGY SYSTEMS	304,1	311,4	317,5	336,8	372,7
GENERATION & SUPPLY	292,1	280,7	286,5	362,1	416,6
OTHER BUSINESSES	70,3	79,4	76,3	94,3	106,0
of which GAS STORAGE	na	na	11,4	18,3	27,3
of which CONTRACTING, CONNECTIONS & METERING			48,7	47,5	50,4
TOTAL OPERATING PROFIT	666,5	671,5	680,3	793,2	895,3
Electricity & Gas Supply Customers (millions)	4,6	4,8	5,2	6,1	6,7
Electricity Volumes Sold (TWh)	38,2	35,8	39,4	47,7	49,9
Electricity Generated (TWh)	19,2	23,1	23,2	38,8	41,1
% Electricity Sales from Own Generation	50,3	64,5	58,9	81,3	82,4

Source: Scottish & Southern Energy, Annual Reports & Accounts.¹⁶

On the other hand, it can be anticipated that SSE's strategy will begin to bear fruit during this financial year. The prospect is clear: SSE has acquired more than 2 million supply customers since 2001. But, according to SSE's Chief Executive¹⁷ price increases have only been "delayed" since 2004 and, indeed, there have been two sharp price increases since the beginning of 2006 and an announcement of a further increase at the beginning of 2007. In other words, a profits harvest from newly-captured customers seems likely. In addition, SSE is now much better placed to profit from its own electricity generation: it has raised the proportion

¹⁵ Scotia Gas Networks plc (SGN), in which SSE holds 50 per cent of the equity, acquired the Scotland and the Southern gas distribution networks from National Grid. More information available at: http://miranda.hem-scott.com/lir/sse/html/rns_interims_2006_11_15.htm

(accessed 19/12/06).

¹⁶ Available at: www.scottish-southern.co.uk (accessed 19/12/06).

¹⁷ SSE Annual Report & Accounts 2006, p.8. Available at: www.scottish-southern.co.uk (accessed 19/12/06).

of the volumes sold sourced from its own production from 50% to over 80% (see Tab. 4), and acquired a flexible portfolio of plants.

An early indication that this prognosis for SSE will actually materialise is contained in its Interim Results to end September 2006.¹⁸ Operating Profits from generation and supply are reported as having increased by 56.8%.

E.ON (trading as Powergen), the UK's second ranking supply company after Centrica (7.9 million residential electricity and gas accounts in 2005, compared with Centrica's 17.1 million¹⁹) presents us with a more complex pattern of vertical reintegration. Principally, E.ON does have some upstream gas production (via E.ON Ruhrgas North Sea Ltd), and, according to its group level Report & Accounts, its UK operations only account for 18% of its global turnover: E.ON is the world's largest private sector energy utility.²⁰

The contrast with Centrica is immediately apparent: E.ON in the UK is a mid-stream and downstream company, with almost half of its £2.8 billion in operating profits over the past five years coming from its retail customers. Moreover, the way in which E.ON makes its portfolio work is transparent. The shaded cells in Tab. 5 again indicate the energy business segments which have registered increases in profits compared with the previous year. Two aspects are particularly striking.

Tab. 5 – E.ON's profits from its UK energy businesses (operating profit before exceptional items)

Financial Years ending December £million	Energy Wholesale (Generation & Trading)	Electricity Distribution	Retail (Domestic & Industrial)	Central/ Unallocated Profits	TOTAL UK ENERGY Operating Profit £million	% Increase in Operating Profit
2001	168	118	49	104	439	
2002	91	129	105	83	408	-7,1
2003	-19	155	421	26	583	42,9
2004	108	241	352	-90	611	4,8
2005	152	350	387	-148	741	21,3
TOTAL PROFIT 2001-2005	500	993	1.314	-25	2.782	% increase 2001 to 2005 = 69%

Notes to Tab. 5:

- Energy Wholesale Operating Profit for 2005 excludes a £327 million gain on derivative trading.
- 2001-2003 under UK GAAP, 2004 and 2005 under IFRS.

Sources: E.ON UK plc and PowerGen plc, Annual Reports & Accounts.²¹

Firstly, like other supply companies, E.ON clearly greeted the end of price control on the residential/retail market by increasing its mark-up: while total retail customer numbers declined from just over to just under 8 million, retail profits rose by £316 million in 2003. Secondly, while retail profits were rising, profits from

¹⁸ Available at: www.scottish-southern.co.uk (accessed 19/12/06).

¹⁹ E.ON Annual Report, 2005, Form 20-F. Available at: www.eon.com (accessed 02/01/07).

²⁰ Financial Times Global 500, 2005. Available at: <http://www.ft.com/reports/ft5002006/> (accessed 02/01/07).

²¹ Available at: www.eon.com (accessed 02/01/07).

electricity generation (E.ON owns about 10% of UK generating capacity, allowing it to supply 63% of its final customers) and wholesale trading were falling. And while retail profits were falling or stagnant, profits from electricity generation and wholesale trading were rising sharply (in 2004 and 2005) in compensation. Nor was this a chance occurrence; it was an explicit function of strategy.

For example, in response to falling electricity wholesale prices in 2002 and 2003 E.ON stated, «exposure to low wholesale electricity prices in the UK is partially hedged by the balance provided by its recently expanded retail business».²²

Conversely, when wholesale electricity and gas prices rise, the company benefits from its electricity generation and newly acquired upstream gas production, but also passes on a significant portion of this increase to retail customers, «E.ON UK's exposure to (high) wholesale electricity prices in the UK is partially hedged by the balance provided by its retail business», and, «in response to these increases in wholesale prices UK suppliers including E.ON increased their retail electricity prices a number of times during 2005».²³

A similar perspective and strategy has been espoused by French state company EDF. In 2004, the company stated that its objective in the UK was «to develop a vertically-integrated operation by acquiring an electricity generating capacity which would fully cover its residential clients, seeking to optimise the total margin between Sales Revenue and Production».²⁴

Subsequently, EDF was able to report that although wholesale energy prices in the UK in 2005 rose by 67% in the case of gas and 70% in the case of electricity, the cost of EDF's own supplies only rose by 29%, an achievement resulting from vertical integration and hedging. According to the company, «Due to the vertically-integrated nature of the Group the electricity procured from the generation business provides a natural hedge for the electricity demand from the retail business».²⁵

A further detail of this strategy is the ability of supply companies to hedge their risk within their generation assets by holding a flexible portfolio of plant, particularly substantial coal-fired generation assets alongside gas. In E.ON's case, Tab. 6 illustrates how it used this capacity between 2002 and 2005, with reduced proportions of its electricity being generated from gas noticeable in 2003 and 2004 when wholesale gas prices started to rise sharply (in 2005 E.ON's gas-fired capacity increased sharply).

Tab. 6 – E.ON's flexible electricity generation capability

	2002	2003	2004	2005
Electricity Produced TWh	33,6	35,9	34,9	37,3
Of which from Coal %	58	65	62	56
Of which from Gas %	42	34	37	42

Source: E.ON Group Annual Reports on Form 20-F.²⁶

²² E.ON Annual Report on 20-F, 2003, p.76. Available at: www.eon.com (accessed 02/01/07).

²³ E.ON Annual Report, 2005, Form 20-F, p.62. Available at: www.eon.com (accessed 02/01/07).

²⁴ EDF Document de Base 2004, p.136. Available at:

www.edfenergy.com (accessed 02/01/07).

²⁵ EDF Energy plc, Annual Report, 2005, p.2 (available from the UK's Company's House).

²⁶ Available at: www.eon.com (accessed 02/01/07).

Policy implications

What should be the policy response to the way in which the UK's fully liberalised market has affected domestic gas and electricity consumers, an experience which might be summarised as «companies making hay while customers pay»? Three possibilities suggest themselves, on an ascending level of regulatory intervention.

At the lowest level, the least that should be done is to compel companies to disclose sufficiently disaggregated detail about their operations so that the public and their representatives and watchdogs may at least see clearly how their gas and electricity suppliers are behaving towards them. The principle of reporting transparency needs to be firmly established. Here Centrica is almost a model - much of the argument which we have been able to develop in this paper has depended on Centrica's relatively high level of transparency. However even Centrica, like the other major suppliers, should deliver segment financial and operating data about its electricity generation operations.

At an intermediate level, if companies insist on a publicly-expressed oligopolistic right to pass through increases in their costs to their domestic customers, then those costs should be subject to regulatory scrutiny. Here the focus should be on wholesale gas and electricity costs, to ensure that only costs which companies can demonstrate that they are actually incurring should be capable of pass-through. Such scrutiny of pass-through costs was at one time previously part of British Gas' regulatory regime.

The disadvantage with this last, intermediate level of intervention, is that there is no kind of check on whether the pass-through cost is also a lowest cost, thereby providing no incentive for companies to procure efficiently. This problem is a familiar one under regulatory regimes and in fact the aforementioned scrutiny of pass-through costs was ultimately incentivised by way of an allowed, as opposed to an actual, gas cost pass-through. But then we arrive at the third possibility, the re-introduction of price control regulation for domestic gas and electricity prices.

And why not? This is what happens in most of the rest of the world and the behaviour of the UK's Big Six gas and electricity suppliers in a market environment demonstrably unconstrained by competition, while it may be quite legitimate from a legal perspective, also leaves the consumer to bear all of the price risk. While the Big Six have set themselves up with asset portfolios which allow them to hedge their price risks, at the ends of the gas and electricity chains are domestic customers - and they have experienced prices which are flexible in an upwards direction, but sticky downwards.