

Has increased competition in the energy sector benefited customers?

Steve Pitman and Lisa Hammond

November 2005



Deregulation is putting overwhelming pressure on utility companies to cut costs and find new growth opportunities. We are seeing executives react with a range of strategies but, as once-predictable energy markets become volatile, they are confronted by a painful irony. Amid this turmoil, they can only improve performance by pursuing a new operating agenda: increasing their efficiency by enhancing operations across the board – from their generating facilities to their call centres – and thereby offering better value to customers. Find out what utility companies need to do to thrive in a difficult market.

Britain led the way in liberalising its energy and utilities markets, starting with the privatisation of British Gas in 1986 and with the electricity industry following suit in 1990. Other European Union countries have taken a different approach: national and regional monopolies continue to dominate many domestic markets, especially in France and Germany; in fact, nine of the 14 British regional electricity supply companies privatised in 1990 are now owned by three large continental utilities: RWE and Eon of Germany and EDF of France (see Figure 1). However, in Germany, despite official liberalisation in 1998, the market is as closed as ever. The big four groups – Eon, RWE, Vattenfall Europe, and EnBW – control around 70% of the generation and transmission market. Another 900 smaller groups in electricity and 700 in gas, most controlled by municipalities, are active in distribution. Third party access to the grid is still very complex in Germany. Another significant difference in the approach taken in Britain is separation of ownership of transmission networks from sources of utilities, such as power stations and from utility retail suppliers selling electricity and gas to households and business customers.

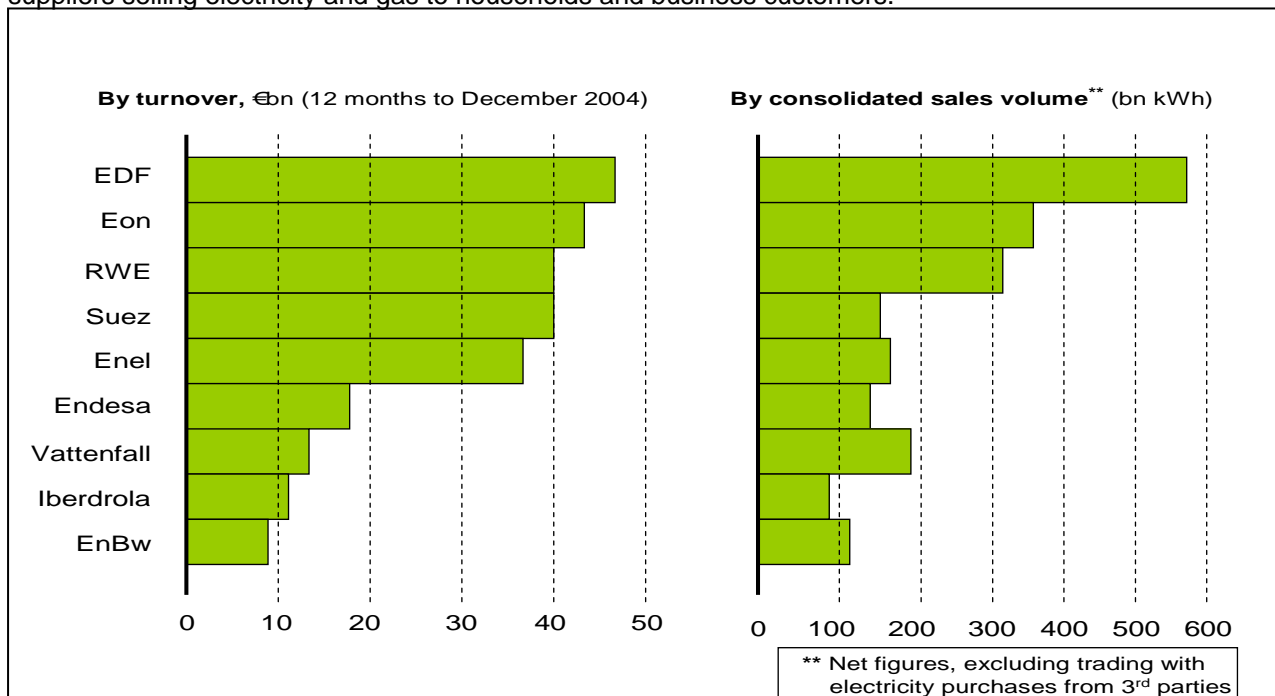


Figure 1: Europe's largest electricity companies (Source: Barclays Capital, RWE Aug 2005)

The aim of privatisation was to increase competition in utilities, such as electricity, gas, and water, for the benefit of consumers and shareholders. However, despite deregulation, energy and utility prices appear to have reached a tipping point for many domestic customers and industrial users, as the hectic pace of utility inflation outstrips the capacity of companies to pass on higher costs to customers without complaints and defections to competitors. Furthermore, the International Energy Agency (IEA) expects global electricity consumption to double by 2030, but reserves of easily accessible oil and gas are running

out (see Figure 2). Prices are only likely to increase further as oil stocks diminish. Amid fears about the developed world's dependence on Middle Eastern oil and concerns over global warming, there has been a resurgence in interest in nuclear energy.

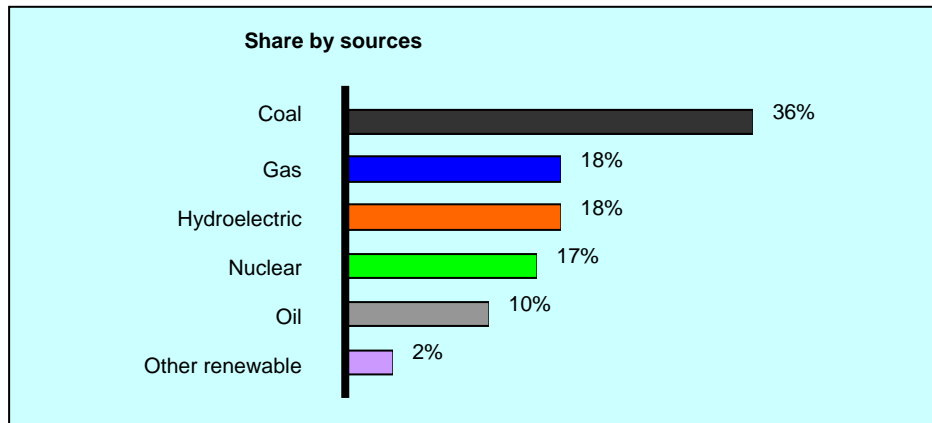


Figure 2: Global electricity generation (source: IEA, World Nuclear Association, Centrix analysis)

For all kinds of businesses, the looming energy crisis is an issue. European, US and Asian stock markets all fell as oil reached \$60 per barrel, and corporate executives from many different sectors and from countries around the world issued a series of high-profile profit warnings. Shares in energy-intensive companies, such as manufacturing and transport, were hardest hit. Yet even those companies that have previously minimised the pain by passing on price increases to their customers are finding it harder to do so. For instance, FedEx, which has been a leading beneficiary of booming global trade, broke its winning streak by warning that 2005 earnings would be hit by jet fuel costs – despite an automatic surcharge for customers. The metals industry, which had been enjoying its best growth for years, is now squeezed between the high cost of energy-related inputs such as electricity and coal, and slowing demand from leading customers. The CBI – which represents 240,000 UK businesses, more than 20,000 of them manufacturers – found that orders in May and June 2005 were their weakest since October 2003. Corus, the Anglo-Dutch steel producer, warned it might have to shut its aluminium plant in Voerde, Germany, because of high electricity costs. In the retail sector, Wm Morrison and ASDA revealed they were struggling in the face of higher oil-related costs. In the US, the chemical industry's natural gas costs have increased by over £5.5 billion in the past two years and that rise has cost £28 billion in sales lost to foreign competition.

Companies must respond to rising energy prices

As gas and electricity prices soar, industries that rely heavily on electricity are taking steps to limit their energy consumption. UK companies are going to be particularly hard hit because they don't benefit from the government subsidies available to continental suppliers. On top of that, around 40% of the UK's electricity is supplied by gas-fired power stations. With the supply of domestic North Sea gas running out, the UK will soon become a net importer, and such supplies will be more expensive and more vulnerable to disruption. We've already seen a steady rise in wholesale gas prices since 2003 (see Figure 3).

Fixed-price gas contracts rose from between 20-25 pence per therm in summer 2002 and 25-28 pence per therm during winter 2002 to 37 pence a therm for winter supplies in 2003; gas contracts this winter will cost as much as 80 pence a therm. Europe's plan to control the greenhouse gases responsible for global warming will also lead to higher energy prices for both domestic customers and businesses, and accelerate the shift from coal to gas as the primary fuel used in power plants. The cost of regulating emissions will be borne by customers, by industrial users and by utilities whose operating margins haven't improved sufficiently to cover the cost of necessary coal plant write-offs. Moreover, the shift from coal to gas for generation will increase demand in Europe for gas, prompting development of new and less accessible gas fields – again pushing up the price of gas and of electricity generated from gas-fired power stations.

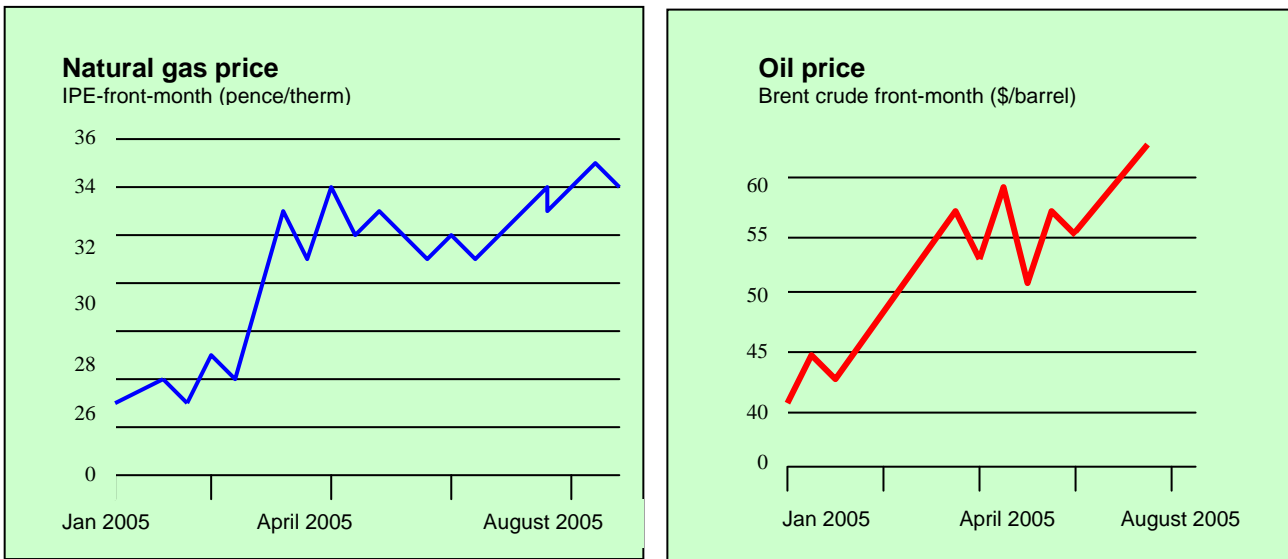


Figure 3: Market share and performance tell the story (Source: Reuters and Centrix analysis)

While domestic users may see prices rise by up to 15% and industrial users see even greater increases (see Figure 4), we think the long-term impact on overall demand will be small. Most domestic users have little scope for switching from electricity to other energy sources: a computer can't run on petroleum. Heating accounts for less than 10% of electricity use, and the heavy cost of switching fuels makes it realistic only for new buildings and renovations. But though total demand may not alter much, usage patterns might change as people avoid the peak prices of high-load hours, and as businesses gradually move to places where energy is cheaper.

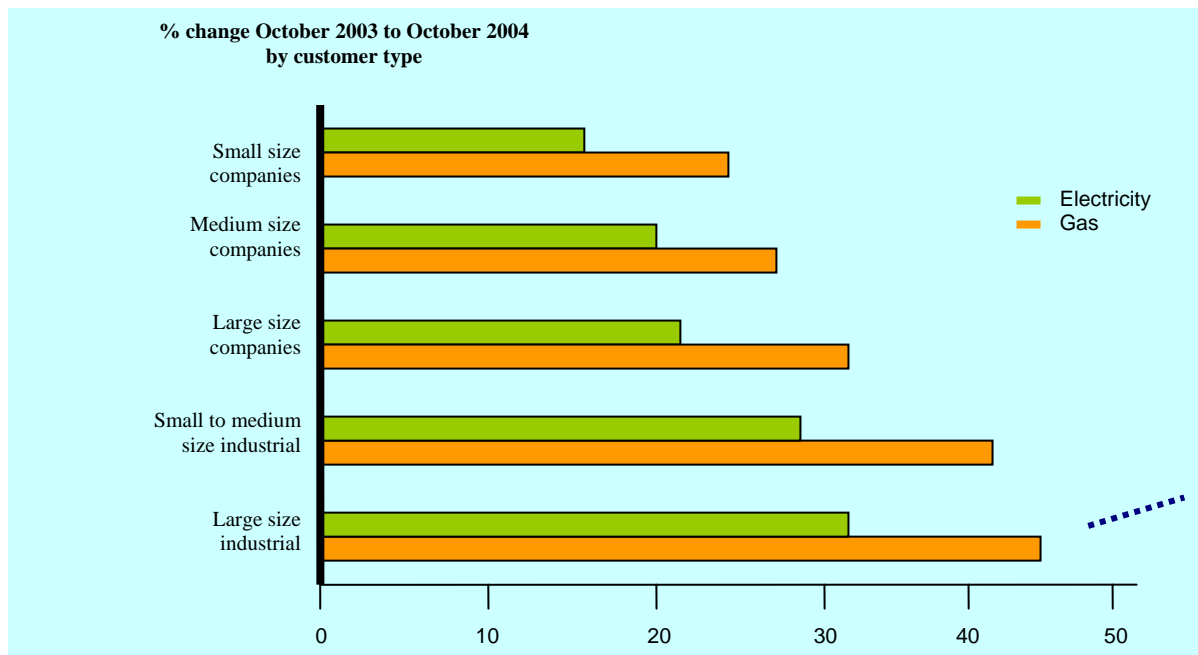


Figure 4: Effect on business customers' bills (Source: Ofgem, FT montage, and Centrix analysis)

European utilities: challenges and the value chain

For European utilities to be successful, they will need to overcome the current challenges they face, which are summarised in Figure 5. For example, is the company able to respond quickly and effectively to market changes? Does it have mechanisms in place that promote greater efficiency in its internal operations? Is it capturing all potential economies of scale and scope, fully capitalising on the potential of shared services, outsourcing and offshoring opportunities and backing that up with the development of internal capabilities to manage relationships with outsourcers and offshorers? And does it have the necessary resilience to deal with security risks and threats?

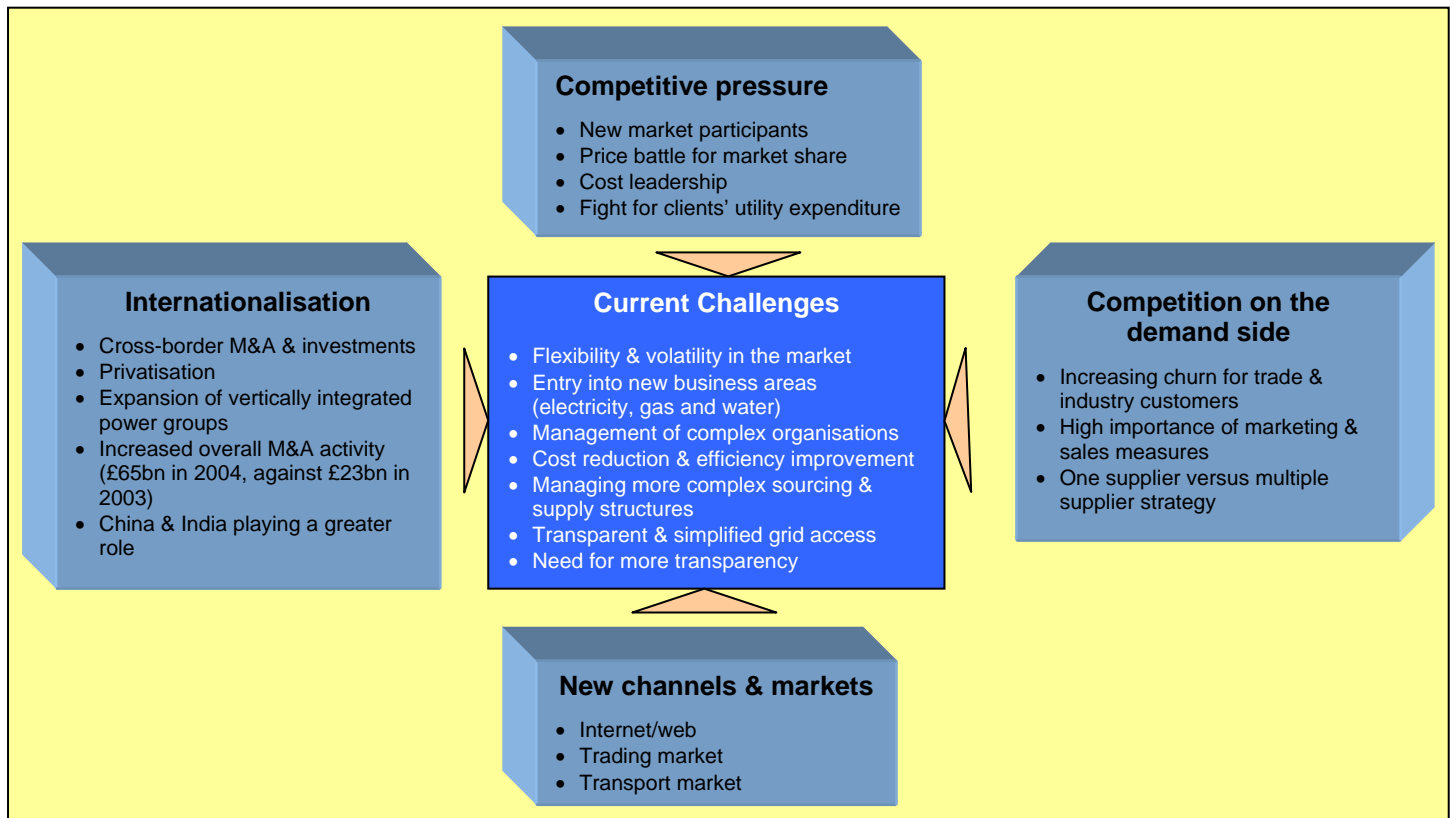


Figure 5: The challenges facing European utility companies

Moreover, to exploit the market opportunities resulting from deregulation, the utility industry must balance two structurally and economically different tasks: the upstream business of energy generation and trading; and the downstream business of transmission, distribution, sales and customer care activities. Consider Stawag, a small municipal utility in Aachen, Germany. Despite seven years of liberalisation, German energy market is as closed as ever. But, Stawag, which has 160,000 customers, is an example of what liberalisation of energy markets could achieve. Stawag has reinvented itself since the German market was officially opened up in 1998 (see *Change management or Reinvention* by Pitman and Hammond). The company founded a common energy trading company with 30 other municipal utilities from Germany and the Netherlands. Stawag has separated its grid business from its sales activities and started a company to deal with billing services for other utilities and traders. The company now earns more than it did before.

Most utilities could increase their agility and efficiency across this value chain (see Figure 6), from their generating facilities to their call centres.

Generation – size matters, but only to a point

The economies of scale in energy generation derive mainly from the bargaining clout that size gives a company when it negotiates for fuel and other supplies. Yet even this benefit is limited if the fuel market is liquid and suppliers are fragmented. In any case, generators do not need to merge their entire operations

to aggregate purchases. The procurement consortium formed by a number of European utilities is a sensible move to deliver lower prices to customers by passing on big savings from prudent procurement through a shared Internet portal. Scale can also deliver benefits in two other areas: effective portfolio management and investment in new capacity. Companies that regularly build new plant are likely to enjoy scale advantages in the form of lower prices and better delivery terms from equipment providers and can also keep abreast of technological developments and ensure they are using the most economical technologies in their plants.

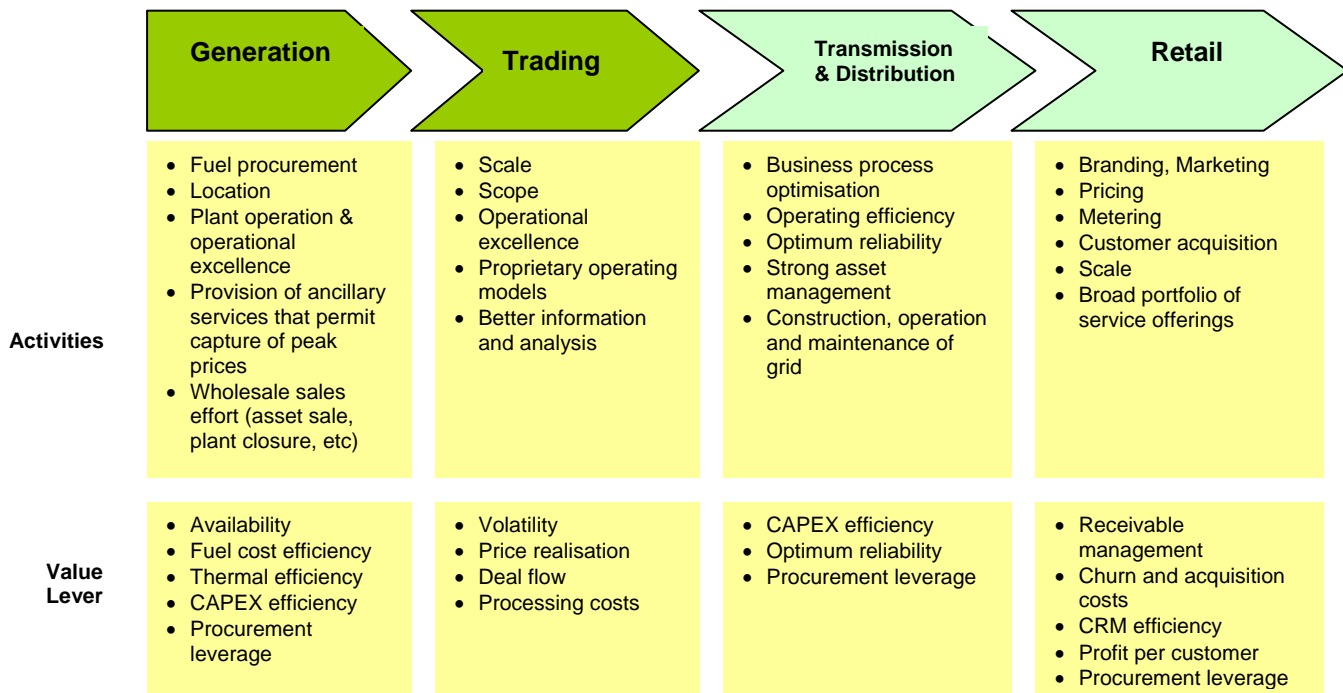


Figure 6: Utilities value chain and measurement criteria

Trading – scale matters

Further along the value chain, the economics are different. Traders without sufficient scale will not have access to the kind of market knowledge needed to create and price new products cost-effectively and to balance their portfolio of risks. In addition, they will lack credibility with trading partners for purchase and supply contracts, while they will earn less from trading commissions. Scale is important for two other reasons in this part of the value chain. First, since most costs and investments in the trading business are fixed, it is critical to generate sufficient volumes over which to spread the costs. Secondly, scale signals prestige and staying power and can help attract the best skills to a trading company, ensuring it can negotiate good deals.

Transmission and distribution – scale is not important

In this part of the value chain, some 15% to 20% of the total cost base is fixed. The rest depends on the number of customers and size of the network. Therefore, economies of scale are limited mainly to procurement, and a huge change in scale will be needed to achieve meaningful savings. For example, if all of the regional electricity companies in the UK were to aggregate their purchasing, they would probably make sizeable savings, but just two or three regional electricity companies banding together would not.

Retail – size is less important

At the retail end of the value chain, size matters less. In commercial retailing to a relatively small number of business customers, costs depend mainly on the number of customers a utility company has, and fixed costs – IT systems, product development, sourcing and marketing – tend to be modest compared to the overall cost structure. In most cases, large size is unlikely to create much of a cost advantage, though it might enhance a company's reputation.

In retailing to the mass market of domestic householders, the picture is slightly different. The expense of many infrastructure items – IT systems, call centers, billing, marketing, and branding – is partly fixed. These items can be extended to serve a larger customer base without a proportionate increase in costs. However, two more considerations are important in weighing the value of size in retailing. First, the cost base of any utility depends on the characteristics of its offer, the kinds of customers it serves, the configuration of its business system and its technology: marketing skills as well as costs are a critical success factor. Therefore, smaller retailers that focus on niches can be more profitable and successful than larger retailers. Secondly, because many economies of scale don't extend across regional or national boundaries, pure size is little help when competing in international mass markets.

A new operating agenda for European utilities

Our analysis suggests there is no single approach for a utility company to follow along the value chain. It appears that small is beautiful in the utilities sector, yet merger and acquisition (M&A) activity in this sector is at its highest level since the late 1990s, nearly trebling from £23 billion in 2003 to £65 billion in 2004. The US led the way, with purchases jumping from £10 billion in 2003 to £31.85 billion in 2004, overtaking Europe as the biggest market for utility acquisitions. But the value of European deals also rose, up almost 90% to £18 billion, while the total value of purchases in the Asia-Pacific region more than doubled to £8.3 billion.

The resurgence in both the value and volume of global deals reflected a series of strategic shifts in the utilities sector. These included the emergence of infrastructure and private equity buyers, as well as increased purchases by Asian utilities and investment companies. The trends also indicate that the desire to create global businesses, which characterised purchases in the 1990s, has been replaced by a drive to consolidate the position of electricity and gas suppliers in domestic and regional markets. Rising energy prices have also prompted a surge in purchases of gas-related businesses as companies have sought to secure assets in a world that is placing an increased value on gas. Despite these trends, current evidence suggests larger is not necessarily better: a recent study by management consultants McKinsey found that large utility companies deliver lower returns to shareholders, while the larger a utility company, the lower its return on capital (ROC) relative to its costs of capital.

If neither shareholders nor customers are benefiting from this high level of M&A activity, what do European utilities need to do to create value for their stakeholders and be able to offer lower prices to customers? We believe there are four tasks they need to undertake:

- simplify the organisation;
- address cost restructuring in a meaningful manner;
- improve productivity and efficiency with prudent use of IT (see [Taming the beast: containing spiralling IT infrastructure costs](#) by Pitman and Fuller); and
- develop a service culture.

Simplify the organisation

Traditionally, financial responsibility for earnings drivers in utilities – power generation, trading, transmission, distribution, and retailing – has rested within the head office. Deregulation now provides opportunities for profit responsibility to be pushed down the organisation to business unit level, to allow executives at that level to manage profits as well as costs. In addition, introducing a market-focused shared service organisation (see Figure 7) allows executives within business units to look for quality improvements in centrally provided services, yet link such changes to the costs they are willing and able to pay for. Moreover, shared services organisations become not only more effective suppliers to internal customers but also expert advisers on what services may be available inside or outside the company (see [Designing shared services for profit](#) by Pitman and Hammond).

PRICE TRANSPARENCY	Each service bundle should have its price. The business can determine how much service it wants at that price
BUSINESS MANAGEMENT	Manage the service like a business, not a fixed cost. Serve internal and potentially external customers
MARKET RESPONSIVENESS	Provide the service level the business units want, and the level they think need
BEST PRACTICES PROLIFERATION	Identify and deploy best practices rapidly and across geographic locations
PROCESS STANDARDISATION	Develop streamlined process standards that can be maintained and improved quickly
SERVICE CULTURE	Treat business units like customers, offering services they value and charging for each

Figure 7: Fundamental Shared services Principles (Source: Booz Allen & Centrix Analysis)

Address cost restructuring in a meaningful manner

Shareholders often hear a lot of talk about cost restructuring, but rarely see any benefits. Sometimes that's because cost reductions end up depressing sales; on other occasions, savings are "reinvested" to keep revenues growing. Many executives outlining a heroic restructuring plan are simply running to stand still: even for a utility with flat sales, a large part of its fixed-cost base may still grow above inflation (see [Change management or Reinvention?](#) by Pitman and Hammond). Much of the time, executives and shareholders are simply talking two different languages – or the mooted cost reductions are merely financial wheezes. A number of utilities opted for lengthening their asset lives and brandished their subsequent reduced depreciation charges as evidence of cost-cutting prowess.

We believe that pragmatic and sustainable cost reduction requires utility companies to undertake an integrated cost reduction programme across three levels: *business*, *service*, and *technology* (see Figure 8). The main reason most utility companies fail to achieve sustainable cost reduction is that they initiate *ad hoc*, discrete and uncoordinated cost-reduction projects, instead of developing solutions at each level that are connected to the other levels.

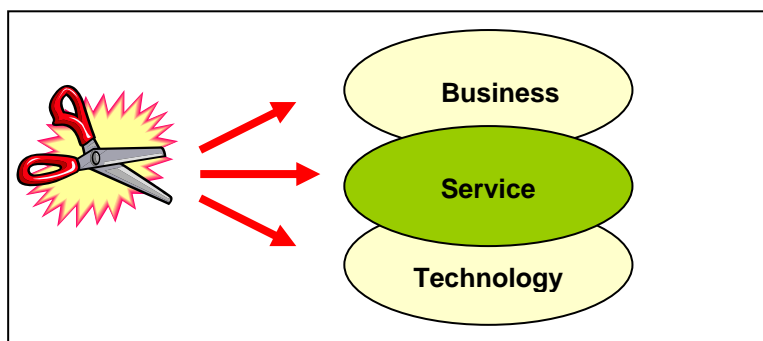


Figure 8: Cost reduction at three levels

A cost reduction programme should typically include the following initiatives within a decision making framework to ensure that efficiency improvement initiatives are integrated and create sustainable value:-

- Concentrate infrastructure services (such as IT, data processing), telephone, power generating plants, property and purchasing functions in one "manufacturing" unit, so that business divisions dealing directly with customers can concentrate on winning new business.
- Hire procurement and supply-chain specialists from a broad range of industries as staff, not consultants, so that the company can exploit best practices.
- Standardise equipment used throughout the business and then use the group's purchasing power to achieve maximum economies of scale.

- Do not focus solely on price, but encourage the company and its suppliers to look at maximising value, if necessary by re-engineering processes inside or outside the company.
- Avoid falling prey to large outsourcers or service providers, who have a vested interest in locking clients into their business model, so that they can increase their fees – and your costs – as your business needs change.
- Allow suppliers to make a decent profit, so they will be available when needed.
- Streamline underlying processes, and implement common solutions (such as, Secure Access For Everyone – SAFE) to common needs; differentiate brands by offering additional customer services.

Improve productivity and efficiency with prudent use of IT

Utility companies can dramatically improve their performance by embracing best management practices: eliminating unnecessary tasks, aligning all tasks in a process in a continuous flow, recombining workers into cross-functional teams dedicated to that process and continually striving for improvement. In this way, utility companies can procure and distribute services with less human effort, time, and overall expense.

In the service industries, IT has established itself as a vital strategic tool. But it has yet to deliver the same value in the utility sector. The implementation of applications such as Enterprise Resource Planning (ERP) and Customer Relationship Management (CRM) has proved time consuming and highly risky. Often the implementation costs of these systems have outstripped initial estimates by many times, The only winners are the systems integrators; the projected benefits for the utility company fail to materialise in most cases.

Frustrated with escalating costs, many utility companies have decided to outsource business-critical functions in the value chain: offshoring billing and call centre operations on long-term contracts, for instance (see [Offshoring: Saviour or Value Destroyer?](#) by Pitman and Hammond). Rarely have they carried out a thorough economic value assessment prior to making those moves. The flaw in this approach is that it depends on utility executives placing big bets about their markets, future technologies and suppliers' capabilities and motives – and assuming the odds of them getting those predictions wrong are low. The simple truth is this just isn't possible: the market, technologies and the regulatory environment are too volatile, unpredictable, and complex. Outsourcing activities may seem to be a no-brainer if you believe the hype generated by outsourcing and offshoring service providers: by unloading activities, utilities can shed balance sheet assets and boost their OPEX in the short term. However, they can't necessarily deliver sustainable profit growth in the medium to long term. Executives in utilities should be looking to maximise flexibility and control, so they can pursue different options and tactics as their understanding of the market develops or their business circumstances change.

Develop a service culture

Delivering services to customers will be a challenging task for most utilities, since their operations exist in functional silos. In future, instead of providing electricity, gas or water connections to customers, they have to become *service makers*. In this operating model, customers describe what services they want, where and how they want them and utility companies deliver them, without compromise or delay. The role of the customer in this operating model shifts from passive recipient of connections to active shaper of customised services. This increasing dominance of customer choice means utility companies must restructure generation, trading, transmission and distribution, retailing, sales and customer relationship processes and IT applications and IT infrastructures. Once a utility company has gained this increased control over its relationships with its customers and made this cultural shift, it can use its store of customer information to expand into adjacent markets. It is clear that the victors will be those utility companies with the best-designed service aggregation capabilities, the most responsive networks of partners in the value chain, and the closest customer relationships (see [Why integrate, when you can aggregate?](#) by Pitman and Hammond).

What does this mean for utility companies?

It is clear that European energy markets are not yet functioning on a competitive basis, and the region's energy markets are being distorted by anti-competitive practices. Gas and electricity markets in many member states are still concentrated in the hands of a few operators, giving scope for incumbent operators to influence prices. Outside competitors find it difficult to enter European energy markets because incumbents retain a grip on gas imports and in particular, supply pipelines. The lack of transparency about the way European energy markets operate benefits only the incumbents and undermines the position of new entrants. Barriers to cross-border supply of gas and electricity are also hampering the development of integrated EU energy market. Despite EU directives aimed at opening up Europe's energy markets to competition, gas and electricity markets in many countries – such as France and Germany – continue to be dominated by large, incumbent operators.

In 2003, the UK enjoyed the best of all worlds. Economic growth outstripped most of her competitors. The UK's energy prices were below the European average and carbon emissions were falling while many others were struggling to prevent theirs from rising. In 2005, the UK's economic growth has fallen below trend, the energy prices have risen rapidly to among the highest in Europe (see Figure 9) and carbon emissions have started to rise again.

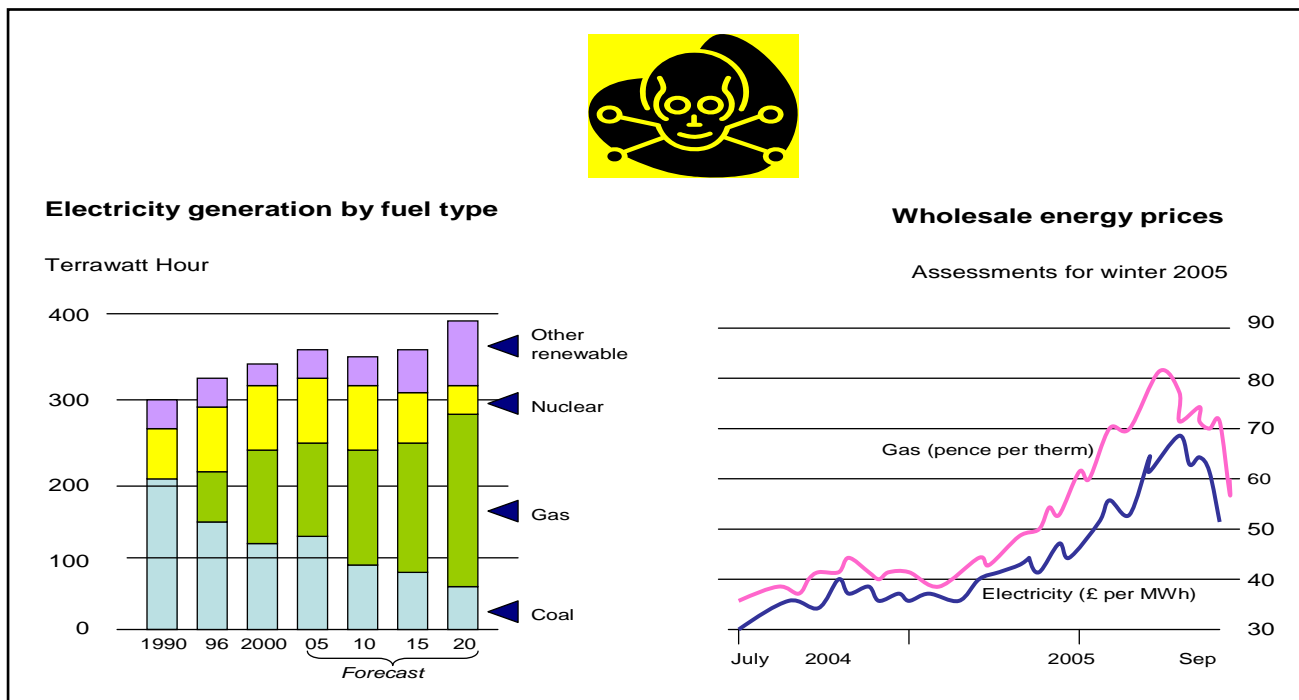


Figure 9: The UK energy costs have soared in the past two years (Source: DTI, Heren Energy Ltd, FT, and Centrix Analysis)

Stories of potential power shortages in the coming winter of 2005 causing factory shutdowns that once seemed alarmist now have a ring of credibility. Various industry groups have expressed concerns over the security of supply that is deterring overseas investors. While high costs relative to the rest of Europe are undermining the sustainability of energy-intensive sectors, such as chemicals, and uncertainty over the future of nuclear power is damaging the UK manufacturing industry. Business users are paying at least 60% more for their energy than they were in January 2004, according to the consumer watchdog, energywatch. For energy-intensive users such as chemical manufacturers, costs have doubled.

In order to combat climate change and to improve the security of supply, the EU needs a unified energy policy instead of a piecemeal approach. It may not be an acceptable route for the policymakers, but the environment does not respect national boundaries (see Figure 10).

Utility companies, therefore, need to ask ourselves some fundamental questions. How did they get here? Do their targets to reduce carbon emissions still make sense? And what should they do now? Much can be explained by what has been happening with gas. Over the past year, the UK has become far more

dependent on imports of gas, exposing the country to distortions in largely un-liberalised energy markets in Europe that leave the UK customers paying more for their gas and electricity.

With consensus amongst analysts that P/Es in 2005 will be around 14 times, utilities are overvalued. These P/E ratios are far above the industry's index, especially when earnings growth is expected to reach only 4%. While investors have focused on the industry's financial recovery, they are likely to place more importance going forward on the profitable growth that would justify these multiples. And passing on the cost to customers on a regular basis to improve the profit growth may not be sustainable.

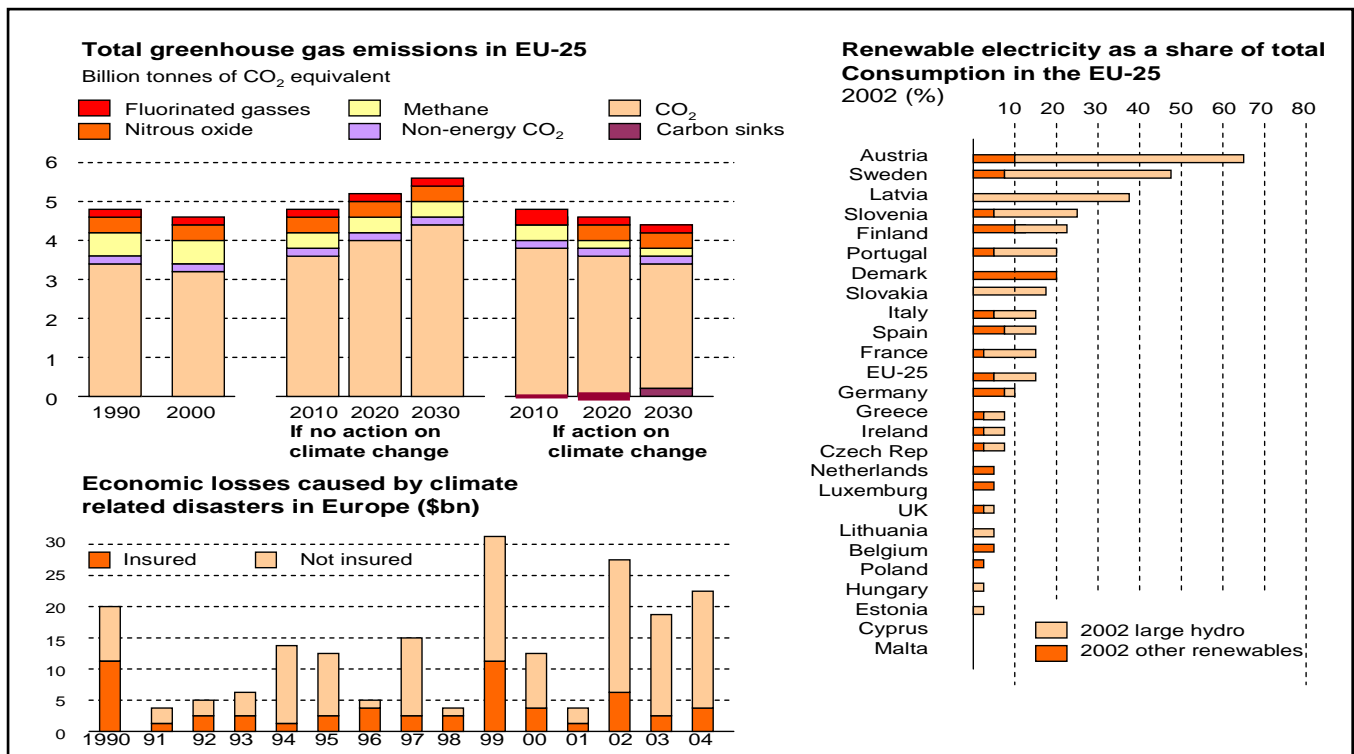


Figure 10: EU needs a unified energy policy to beat climate change and CO₂ emissions (source: EEA & Centrix Analysis)

In order to succeed, utility companies will need to rethink how they manage risk and make investment decisions – especially in IT, and how the elements in their portfolios fit together to create stakeholder value. Operational excellence, technological innovation and strategic cost leadership are going to be essential to compete in the international arena. Doing one or two things well will no longer be sufficient to generate acceptable returns for shareholders or sensible pricing for customers. Successful utility companies must develop expertise across the utilities value chain.

About the authors

Lisa Hammond is the CEO of Centrix; Steve Pitman is a consultant.

About Centrix

Centrix is a leading independent consultancy that brings together the best of business, service and technology to create lasting value for its clients.

What Centrix Brings

Centrix designs effective operating formulae built on both innovative technical solutions and the practical realities of running a successful business. We help utility companies grow their businesses by working with them to: create and implement services aggregation strategies; design secure strategic offshoring and outsourcing platforms; reconfigure end-to-end processes, systems, and services to deliver greater operational efficiency; and design and build shared services organisations. Centrix's approach is set apart by capabilities that help utility companies tie operating and technology decisions to what customers' value most in each territory. When we help our clients in the utility sector align their business to what really matters to customers, they achieve performance breakthroughs.