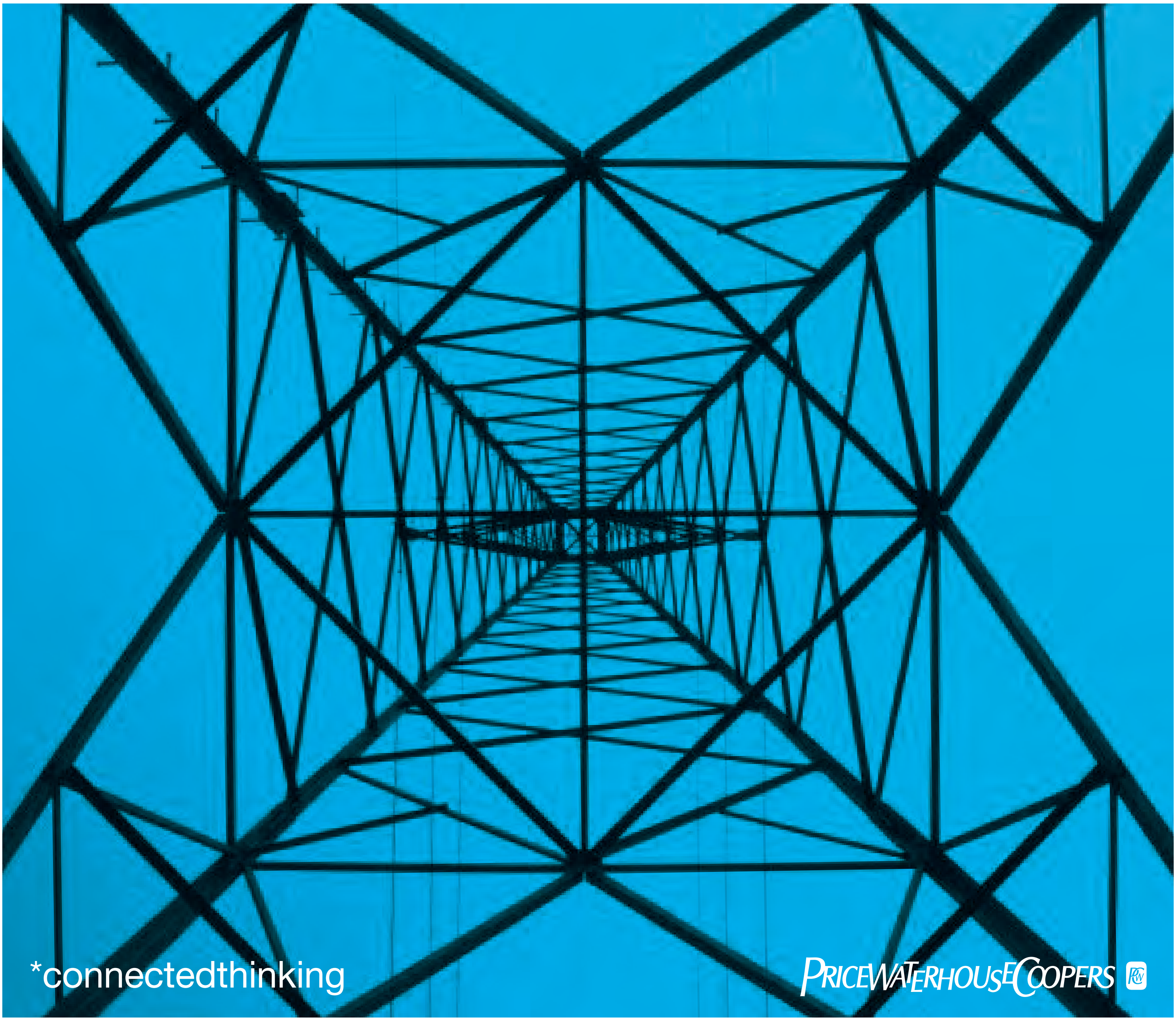
Industries
Energy, Utilities & Mining

Power Deals*

2008 Annual Review

Mergers and acquisitions activity within the global electricity and gas market

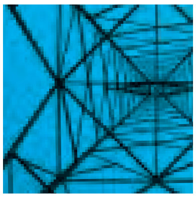


Contents

Methodology and terminology

Power Deals includes analysis of all global cross-border and domestic electrical and gas deal activity. We use the terms 'power utilities sector', 'power utilities' and 'power deals' to cover activity in both the gas utilities and electricity utilities sectors (see detailed coverage below). The analysis is based on published transactions from the Dealogic 'M&A Global' database, December 2008. Analysis encompasses announced deals, including those pending financial and legal closure and those which are completed. Deal values are the consideration value announced or reported including any assumption of debt and liabilities. Figures relate to actual stake purchased and are not multiplied up to 100%. Throughout the report, both for 2008 and previous years, we classify the Russian Federation in a geographic category in its own right and define Asia Pacific as excluding the Russian Federation. The analysed sectors referring to North American Industry Classification System (NAICS) include: electric power generation; electric power transmission, control and distribution; natural gas distribution; natural gas transmission; gas transmission and distribution. The term 'power' used throughout the report defines these categorised sectors. All presented numbers of deals are inclusive of those deals with no reported value. A full list of transactions throughout 2008 is available by visiting the *Power Deals* website at www.pwc.com/powerdeals.

Introduction 01



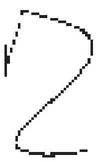
2008 was the year in which power deal values came down from their record-breaking highs of the two preceding years as the financial crisis and a number of market uncertainties had a negative impact on deal activity. Nonetheless, total deal numbers leapt by 24% as companies concentrated on smaller deals and took advantage of new opportunities that arose in the changed market conditions.

Europe was least affected by the downturn in deal values and accounted for over half of all bidder and target power deal value. In contrast, power deals in Australia, which had previously been a main motor of growing M&A activity in the Asia Pacific region, virtually stalled as uncertainty over new carbon emission policies combined with the financial crisis to deter deal flow. In North America, like Europe, big deals were fewer but underlying deal activity was comparable with previous years.

This report examines the rationale behind the overall trends and the key individual deals. We also highlight, in a series of deal dialogues throughout the report, some of the critical issues for companies engaging in deal activity within the sector, drawing on our global experience as an adviser to players in major deals throughout the sector in all key electricity and gas utilities markets.

Looking to the future, the easing of the financial crisis will be key to deal flow but the near-term outlook looks less robust than the recent past, especially as debt markets will be further constrained by calls from the public financing required to support government bail-out programmes. Set against this, the underlying imperatives of consolidation, supply security and capitalisation remain in place and will create increasing pent-up deal demand. A lower energy price environment will change the metrics for more expensive cleaner power assets, placing an even higher importance on the outcome of global climate talks and the run-up to the December 2009 UN Climate Summit in Copenhagen.

Manfred Wiegand
Global Utilities Leader



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02 Report highlights

Numbers surge while values slump

Despite the credit crunch, the number of electricity and gas deals soared to record 954 in 2008, up 24% from 768 in 2007, itself a record. However, values plummeted. Total power deal value was down 41% to US$220bn from the record US$372.5bn achieved in 2007. The fall took aggregate power deal value back to just above the level seen in 2007 ahead of the series of US$40bn plus mega deals that took place in 2006 and 2007.

The disappearance of the mega deal

Unlike the two preceding years, there was a complete absence of vertigo-inducing US$40bn plus deals as the impact of the financial crisis took hold and the players who had figured prominently in earlier deals took time to digest previous acquisitions. Gas Natural's table topping US$35.8bn bid for Union Fenosa was one of three US$10bn plus deals in 2008 compared to nine such deals in 2006 and 2007. US$74bn dropped out of the annual total power deal value as a result of the waning of US$10bn plus deals in 2008.

Nuclear grabs the spotlight

The revival of nuclear power is being reflected in a race among the big players to position themselves globally to capitalise on planned expansion. France's EDF took the spotlight in 2008 as it went on the acquisition trail in the UK and the US for nearly US$30bn of assets in deals with British Energy and for just under 50% of the nuclear generation portfolio of Constellation Energy. The nuclear revival also spurred a number of non-M&A joint venture deals between utility companies and nuclear technology and construction companies.

Gas players sit tight

Gas deals continued to be notable for their relative absence as holders of gas assets sat tight on valuable reserves. Gas deals comprised 11.6% of all power deals and just 7% of total power deal value. The tight hold companies are exerting on gas assets was illustrated by Origin Energy's successful resistance to BG Group's US$13.3bn takeover bid with the UK utility company being thwarted in its attempt to secure Origin's prized Australian gas reserves.

04 Deal totals: ups and downs

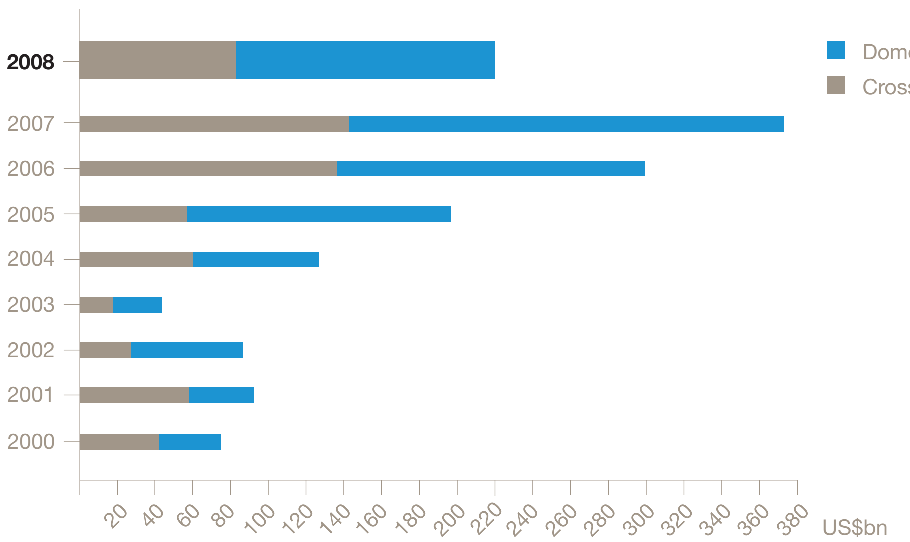
A high incidence of power deal activity contrasted with a slump in values as companies faced new market realities in 2008 following the boom M&A years of 2006 and 2007. The impact of the credit crunch and the wider economic downturn has coincided with a natural pausing for breath by many of the big players as they integrate the big mega-deal purchases made earlier. The deal spotlight shifted away from the top players onto the wider market where activity, if not values, remained buoyant.

Despite the credit crunch, the number of electricity and gas deals soared to a record 954 in 2008, up 24% from 768 in 2007, itself a record number. However, values plummeted. Total power deal value was down 41% to US$220bn from the record US$372.5bn achieved in 2007. It was big deal numbers and value that fell away in particular. While the average value of mid-size deals, between US$250 million and US$1billion, rose 4% to US$499 million, the average value of deals over US$1bn fell by 32% from US$5.6 billion to US3.8bn. The number of US$1bn plus deals fell from 54 in 2007 to 40 in 2008 while, in contrast, the number of deals at the other end of the spectrum (with values below US$250 million) rose by 20%, from 401 to 499.

The drop in deal values takes aggregate power deal volume back to levels last seen in 2005 before the vertigo-inducing highs of 2006 and 2007 (see Figure 1). At US$220bn, the 2008 power deal total was down to just 10% or so above the US$196bn recorded in 2005. In the intervening years, a series of mega deals came to the table with a total of nine US$10bn plus deals announced compared to three such deals in 2008. US$74bn of the year on year US$152.5bn drop in total deal value stemmed from the reduced number of US$10bn plus deals compared to 2006 and 2007.

The fall in deal value was uniform across both gas and electricity (see Figure 2). Gas deals also continued to comprise a small proportion of total power deal activity. At 7% of total value, gas deal value was on a par with 2007 although gas' share of deal numbers edged slightly higher from 11.6% of all power deals in 2007 to 12.8% in 2008 (122 out of 954). Similarly, there was little change in the share of cross-border as opposed to domestic deals (see Figure 3). The overall global totals, however, mask considerable shifts between regions with Europe experiencing the smallest fall in total deal value (see regional section). A quarterly analysis of power deal activity during 2008 (see Figure 4) suggests that the credit crisis and downturn impact was felt fairly uniformly throughout the year with no obvious fall in announcements coinciding with the autumn intensification of the banking and financial crisis. Indeed, the third quarter saw a spike in deal value with the announcement of the two biggest power deals of 2008.

Figure 1: **All electricity and gas deals by value**



Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Figure 2: **Cross-border and domestic electricity deals – 2007 and 2008**

2007		2008		Change in 2008	
Number	Value	Number	Value	% number	% value
679	US$348.3bn	832	US$205.6bn	+23%	-41%

Cross-border and domestic gas deals – 2007 and 2008

2007		2008		Change in 2008	
Number	Value	Number	Value	% number	% value
89	US$24.2bn	122	US$14.4bn	+37%	-41%

Change in all electricity and gas deals – 2007 and 2008

2007		2008		Change in 2008	
Number	Value	Number	Value	% number	% value
768	US$372.5bn	954	US$220bn	+24%	-41%

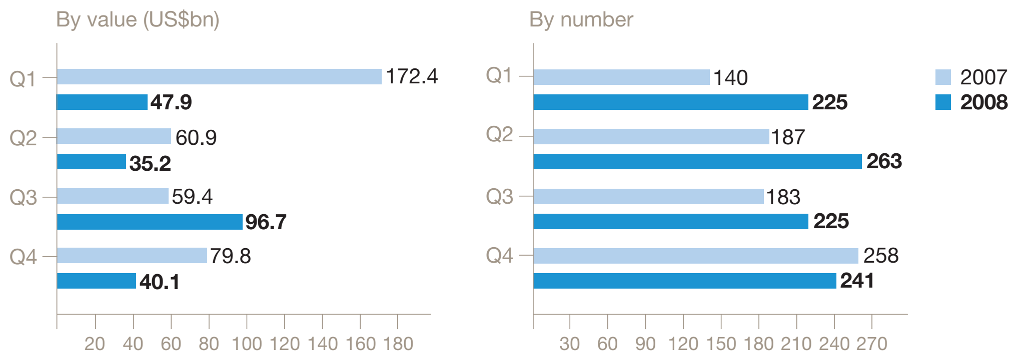
Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Figure 3: **Cross-border and domestic electricity and gas deals**

	2007				2008			
	Number	Value	% number	% value	Number	Value	% number	% value
Domestic	530	US$229.9bn	69%	62%	651	US$137.3bn	68%	62%
Cross-border	238	US$142.6bn	31%	38%	303	US$82.7bn	32%	38%
Total	**768**	**US$372.5bn**	**100%**	**100%**	**954**	**US$220bn**	**100%**	**100%**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Figure 4: **Quarterly tracking of power deals by value (US$bn) and number of deals**



Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

06 Deal makers: the 2008 power players

The revival of nuclear power, continuing power utility company consolidation in Europe, and to a lesser extent in the US, and restructuring in the Russian Federation were the dominant themes behind the biggest deals of 2008. The involvement of European players in over half of all deals was echoed in the top ten table with five of the ten biggest deals involving European companies. Reflecting the big fall in mega deals, however, the total value of the top ten deals in 2008 was just US$98bn in 2008 compared to US$182bn in the previous year.

Spain's Gas Natural headed the 2008 top ten table with a US$35.9bn bid for the country's third biggest power company, Union Fenosa. It was only a matter of time before Gas Natural featured strongly after two previous hostile consolidation bids had came to nought. Its 2003 move for Iberdrola and 2005 bid for Endesa were earlier rounds in a contest for and by Spanish utilities that eventually saw Italy's Enel purchase Endesa in a record-breaking US$68.2bn deal last year and Iberdrola go on an international expansion path that has included the purchase of Energy East in the US and Scottish Power in the UK. Gas Natural was left in need of a partner although it has launched its move for Union Fenosa in difficult market conditions which may have an impact on the final outcome.

Nuclear power played a prominent part in 2008 power M&A activity with France's EDF on the acquisition trail in the UK and the US for nearly US$30bn of assets. The two deals – for British Energy and for just under 50% of the nuclear generation portfolio of Constellation Energy – were key to EDF's international expansion plans as a leading nuclear player. The UK deal was also crucial to the UK government's planned revival of its nuclear programme. British Energy was not in a position to embark on an ambitious new build programme on its own. Competition for the opportunity to spearhead UK nuclear expansion was expected but, in the end, EDF had a relatively clear run although it had to table a slightly higher offer after encountering institutional shareholder resistance to its first offer.

In contrast, EDF's move for Constellation Energy, with whom it already had a joint venture to develop nuclear plants in the US and Canada, was more hard fought. Constellation had faced liquidity problems and a US$4.5bn bid by Warren Buffet's MidAmerican Energy for all of Constellation had looked set to threaten the French group's interests. Constellation had been chosen by EDF as a key partner with whom to develop its nuclear energy business in North America. The MidAmerican bid forced the French company's hand.

Figure 5: **Top Ten – Cross-border and domestic electricity and gas deals 2008**
(Please refer to the Deal places section, pages 8 to 15, for more insights on the listed deals)

No.	Value of transaction (US$bn)	Date announced	Target name	Target nation	Acquirer name	Acquirer nation
1	35.855	30 Jul 08	Union Fenosa SA	Spain	Gas Natural SDG SA	Spain
2	23.143	24 Sep 08	British Energy plc	United Kingdom	Electricite de France SA - EDF	France
3	13.143	20 Oct 08	NRG Energy Inc	United States	Exelon Corp	United States
4	4.500	03 Dec 08	Constellation Energy Group Inc (just under 50% of nuclear generation portfolio)	United States	Electricite de France SA - EDF	France
5	4.212	19 Dec 08	Energie Ouest Suisse (Certain subsidiary assets)	Switzerland	Atel Holding AG	Switzerland
6	3.798	28 Feb 08	TGK-10 OAO (93.4%)	Russian Federation	Fortum Oyj	Finland
7	3.754	14 Aug 08	Power Station (Hydro project in British Columbia)	Canada	Plutonic Power Corp; General Electric Co	Canada
8	3.261	29 Feb 08	Moscow Integrated Power Co OAO – MOEK (Stake%)	Russian Federation	City of Moscow (92%); Gazprom OAO	Russian Federation
9	3.250	30 Jan 08	South Generation Co TGC-8 OAO (95.4%)	Russian Federation	LUKoil OAO	Russian Federation
10	3.139	10 Jul 08	EWE AG (26%)	Germany	Energie Baden-Wuerttemberg AG - EnBW	Germany

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*, based on published transactions from the Dealogic 'M&A Global' database, December 2008.

In the end, EDF paid the same sum that MidAmerican was tabling for the whole company in return for 49.9% ownership of Constellation's five nuclear reactors. The bid, which has been accepted by Constellation, leaves the US energy company free to develop its non-nuclear business as an independent utility company.

An equally intense battle developed for NRG Energy after a US$13bn bid by Exelon went hostile following NRG's rejection of the initial bid. NRG Energy is a wholesale generation company with a diverse range of nuclear, gas, coal and oil-fired generation assets. Again nuclear expansion may hold the key to the deal. NRG is further down the road in gaining approval for new nuclear plants than Exelon but shareholders may feel that, with Exelon, it will be in a stronger position to finance this expansion. Any resolution is likely to be a long drawn out affair. The other North American deal in the top ten saw Canadian renewable company Plutonic Power team up with GE Energy Financial Services to bid for the development of 1,000 megawatts of hydro generation in the Toba and Bute Inlets along British Columbia's southwest coast.

In Europe, there was a distinct pause for breath by the larger utility companies in their race for super major cross-border expansion. Instead, the consolidation focus was at a domestic level. In Switzerland, Atel and EOS announced a combination that will form the leading electricity generation company in the country.

The new company, Alpiq looks set to play a significant role in the power markets of central Europe with 42% of its generation located outside Switzerland in countries predominantly to the east. In Germany, EnBW, the country's third largest energy provider, purchased a 26% share of its peer, EWE that had been held by the company's municipal stakeholders in northern Germany. Significantly, the German and the Swiss deals each also mark expansion for EDF which has stakes in both combined entities. The three remaining deals in the top ten were all from the Russian Federation. They came early in 2008 and saw some of the final pieces of the Russian energy restructuring jigsaw being put in place.

E.ON's 2007 place as Europe's most active bidder was usurped by EDF in 2008 (see Figure 6). Atel was another company active on the bid front as it built up its footprint in Italy, Germany and Bulgaria. Elsewhere in the most active bidders table, Gazprom's moves in 2008 centred around gas trading interests in Armenia and building up stakes in gas distribution companies in Austria, Italy and France. Financial players continue to play an important role in power deal making, bidding for 15% of total 2008 power deal value (see Figure 7). Investment banks (4%), private equity (4%) and infrastructure funds (3%) each had roughly equal shares of activity but really large deals from any financial players were notable by their absence. The highest value purchase came early in the year from Banco Santander of Spain with US$2.6bn worth of stake-building in Iberdrola.

Figure 6: **The five most active bidders** (excluding top ten deals listed in Figure 5)

Rank	Bidder	Number of deals	Total value US$m
1	EDF	7	30,908
2	Atel Holding AG	6	5,513
3	Gazprom OAO	6	1,203
4	Deutsche Bank AG	7	568
5	China Gas Holdings	6	71

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*, based on published transactions from the Dealogic 'M&A Global' database, December 2008.

Figure 7: **Financial and other power deal activity (US$bn)**

	2003	2004	2005	2006	2007	2008
Utilities	26.02	80.64	168.67	246.81	289.15	159.0
Financial and other	17.01	43.01	27.59	52.03	83.38	61
Total	43.04	123.64	196.25	298.84	372.53	220
Utilities	60%	65%	86%	83%	78%	72%
Financial and other	40%	35%	14%	17%	22%	28%

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

08 Deal places: a focus on markets worldwide

Figure 8a : **All electricity and gas deals by continent**

North America	2007	2008	% change
By target value of deals (US$bn)	95.2	**48**	**-50%**
By bidder value of deals (US$bn)	87.5	**40**	**-54%**
Number of deals			
By target	133	**210**	**+58%**
By bidder	146	**224**	**+53%**

South & Central America	2007	2008	% change
By target value of deals (US$bn)	10.8	**4.31**	**-60%**
By bidder value of deals (US$bn)	4.6	**1.58**	**-66%**
Number of deals			
By target	76	**54**	**-29%**
By bidder	41	**30**	**-27%**

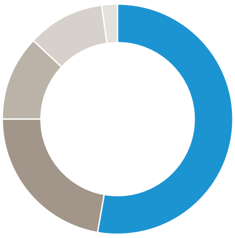
Africa	2007	2008	% change
By target value of deals (US$bn)	0.49	**0.274**	**NA**
By bidder value of deals (US$bn)	0.41	**0.075**	**NA**
Number of deals			
By target	2	**4**	**+100%**
By bidder	1	**1**	**0%**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Europe loomed large in terms of the geographical distribution of deal value, accounting for more than half of the value of all deals – 58% by bidder and 53% by target. The impact of Europe on 2008 power deal totals was attributable to the number of large deals involving European companies. European bidders featured in 34% of all power deals (up slightly from 32% in 2007). However, six of the ten biggest deals and 45% of all US$1bn plus deals were from European bidders.

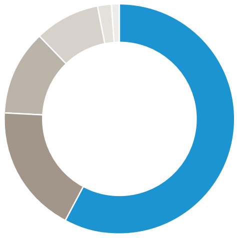
Figure 8b: **All transactions by continent by value of transactions – 2008 (total US$220bn)**
(2007 percentages shown in parenthesis)

By target



- Europe **53%** (36%)
- North America **22%** (26%)
- Asia Pacific **12%** (14%)
- Russian Federation **11%** (21%)
- South & Central America **2%** (3%)

By bidder



- Europe **58%** (43%)
- North America **18%** (23%)
- Asia Pacific **12%** (13%)
- Russian Federation **9%** (17%)
- Middle East **2%** (1%)
- South & Central America **1%** (1%)

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Europe	2007	2008	% change
By target value of deals (US$bn)	135.3	**117.4**	**-13%**
By bidder value of deals (US$bn)	159.1	**126.5**	**-20%**
Number of deals			
By target	233	**319**	**+37%**
By bidder	242	**325**	**+34%**

Russian Federation	2007	2008	% change
By target value of deals (US$bn)	79.5	**24.3**	**-69%**
By bidder value of deals (US$bn)	64	**20.3**	**-68%**
Number of deals			
By target	88	**86**	**-2%**
By bidder	82	**85**	**+4%**

Asia Pacific	2007	2008	% change
By target value of deals (US$bn)	50.4	**25.9**	**-49%**
By bidder value of deals (US$bn)	47.6	**27.4**	**-42%**
Number of deals			
By target	239	**277**	**+16%**
By bidder	238	**267**	**+12%**

The largest deals were only the tip of a very long 2008 deal list. In each of the major markets – North America, Europe and Asia Pacific – deal numbers were up. While European entities dominated deal value, the incidence of deals was more evenly spread across the major regions worldwide: 35% in Europe; 29% in Asia Pacific and 24% in North America (by bidder). In all these regions, the pattern was similar with deal numbers up but values down. Activity in each of the three major regions is discussed later in this report.

Elsewhere, the Russian Federation and South America bucked the trend of rising deal numbers. Numbers levelled off in the Russian Federation and fell significantly in South America, alongside falling values. Total Russian target deal value fell by more than two-thirds – from US$79.5bn in 2007 to US$24.3bn in 2008. The fall in numbers and value reflected a tailing off in the number of deals attributable to the reorganisation of the Unified Energy System (UES) which had inflated deal volume in 2007.

10 Deal places: North America

North American deal numbers continued to rally following a lull in 2006 but values went in completely the opposite direction. While bidder numbers rose by up to 58%, total value fell by up to 54% (see Figure 8a). The fall in value was wholly attributable to the absence of mega deals of the order of the big moves previously made by financial players – the US$21.6bn infrastructure fund bid led by GS Capital for Kinder Morgan in 2006 and the US$43.8bn private equity move by KKR, Texas Pacific and Goldman Sachs for TXU in 2007. Excluding these two mega deals from previous year totals, underlying bid activity by North American entities was comparable with those in previous years – US$32.9bn in 2006, US$43.7bn in 2007 and US$40bn in 2008.

The underlying resilience of power deal activity by North American bidders reflects the fundamental imperative of consolidation in the American power market. However, in 2008, the global financial crisis undoubtedly acted as a dampener on deal activity. Without the crisis, deal activity would have been more buoyant. Difficulties in obtaining financing have prevented many deals from coming to the table. Valuation is proving extremely difficult as a result of the financial and wider economic crisis. As well as reducing and adding uncertainties to deal activity, the crisis has changed the nature of deals being announced. In the second half of the year, the flow of deals began to be more strongly driven by companies needing cash. Asset deals, as opposed to corporate activity, came to the fore as sellers sought to offload specific assets in order to repair balance sheets.

For many years, regulatory uncertainty at state level has also been an inhibitor of deal activity in the US. This continues to be an influence and, indeed, in the current economic and regulatory climate, deals that require a rate increase face an uphill battle. The extent of the potential regulatory hurdles facing deals was highlighted during 2008 as the acquisition of Energy East by Iberdrola was announced in June 2007 and closed in September 2008, and also at the very end of the year when, 14 months after the initial deal announcement in October 2007, state regulators attached 78 conditions and requirements to their 2:1 approval of the US$6.8bn purchase of Puget Energy by a combination of Macquarie entities and other pension and investment funds. Such regulatory conditionality makes buyers very cautious about entering into bigger deals.

The election year was always likely to mean some pause for thought in US power deal making, particularly in respect of the impact of environmental policy. Although both parties are commited to take aggresive action on global warming, companies are faced with a high degree of uncertainty over the nature and exact implications of the environmental policies that the new administration will enact. Again, this is a major impediment to deal valuations. To add to this uncertainty, the current principal subsidy incentive for renewable energy, the production tax credit, has been somewhat stop-start. It has expired, or been set to expire, five times before being reinstated and was due to finish again at the end of 2008. Uncertainty at the federal level is underpinned by complexity at the state level with, for example, different states having different requirements in respect of the minimum amount of power that should come from renewable sources (renewable portfolio standards). This has led to calls for a national renewable portfolio standard.

Figure 9: **North America (by target) electricity deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$28.4bn	US$15.5bn	**-52%**
			Total value **US$43.9bn**
Number of deals	134	50	**+77%**
			Total number **184**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

The need for major project investment in cleaner energy and wider power infrastructure has spurred a growing number of joint ventures between power utility companies and technology and construction partners. These joint venture deals are in addition to the M&A figures reported here. In October 2008, for example, Duke Energy announced a US$2.6bn joint venture with France's Areva to develop up to 13 wood-fuelled power plants in the US. Earlier in 2008, NRG Energy announced the creation of Nuclear Innovation North America with Toshiba Corporation to develop two new advanced design nuclear plants in South Texas and then in further sites across North America. Toshiba will invest US$300 million in the company over the next six years in return for 12% equity ownership.

Figure 10: **North America (by target) gas deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$3.74bn	US$0.04bn	**+1%**
			Total value **US$3.78bn**
Number of deals	21	5	**-10%**
			Total number **26**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

PwC deal dialogue:

Valuation challenges in the current environment

The current economic climate has created major challenges in assessing current market value for companies, valuation practitioners and also for preparers, auditors and users of financial information. So called 'fair value' remains one of the hottest topics facing both financial investors and energy and utilities businesses.

The ever-increasing investor, regulatory and accounting pressure for companies to focus more attention on valuation has coincided with the credit crunch and the difficult economic conditions. During the past few months, equity stock prices have dropped dramatically and capital markets may appear to have lost their relation to the fundamental value of underlying businesses – this has even affected the market values of listed power and gas utilities and other infrastructure businesses, seen historically as 'safe havens' by investors.

The widespread slowdown means that assets and businesses will probably generate lower cash flows than previously expected and impairment charges may well be required. The companies with the highest risk of impairments are those which are highly leveraged and face re-financings in today's current weak capital markets where credit margins have risen sharply.

In difficult times such as these, there are clear benefits from regular and robust valuation processes, incorporating a rigorous review of cash flow projections, discount rate parameters as well as, to the extent available, evidence from transactions in the market. Our experts believe that three key questions have to be addressed in valuing power and gas assets. Firstly, to what extent are projected cash flows at risk from the slowdown in the 'real economy' and the increasing volatility in commodity markets? Secondly, to what extent will these businesses be subject to re-financing risks in the near future? And thirdly, how reliable are the most recent transaction comparators as indicators of market value?

12 Deal places: Europe

Deal making in Europe was the most resilient of all regions across the world in 2008 with a fall in deal values of only 13% by target and 20% by bidder compared with the 41% drop in power deal value worldwide. European bidder numbers rose by a third (34%) reflecting the continued appetite for consolidation. However, apart from EDF's expansion of its nuclear footprint, there was an absence of mega deal international moves, such as those made by E.ON, Enel, Iberdrola and National Power in previous years. The credit crunch has coincided with a natural pause for breath as companies integrate previous acquisitions.

Indeed, only 13% (41 out of 325) moves by European bidders were for targets outside Europe, with a deal value totalling US$15.7bn, representing 12.4% of all European bidders (US$126.5bn). Of these 41 deals, 13 were moves for North American power assets with a combined deal total of US$9bn, headed by EDF's purchase of Constellation Energy but also including significant US purchases by GDF-Suez and International Power. GDF-Suez's US$1.9bn purchase of US power generator FirstLight was the biggest of four deals which saw the newly merged group also strengthening its presence in Italy, Turkey and Germany. Earlier in the year, UK utility International Power extended its US interests with the US$856 million purchase of generating plants in Pennsylvania, West Virginia, Illinois and Ohio from Tenaska Power Fund, a US-based private equity fund, and Warburg Pincus, a US-based private equity and venture capital firm.

Ten of the 41 international moves by European entities were power investments in the Russian Federation, led by Finland's Fortum Oyj's US$3.8bn investment in former UES assets. The sometimes difficult landscape for such moves was highlighted by events surrounding RWE's attempted US$646 million purchase of Russian power generator TGK-2, another former UES asset, together with Russian energy group Sintez. RWE began talks with Sintez to take joint control of TGK-2 early in 2008 but pulled out of the deal in September citing the high cost of the transaction and turbulence in Russia's financial markets. Subsequently it faced a reported US$1.4bn legal claim for US$1.41bn from Sintez for abandoning the deal (Financial Times, *11 November 2008*). The remaining eight Russian moves by European entities were all investments by banks for sums ranging from US$1 million to US$150 million.

Figure 11: **Europe (by target) electricity deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$68.5bn	US$40.6bn	**-17%**
			Total value **US$109.1bn**
Number of deals	163	110	+40%
			Total number **273**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Figure 12: **Europe (by target) gas deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$6.2bn	US$2.0bn	**+107%**
			Total value **US$8.2bn**
Number of deals	27	19	+64%
			Total number **46**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

While international expansion remained an element of deal activity, the main M&A European power theme was consolidation within the continent with major deals in Spain, Switzerland and Germany (see page 7). The push for additional renewable generation was a major impetus behind many of all-Europe deals. Out of the 283 intra-European purchases, 120 (42%) were renewable energy deals. These were headed by the sale of a 25% stake in EDP Renováveis, the wind power arm of Portuguese power group EDP, to institutional investors in a public offering that raised US$2.8bn. Another big renewable energy deal saw UK-based electricity distribution network operator, Scottish & Southern Energy, acquire Irish-based renewable energy production and development company, Airtricity Holdings, in a deal worth US$2.1bn. Two other European renewable power deals topped the US$1bn mark, both arising from Australia's Babcock & Brown Wind Partners' decision to sell its wind farms portfolio in Europe as the parent investment group struggled with debt. In the first, Spanish infrastructure construction company Fomento de Construcciones y Contratas paid US$1.15bn for the company's wind farms portfolio in Spain. Three months later, in November 2008, the Enersis portfolio of wind farms in Portugal was sold to a consortium of investors led by Magnum Capital for US$1.45bn.

Figure 13: **Russian Federation (by target) electricity deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$19.1bn	US$5.2bn	**-69%**
			Total value **US$24.3bn**
Number of deals	75	9	**-2%**
			Total number **84**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

Figure 14: **Russian Federation (by target) gas deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$3.7bn	US$0.04bn	**-97%**
			Total value **US$3.8bn**
Number of deals	21	5	**0%**
			Total number **26**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

PwC deal dialogue:

Delivering capital project value for utility companies

By their nature, capital projects are not part of day-to-day operations. Whether related to infrastructure, construction of a new power plant, buildings or systems, they require separate financing, management, governance and assurance. The scale of projects in the utility sector presents immense challenges at the best of times. In a world of economic downturn with uncertain demand and plummeting commodity prices, these challenges are magnified. Utility companies are faced with the challenge of balancing their immediate and short-term response to the current economic downturn, constrained funding environment and lower market prices with their long-term need to develop capacity and prepare for future demand.

The volatility of the current economic and market climate reinforces the need for utility companies to deliver rigour in capital project management all through the capital project cycle. In particular:

1. Analysing and planning for the project's regulatory climate enables companies to fully identify and manage relevant issues based on regulatory expectations and requirements.
2. Establishing a capital investment management framework identifies project components and related issues for each phase of the project life-cycle.
3. Implementing a phased project evaluation process ensures investment decisions are made based on sound financial, social, environmental and sustainable development analysis.
4. Effectively managing project portfolios enables a company to compare projects and ensure priority is based on strategic fit and risk considerations.
5. Front end loading key elements of project evaluation reduces risk and decreases cost blow-outs at later stages.
6. Determining a contracting strategy early in the project evaluation process, which incorporates a sound risk management approach, increases the likelihood of a successful outcome.
7. Developing focused management reporting of both ongoing and exception situations to highlight project risks, adequacy of mitigating actions and the impact on operations and enterprise risk.
8. Learning from successes and mistakes and ensuring these are documented and incorporated into knowledge management for future projects is key to continuous improvement.
9. Creating real-time documentation for regulatory support.

14 Deal places: Asia Pacific

Asia Pacific joined other regions in a reversal of what had been an ever upward path of power deal activity in recent years. Total 2008 target deal value fell to just US$25.9bn, a 49% fall from US$50.4bn in 2007. Asia Pacific bidder activity was similarly down – by 42%, from US$47.6bn in 2007 to US$27.4bn in 2008. All but 3% of target value was for electricity assets. As in other regions, owners sat tight on valuable gas assets.

The power deals landscape in Asia Pacific could have looked very different had British oil and gas company, BG Group, been successful in its US$13.3bn battle for Origin Energy. Origin has retail and generation operations across Australia and New Zealand but it was the company's gas assets that were a particular target for BG. Origin held out for a higher valuation in negotiations that went hostile after talks on an agreed deal failed to reach agreement. Australian gas assets are particularly attractive as they are convenient for growing Asian markets as well as being in an attractive and stable business location. BG's six-month long pursuit came to an end in September when Origin reached agreement with US oil group ConocoPhillips in a coal bed methane gas development deal which placed a higher valuation on those assets than was reflected in BG's offer. BG did, however, successfully conclude the purchase of Queensland Gas Company including the 24.9% stake held by AGL Energy.

The BG Group bid was not the only deal for Australian assets that failed to materialise in 2008. Indeed, Australia moved from being a main motor for power deals in the region to playing a relatively marginal part. The value of deals for Australian targets plummeted from US$19bn (37.7% of all Asian Pacific target value) in 2007 to just US$1.75bn (6.7% of all Asia Pacific target value) in 2008. Australian bidder value was even lower – down from US$19.4bn (41% of all Asia Pacific bidder value) in 2007 to just US$1.3bn in 2008 (4.7% of all Asian Pacific bidder value). The hiatus in Australian deals accounted for 70% of the US$24.5bn fall in total Asian Pacific target value and 89% of the US$20.2bn fall in bidder value.

The impact of the financial crisis on a debt-laden sector was a barrier for some deals that might have been. A key overall impediment was uncertainty around the content of the Australian government's proposed emissions trading scheme which made deal valuation very difficult. Another major factor in reduced deal activity was the delayed progress of New South Wales electricity privatisation which, if it had proceeded, would have accounted for between US$5bn and US$8bn of deal value.

Figure 15: **Asia Pacific (by target) electricity deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$9.5bn	US$15.6bn	**-27%**
			Total value **US$25.1bn**
Number of deals	180	61	**+13%**
			Total number **241**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

The majority of Asia Pacific bid activity came from Chinese and Japanese entities. Together, Chinese and Hong Kong-based bidders accounted for US$9.8n (35% of all Asia Pacific bidder value). Japanese entities were behind a further US$5.8bn of activity (21% of the region's bidder value). Four US$2bn plus deals from Asia Pacific bidders, with a combined value of US$10.4bn dominated the Asia Pacific deal list. The three largest saw Singapore's state-owned investment firm Temasek Holdings dispose of three local power plants for a total of US$8.4bn in sales to power companies based in China, Japan and Malaysia. In the fourth largest deal, India-based infrastructure investment group, Tanti, formed a joint venture with Bahrain-based investment bank Arcapita Bank to acquire Honiton Energy Holdings plc, a wind energy generation company in China. Tanti is the majority shareholder in Suzlon Energy, the world's fifth largest turbine manufacturer and described by Forbes as "the world's most valuable wind company". The deal was one of 84 deals for Asia Pacific renewable energy targets, 66 of which were from bidders within the region.

Figure 16: **Asia Pacific (by target) gas deals**

	Domestic	Cross-border	% change compared to 2007
Value of deals	US$0.31bn	US$0.49bn	-95%
			Total value **US$0.8bn**
Number of deals	21	15	+44%
			Total number **36**

Source: PricewaterhouseCoopers, *Power Deals 2008 Annual Review*

PwC deal dialogue:

Managing energy costs in today's volatile markets

Energy users have had to deal with dramatic fluctuations in the price they pay for energy commodities, be it oil products, gas or power. Oil prices reached US$147/barrel during 2008 but, within a short period of time, fell back to US$50/barrel and lower. The increasing importance of renewable generation and uncertainty over security of fuel supply, coupled with the expectation that volatile prices are here to stay, means that users need to minimise exposure to high energy prices while locking in the benefits of falling energy prices wherever possible.

Most energy users have traditionally sought a reliable energy supply at the best possible cost. With the complexity of factors influencing the market, paying for energy is no longer a simple procurement decision. Companies need to start looking at energy as a commodity and adopt a more structured and strategic approach to using it, buying it, hedging it and understanding how changes in individual factors influence overall costs.

Our experts provide an independent service to advise companies on actions to reduce volatility both in the short term and the medium term. We recommend a three stage approach to reviewing a company's portfolio of energy purchases. First, we establish the impact of energy price changes on overall cost together with the level of price risk that the company is prepared to bear. Second, we define a number of alternative hedging strategies, each of which will have advantages and disadvantages, and independently source indicative prices from the market. Third, we manage a competitive process to secure the selected hedge. In our view, this approach enables companies to reduce energy price exposure to an acceptable level and range at a competitive cost.

16 Looking ahead

The coming year will be one of obstacles and opportunities. The constrained availability of finance will inhibit deal activity and, until that situation is eased, there is unlikely to be a revival in deal values. The billion dollar question will be how long we will have to wait before liquidity returns to the debt markets.

Liquidity for deals will be further constrained by the debt market impact of increasing public financing requests as governments finance their bail-out programmes. In the meantime, however, companies and other buyers will be alert to the many opportunities that will arise as a result of market conditions. The underlying imperatives of consolidation, supply security and capitalisation remain in place and will create increasing pent-up deal demand.

Some players will be less constrained than others by the financial markets. Transformational large transactions cannot be ruled out but the main activity is likely to be at lower value levels and with an emphasis on individual assets as well as corporate assets. Many utility companies remain in relatively strong positions to conduct deals and the same is true of many investment entities. The role of investment players in power deals is likely to continue to be significant although we will see a changing roll-call of names as the retreat of some debt-laden players continues. The race between the big nuclear players to position themselves to take advantage of increased nuclear investment is likely to continue to be reflected in deals and joint ventures.

In the US, the first year of the Obama presidency will have a major influence on deals given the new administration's emphasis on infrastructure, carbon policy, the re-emergence of nuclear and renewable energy. Policies in these areas will shape activity. In the short to medium term, however, any uncertainty is likely to be stall activity as companies and investors adopt a 'wait and see' attitude. The speed at which uncertainty is lifted will be a key factor in deal momentum. In Europe significant deal flow could arise if E.ON and Vattenfall proceed with the proposed sale of their transmission networks. In Asia Pacific, the finalisation of the Australian government's climate policies will mean the removal of a key uncertainty that has clouded deals.

Worldwide, a lot will rest on global climate talks in the run up to the December 2009 UN Climate Summit in Copenhagen. Lower energy prices will put a higher onus on political leaders agreeing clear emissions targets as a framework for carbon pricing systems and economic incentives for cleaner power. The project funding squeeze for renewable energy will continue in the absence of major regulatory advances and an easing of financial market constraints. In turn, this will lead to continued purchase opportunities for companies seeking to expand their renewable portfolios.

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