CHARTING THE LEGACY

10 YEARS ON

There is no doubt that the influence of Enron lives on in today's energy markets. *Energy Risk* talks to ex-Enronites about how the company achieved what it did and what lessons it can still teach us today

Timeline: Enron

1985
Enron is created from the merger of pipeline companies Houston Natural Gas and Omaha-based InterNorth.

1990
Enron Europe launches with the commencement of the construction of the Teesside Power Plant in England, UK.

1991
Enron Capital & Trade Resources is formed by merging Enron Finance with Enron Gas Marketing

1992
Enron commences the 2,184-megawatt Dabhol Power Plant project in the state Maharashtra, India, largely overseen by Rebecca Mark, chairman of Enron International. The project, which took nine years to develop at a cost of $2.9 billion, was closed in June 2001.

1999
EnronOnline is launched in November. Two years later the platform was averaging 6,000 transactions a day worth an average of $2.5 billion.

2000
Enron unveils its latest business, Enron Broadband Services. The business aim was to pioneer broadband trading and allow the transmission of data, such as movies and TV, over the internet via phone networks.

2001
Enron becomes the seventh-largest US company in terms of stock market value.

February
Jeffrey Skilling replaces Kenneth Lay as chief executive. Lay remains chairman of Enron.

April 17
Skilling swears at Wall Street analyst Richard Grubman when he asks about Enron's accounting practices. While many in the company thought it funny, others were alarmed to see Skilling uncharacteristically rattled.

August
Enron's stock price is at $90 a share.

August
Skilling resigns and Lay returns as CEO.

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Ten years after its dramatic demise, Enron is still widely seen as the embodiment of corporate fraud and scandal. As the energy company was the largest bankruptcy in US corporate history, perhaps it's not surprising that its downfall still overshadows its achievements.

However, whether the energy industry likes to recognise it officially or not, today's markets owe much to the fearless and tireless work that was carried out at Enron. Just as a nation that forgets its past is doomed to repeat it, so with an industry. It is important to understand the influence Enron still has on the energy markets today in order to continue to build on what Enron did well, and to avoid its mistakes.

Currently the Enron diaspora is spread throughout the commodity world and there are few energy trading organisations that don't have one or two ex-Enronites in senior positions (see box: The Enron diaspora). However, in another 10 years' time there will be many senior market players for whom Enron will be merely a story from the past. But that story – a small company growing exponentially and changing the seemingly unchangeable – should be an inspiration, invigorating energy market players to innovate and challenge their industry.

Enron's major achievements include pushing forward the deregulation agenda worldwide, opening up and creating markets where none had existed before, executing derivatives

The Enron diaspora

Nearly every major investment bank in commodities and many utilities and trading houses have at least one senior executive who is an ex-Enron employee.

Citi
- Stuart Staley, managing director and head of global commodities at Citi, worked at Enron for six years from 1995.

Société Générale Corporate & Investment Banking
- Jonathan Whitehead, deputy global head of commodities, worked at Enron from 1996 until it collapsed;
- Craig Breslau, managing director, trading, was at Enron from 1995 until 2002.

BNP Paribas
- Ricardo Bortolotti, head of gas, power, coal and environmental markets origination for Europe, the Middle East and Asia, joined Enron in 1997 and left in June 2001.

Goldman Sachs
- Christopher McKey, managing director at Goldman Sachs, Singapore.

JP Morgan
- Paul Posoli, head of global power, gas, coal and emissions, joined Enron in 1995.

Barclays Capital
- Joe Gold, head of capital and liquidity management (previously co-head of commodities), worked at Enron for seven years until its demise in 2001.

Deutsche Bank
- Louise Kitchen, managing director and global head of commodities structuring and sales, joined the London office of Enron in 1994 and ran the gas trading business.

RWE Supply & Trading
- Peter Kreuzberg, managing director and chief commercial officer, trading, worked at Enron Europe from 1998 to 2002.
- Richard Lewis, chief commercial officer, sales and origination, was at Enron Europe from 1994 to 2002.

EDF Trading
- Former chief information officer (CIO), Mark Pickering, was Group CIO at Enron from 1996 until 2002;
- Several board members and traders.

BP
- Brian Spector, managing director, financial products, worked at Enron from 1996 until December 2001.

Vitol
- Dave Gallagher, head of natural gas.

Centaurus Energy
- John Arnold, head of energy hedge fund Centaurus Energy, started as a trader at Enron in 1995;
- Greg Whalley, president of Enron during its final months, also now works at Centaurus.

Main image: Pat Sullivan/AP/Press Association Images

> *Just as a nation that forgets its past is doomed to repeat it, so with an industry*

October 16
Enron announces its first quarterly loss in nearly four years of $618 million; the stock slides to $33 a share.

October 24
Andrew Fastow, chief financial officer, is dismissed after details of accounting fraud come to light.

November 9
Enron enters into takeover talks with Dynegy.

November 29
Dynegy pulls out of the merger talks.

November 30
Enron Europe closes with the loss of 1,100 jobs.

December 2
Enron files for Chapter 11 bankruptcy protection in the US; its share price falls below $1.

DAVID J. PHILLIP/AP/Press Association Images

2004
Lay, Fastow and Skilling are indicted. They are largely seen by the public, media and government as the major players in Enron's demise.

2006
July 5
Ken Lay passes away.

September 26
Fastow is sentenced to six years in prison.

October 23
Skilling is sentenced to 24 years and four months in prison.

Sources: documents and reports following events at the time

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structures that had never been transacted before, launching electronic commodities trading, developing mark-to-market accounting and laying the foundations for modern energy risk management (see box over page for details of specific projects). This was all achieved against relentless resistance from market incumbents who were happy with the status quo.

"Even in retrospect, what Enron achieved was mind-blowing and it was against constant opposition from the incumbent utilities," says Nick Perry, who joined Enron Europe in 1993 and served as an Enron Europe board member during 1996–97. "Microsoft changed the world but it didn't have constant opposition. Enron changed the world with people fighting against it every step of the way. It was a genius of vision and implementation," he adds.

"Enron really pushed the boundaries at the time, for instance by writing contracts for gas or power supply that were not linked to any specific asset," says Anastasia Karabatsos, who was at Enron from 1998 until 2001 when she managed the structuring department. "This paved the way for standardisation and trading of commodities."

Many see Enron's greatest legacy as what it did for deregulation. "Enron moved an industry from a fossilised monopoly structure to a competitive market," says Paul Hennemeyer, who worked in government and regulatory affairs at Enron Europe from 1999 until the end. "But it involved lots of battles and court cases. Taking on politically well-connected companies is tough. I can see things happening today and I know they're happening because of what we did at Enron."

"Enron was the focal point of the deregulation agenda," says Jonathan Whitehead, who started with Enron Europe in 1996 and was heading the liquefied natural gas (LNG) business in Houston at the time of Enron's demise. "It was the most vocal when explaining to regulators and governments and customers the benefits of deregulated markets. I don't think deregulation in power and gas in Europe or the US would have come as far as it has without Enron," he says.

Pushing for deregulation was very much part of the company's strategy from the start. "Ken Lay [chairman and chief executive of Enron] was the visionary at the time as far as seeing where deregulation could go and actually driving deregulation," says Mark Frevert, who worked at one of Enron's predecessor companies, Houston Natural Gas, from 1984 and stayed at Enron until its demise. "We were one of the first companies to form a large interstate pipeline system and it was fascinating to watch that process evolve and the company get bigger... The initial focus was on trying to sell long-term gas to power generation companies in Florida [where Houston Natural Gas owned a large pipeline system]. Later on, that became a very core part of Enron's global strategy."

To break the stranglehold of incumbent monopolies required a new mindset and one of the ways Enron achieved this was by instilling in people the practice of questioning everything. "We were expected to always ask why," says Whitehead. "Why does the incumbent utility have a total monopoly in a certain area? How can what they are doing be legal? To answer 'that's the way it's always been' was not acceptable. The industry had accepted these things for years, then Enron came along and questioned age-old practices and set out a different agenda."

For example, as part of its work in the UK coal markets, Enron broke the monopoly of the UK's rail provider, which was "high priced, incredibly poorly performing and heavily favourable towards the incumbents," according to Tom Kearney, who worked at Enron from 1996 until 2001. "We eventually brought in competition and now if you want to haul coal in the UK, there are four different rail providers to choose from."

At the heart of Enron's culture was the belief that the company was fighting for the greater good – that free markets would bring about more competition and fairer prices. People who worked there describe a 'hypnosis of collective thinking' and a 'collegiate environment' with everyone pulling together due to the scale of the challenges they faced.

Enron HQ in Houston

Pat Sullivan/AP/Press Association Images

> *Enron pioneered the blending of trading with fundamental and financial analysis and it even set a blueprint for the physical organisation of the trading floor*
>
> *Vince Kaminski*

Ex-Enron employees talk about the company with an evangelical vigour that's hard to find elsewhere in the corporate world. The Enron culture was overridingly one of high energy, innovation and creativity. If people had good ideas it wasn't difficult to get the money to get them started.

"If you had a good idea, the company would put money behind it very quickly," says Nick Ernst, who worked at Enron from 2000 to 2001 setting up the steel trading business. "Enron was all about trying to use the collective brain power of how markets work and pushing that out to other markets that we thought should be commoditised."

Enron's culture of innovation created a seemingly boundless energy. "You found it hard to find someone who wasn't raring to go in the morning," recalls Rashpal Bhatti, who joined Enron Europe as a financial accountant in 1998 before becoming a project manager in crude and coal. "Twelve-hour days were the norm and energy drinks were part of the culture!"

"The culture was extremely positive and very energetic," says Lauren Bertwistle (nee Urquhart) who joined Enron as a temporary receptionist in 1993 and became an executive assistant to John Sherriff when he was chief executive, and then president of Enron Europe. "You worked long hours – if you didn't you didn't last long."

Because Enron was on the cutting edge of energy trading, there weren't many places to poach experienced people from, so the emphasis was on hiring young, enthusiastic people and training them up. Under a popular analyst and associate programme, graduates and those with just a few years' experience rotated to different parts of the company every six months. As well as giving the 'trainees' a wide range of experience, the scheme was a breeding ground for the exchange of ideas. In addition, one of the skills employees were ranked on every year was 'connecting and leveraging' so people were encouraged to implement other people's good ideas in their sections and pass their own good ideas on. "There was ceaseless communication and cross-fertilisation of ideas," remembers Perry.

There was also a huge focus on education and training. "They were very generous with training programmes and encouraging people to get better educated – not just in terms of energy trading but all kinds of business," says Randy Baker, who worked as a manager in Enron's credit risk group from 1993 to 1996. "People around the industry began to call it Enron U [University] because it was such a great vehicle for learning."

The company was set up not only to encourage people's ideas, but to encourage company-wide communication. Cindy Olson, who was at InterNorth before it merged with Houston Natural Gas and worked her way up to become a member of Enron's executive committee with positions in finance, back-office operations and community relations and human resources, ran a team that pioneered programmes to involve Enron employees in local charity work. "Everyone in Houston knew us – we created a positive image through community involvement," she says. This also served as a teambuilding and communication exercise because employees got out of the building and worked together on the weekends to build houses for people in the community, for example. "It's kind of like what people do on the golf course," Olson continues. "And I'm sure there was a lot of additional communication that took place there because it was usually the team heads that were organising their people to go out and do these things."

Cross-fertilisation of ideas was even facilitated by the office space itself. Both the Houston and London offices were a human resources dream, with fully equipped gyms, a creche, and spaces created for maximum communication. Enron's Houston office had an open-plan layout and the few offices for executives were typically made of glass, to maximise communication opportunities. When the company was building a space for the newly created Enron Capital & Trade (ECT) trading and risk management business in the 1990s, the decision was made to open out the staircases. This meant that even though the business was spread over three floors, it seemed more connected. "You didn't have a door that you opened to a dingy staircase leading to another door to the other floor," says Olson. "The staircases were opened up on all the ECT floors and not only did people meet on the staircase, but they could also flow between floors more easily. People wondered why would we spend money on something like that, but it was very effective at enhancing communication

'Enron field' at the Houston ball park

PAT SULLIVAN/AP/Press Association Images

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Projects

Undoubtedly, Enron's major achievement was to use the deregulation of the natural gas markets in the US and Europe to turn the company into a major corporate player. Through a combination of lobbying, leveraging influential relationships (most notably, Ken Lay's close relationship with the Bush family in the US) and sheer hard work and expertise, the company pioneered the development of natural gas trading in the US and beyond.

The European business took up the deregulation agenda across Europe with the company engaging in in-depth negotiations and lobbying efforts to gain market share. Paul Hennemeyer who worked in government and regulatory affairs for Enron from 1999 to 2001, says: "It was very difficult to get access to the gas transportation network [in Europe] and we had lots of battles. We introduced the entry/exit system in Germany, which still exists today; we were instrumental in creating a market for balancing power and we pushed hard for unbundling." Flush from its success in natural gas trading, Enron began to push the boundaries of commodity trading in all directions. This resulted in an impressive array of deals, but also some major disasters. Here are some of the successful and less-successful ventures.

Teesside Power

The 1,875-megawatt Teesside Power Plant, which began operations in 1993, was, and still is, the largest gas-fired combined heat and power plant in the world. Such a landmark project required some significant deal-making on Enron's part.

The $2 billion refinancing of Teesside Power in 1996 involved some very sophisticated structures. Nick Perry, who was on the board that oversaw the refinancing and restructuring of the suite of Teesside contracts, remembers deals such as a physically settled rainbow option (a derivative exposed to more than one source of uncertainty). "We created the first virtual power plant in Europe in 1993, using very creative securitisations," he says.

Teesside Power bought gas from the Everest Lomond fields and hedged the purchase with power sales to distribution companies.

J-Block and CATS dispute

In a less successful deal, Enron and ICI (Teesside Gas Transportation) booked 294 million cubic feet of capacity in the UK's Central Area Transmission System (CATS) pipeline. To utilise that capacity, Enron entered into a long-term take-or-pay contract in 1993 to buy 260 million cubic feet of gas per day from the J-Block area in the North Sea, so called because it contained fields named 'Judy' and 'Joanne'. However, shortly after signing the contract, the price of UK natural gas crashed from around 23 pence per therm to around 9 pence. Enron had being planning another power station but was caught out by the price drop and was unhedged. At one stage, the contracts were approaching $3 billion out-of-the-money. Enron exercised its flexibility to delay production for a year but UK gas prices remained in the doldrums. Enron settled with the J-Block owners on the steps of the court, increasing its take-or-pay commitment and paying a lump sum of $440 million in return for a price discount and a cap on the reserves. A separate dispute with the CATS owners over the availability of some of the pipelines facilities was only resolved by the UK's House of Lords.

Weather trading

In 1997, Enron completed the first weather derivatives transaction. The concept came about when Enron was planning to acquire Portland General Electric (PGE), which closed in 1997. The team completing the due diligence found that, because it had a large percentage of generation coming from hydro, PGE's revenues were highly dependent on streamflow (a combination of rainfall, snowfall, snowpack and temperature). "We asked a number of insurance companies to provide quotes for covering this exposure and because this is a business they didn't normally cover, the quotes were really expensive," remembers Lynda Clemmons, who worked at Enron from 1992 until 2000 and eventually ran the weather derivatives business. "Someone within Enron suggested this was a market that should be traded and we realised that weather makes so much sense to have as a hedge for all of the business we were doing."

Tom Wang/Shutterstock.com

Clemmons estimates that it took six to eight months to develop the idea and find willing counterparties. She admits that scepticism was common at first: "We had the whole spectrum of reactions from within and outside the company. There were people that we talked to who would laugh when we said we were going to trade weather! And then we'd explain how it worked and they'd see the applications for it."

The weather derivatives business has continued to this day. In fact, Clemmons left Enron in March 2000 to set up weather derivatives company Element Re with a number of colleagues from Enron's weather team.

California power market

Efforts to apply its natural gas trading model to the US power market in the late 1990s landed Enron in serious trouble after the company was found to have manipulated Western energy markets. Prices rose by as much as 100% in 2000 and 2001 and California's governor was forced to call a state of emergency after widespread power cuts.

While traders at the company claimed they were merely taking advantage of design flaws in California's newly created electricity market, the general public was enraged and a Federal Energy Regulatory Commission investigation found market manipulation led to "extreme price volatility for electricity and gas" in California and 10 neighbouring states in 2000 and 2001. Enron was not the only company labelled a culprit, but it took the brunt of the public's ire, especially in light of publicly released recordings of traders mocking the Californians' plight, as well as highly publicised footage of Jeff Skilling making light of the crisis.

Energy efficiency

In 2001, Enron Europe purchased all utility-related assets belonging to Diageo at its Guinness Park Royal brewery in London. The companies signed a 15-year deal in which Enron would buy Diageo's utility assets and provide more efficient utility supplies to the brewery, including steam, refrigeration, treated water, effluent, compressed air and industrial gases.

"It was the acquisition of all the utilities, all the pipes, the wires, everything – a complete takeover in a multi-utility form," says Steven Fawkes, a former Enron employee who was involved in the project. "Prior to that, people had built new assets but not taken over old ones – this was more complicated and risky. There had been multi-utility deals done before, but what I think Enron did was introduce much more energy efficiency and cost focus on those deals." Enron did this by investing in more efficient utility assets such as new boilers and chillers.

After the collapse of Enron in 2001, Diageo had to buy back the assets from the administrator and then reissue a tender for a utility contract. Fawkes moved to RWE after Enron and led a team that was able to offer "essentially the same Enron deal".

The brewery was shut down in 2005, but the legacy of Enron's deal remains. "Guinness liked these projects so much they applied the same contract and approach to their two other breweries in Ireland. So effectively the Enron contracts are still in place 10 years after the event," says Fawkes.

Broadband

Enron Broadband Services (EBS) promised to offer the capability to trade bandwidth capacity, as well as providing services such as video streaming. "What we were trying to do at EBS was take the traditional Enron model and lay it out in the telecommunications industry," says Evan Betzer, who worked at Enron from 1998 until December 2001, in the latter days as an EBS dealmaker. "At the beginning there was a lot of focus on the flash and sexiness of broadband – trying to get content from the Hollywood studios and figuring out the most exciting story from an investor standpoint. But very soon after, people who were used to doing the traditional structured financial transactions that Enron was famous for originating in gas, power and coal came to EBS and wanted to help do the same thing in broadband."

Betzer explains that Enron's aim was to act as an intermediary between telecommunications companies building out infrastructure and the various parties who wanted to use the infrastructure. One deal completed at the time saw Enron support the roll-out of Microsoft's DSL (digital subscriber line, which transmits digital data via the telephone network) service in about 15 cities. This meant that Microsoft did not have to build its own infrastructure – it could buy it from Enron, which would put together a bundle of leased capacity from different telecom providers.

However, the EBS model was shown to be based on a precarious, if not illusory, business model as major partners such as video distribution company Blockbuster began to pull out and the infrastructure Enron was planning to bundle into deals was found to be severely lacking.

EnronOnline

Enron's online transaction platform was conceptualised primarily to be a vehicle to enhance the company's market-maker business model, says John Sherriff, chief executive and president of Enron Europe at the time of the company's collapse. Around 1998 when he and Greg Whalley, who was then responsible for trading worldwide, decided an online platform was needed, Louise Kitchen, then head of gas trading, agreed to take the project on.

"Louise pulled together a team of about 100 people, with many from London, and did a dynamite job on it," recalls Sherriff.

Within two years of launch, the platform was achieving an average of 6,000 transactions per day and at its peak transacted volumes worth $3 billion a day, according to reports at the time.

After Enron's collapse, EnronOnline was criticised and some analysts commented that the platform had never been profitable. However, the platform was never intended to be a profit centre in itself, says Sherriff. "EnronOnline was a tool for us, like the telephone," he comments. "It made it much easier for our trading partners to see the current prices and transact with Enron. In exchange we got more information and it gave us additional liquidity." Prior to EnronOnline, the company was already on one side of a high percentage of trades across Europe, Sherriff says. "EnronOnline brought down costs, and dramatically increased the volume of business we were doing."

However, the business model, in which Enron was on one side of every transaction, meant that as soon as the company's credit was called into question, customers no longer wanted to transact with Enron. "We had dramatically increased the amount of trade credit that we were receiving from our counterparts and very quickly trade credit we were receiving disappeared. That was something we'd never thought about," says Sherriff. "With hindsight, we might have included a model that asked for daily margin, but this would have been a complex step."

After Enron collapsed, UBS bought Enron's trading business and tried to restart the platform. However, the many-to-one model could not survive the credit crunch that engulfed the energy trading sector post-Enron.

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between three floors of people in the same business."

The open-plan style of the US office was further encouraged at Enron house in London. And as John Sherriff moved up from his trading role and left the Houston office to become chief executive of Enron Europe, he insisted that the open floor plan was instituted outside the trading organisation as well. He decided to sit out on the trading floor rather than in an office and other managers followed his example, including the company lawyer. "I was an advocate of sitting on the trading floor," says Sherriff. "For a start, I found it the most exciting place in the building, but I also wanted to be accessible. I thought it would create an environment where there was more and quicker communication. In addition, it reduced the office space we needed as that was expensive."

Another important aspect of Enron's culture was its diversity. At Enron Europe everyone had flags on their desks to denote their nationality and each market tended to be led by someone of that nationality. Many people believe this was one of the reasons for Enron's success in opening up markets in Europe. "I insisted on hiring Germans," says John Thompson, who opened Enron's German office in March 1996 where he led the development of Enron's German power business. "All previous companies tried to crack the German markets using English accents and the English language. But the politicians and municipal leaders preferred talking to young Germans. They trusted them more and felt they were trying to improve things for their fellow countrymen, rather than having Americans come in telling them what to do."

Excellence in communication extended to the interaction between power plant operators and traders. "The people that are operating and running a power plant speak an entirely different language than the traders. I think one of the things we became very successful at was really bridging that gap and developing a common language," says Geoff Roberts, who worked for Enron from 1991 to 1999 holding various senior roles, including president and chief executive of Enron Europe, managing director for ECT North America, managing director for Enron International and managing director for Enron Asia Pacific.

Enron was renowned for hiring very intelligent people and this became part of its appeal. "It was great to be surrounded by smart people," says Richard Harper, who joined Enron Europe in 1994, primarily to sort out the J-Block contract disputes (see Projects box). "One managing director wanted Enron to be the company with the highest IQ per square foot!"

With its emphasis on attracting talent, providing excellent training, encouraging people to put their ideas into practice and instilling a belief that anything can be achieved if you work hard enough, Enron really put energy trading on the map. "In the mid-90s, Enron had become the number-one employer of choice for MBAs in the US, overtaking McKinsey and Goldman Sachs," notes Tani Nath, who joined Enron Europe in 1992 and was head of structuring and research at the time of Enron's demise. "That was an interesting achievement: to go from being a tiny pipeline company to being somewhere the brightest and best want to work."

People talk about the culture being created right at the top of the organisation by the late Kenneth Lay and Jeffrey Skilling, who was president and chief operating officer before he took over from Lay as chief executive for six months in 2001. "I would say the culture was a combination of both Ken Lay and Jeff Skilling," says Olson. "I don't think we'd have got where we did without Jeff. Innovation was in his DNA."

"The vision was from Lay and Skilling," says Perry. "Skilling was a real implementer. Staff were encouraged to behave in a certain way, which at its best was incredibly purposeful, never accepting traditional answers. Banks would be amazed at the creativity coming from an energy company. We had the financial thought processes and the physical knowledge. I think it was Enron that made the banks think about what you could do in energy – we showed them the margins that were available."

"Jeff Skilling wanted the trading and marketing activities at Enron to look like the trading and marketing activities at an investment bank," says Joseph Pokalsky, Enron's vice-president of energy trading and risk management from May 1991 to May 1996. "He

Houston executives and politicians break ground on a new baseball stadium for the Houston Astros in 1997. Ken Lay is on the far left

BRETT COOMER/AP/Press Association Images

> *Enron had a lot of money and talent tied up in the run-up to the bankruptcy because it was starting so many new businesses at once*
>
> *John Sherriff*

knew you needed to integrate all the trading activities and you needed to have structuring and risk management functions and a way to assess, measure, price and manage risk."

Pokalsky was tasked with integrating physical and futures trading with the activities of marketers who were pricing their deals separately, and creating a centralised risk management function. He was attracted to the job after Skilling explained the margins that were possible. "I was killing myself [at a financial institution] trying to make 2 basis points on a swap and he was telling me that they were making 2,500 basis points on a good amount of their trades," he recalls. "I was amazed at the exposure the trading counterparties in the commodities business would grant each other, even though they had very poor balance sheets relative to investment-grade companies."

Pokalsky's work of bringing financial models to the energy world was ground-breaking. "I think one should recognise his role in bringing the experience of the financial industry to commodity trading," says Vince Kaminski, who was managing director for research at Enron from 1992 to 2002. "To a large extent, the early principles of energy trading were his contribution," he says.

Kaminski is also widely recognised for his contribution to quantitative analysis in energy markets. The broad mandate of his group was to provide support to all the units of Enron as far as quantitative modelling was required. "A very important part of it was developing financial models, which meant adapting models from the financial markets to the energy and commodities markets," he says. "But we went way beyond that: we were developing models of the physical systems, we were helping with problems related to pipelines and problems that required more advanced mathematics."

He believes the combination of very smart managerial direction and pioneering quantitative analysis meant Enron set the scene for all those in energy trading. "I think that in general, Enron defined modern energy trading," he says. "It pioneered the blending of trading with fundamental and financial analysis and it even set a blueprint for the physical organisation of the trading floor. I think that this is Enron's legacy."

One final but key aspect of the Enron culture was that people felt they were trusted by management. "The culture was that everyone was trusted," says Olson. "You were encouraged to implement sometimes very big projects without having to report up the line and wait for approvals." Skilling and Lay were often not consulted over large projects until very late on in their development, the electronic commodity trading platform EnronOnline, developed in 1999, being one of them, says Olson (see Projects box for details).

However, there was a very obvious downside to this managerial style – there were not enough checks in place to catch rogue traders or, in Enron's case, rogue chief financial officers (CFOs). Olson believes that fraudulent accounting practices on the part of Enron's CFO, Andrew Fastow, really did go unnoticed by Lay and Skilling due to this culture of trust.

And therein lies the paradox of Enron. In every element of the unique culture Enron created that allowed it to achieve so much, were sewn the seeds of its own downfall. Always being ready to back ideas led to bad projects being given the go-ahead, which wasted huge amounts of time and money; the culture of creativity led to more outlandish ideas and to excessive creativity on the accounting side; and the hands-off approach from above eventually allowed fraudulent activity to take place unchecked for a long period of time.

There are very mixed opinions on what finally brought Enron down. Some believe that Fastow's fraudulent accounting practices alone were not enough to destroy the company. Mark Frevert, who was chief executive of Enron Europe from 1996 until 2000 and then appointed chairman of Enron in 2001, believes that despite everything Enron could have survived if it had not been for the 9/11 terrorist attacks in the US and their impact on the markets. "I think the biggest factor in Enron's demise was the 9/11

Enron House in Grosvenor Place, London

John Stillwell/PA Archive/Press Association Images

Have we learnt anything?

While many case studies have been written about why Enron fell and what the lessons are, some believe the financial crisis of 2008 onwards demonstrates that very little has been learnt.

"Society didn't learn enough from Enron," says Vince Kaminski, who was managing director for research at Enron from 1992 to 2002. "It was seen as an outlier, a one-time event where some cowboys in Texas caused a big problem. I don't think it was though; I think it was an early event that could have provided insight into the fact that there were some systemic problems under the surface of the wider financial sector."

He believes important lessons were missed. "If people in academia, the financial press and the politicians had stepped back and looked at Enron and asked 'what are the systemic problems, what were the causes of Enron's demise?' that probably would have helped to prevent much more serious problems. Many problems that brought Enron down contributed to the financial crisis on a much bigger scale, eight or so years later," he adds.

Nick Perry, who was hired in 1993 to Enron Europe, says Enron showed the banks how to do remarkable things in markets perceived as dull. "On the downside, I think Enron could have sewn the seeds of the financial crisis by making the banks think about what they could do in a staid market like housing."

Tom Kearney, who worked at Enron from 1996 until 2001, agrees: "The financial crisis that has continued since 2008 is a direct result of those banks that were involved with Enron, that learnt enough to basically take it on themselves."

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Ken Lay leaving the Federal courthouse in Houston, May 25, 2006

DONNA MCWILLIAM/AP/Press Association Images

attacks, which basically froze the credit markets," he says. "We were in a position that we shouldn't have been in, but in normal market circumstances we would have been able to roll over our short-term debt and refinance what we needed to. It would have taken some time working through our balance-sheet issues, but with the credit markets drying out and credit spreads exploding, we had a very difficult time raising the capital and restructuring the debt we needed to. To my mind, that was one of the biggest reasons we ultimately collapsed."

Others believe that as Enron grew it became unwieldy and there were not enough checks put in place. "It was unstoppable as a small company chasing a few focused ideas, but as it grew, the ideas became more whacky, it was more diverse and harder to control," says Harper. Sherriff also believes the company started a few too many new businesses. "Every business takes a while to bring in any return and they are a drain for the first couple of years. So Enron had a lot of money and talent tied up in the run-up to the bankruptcy because it was starting so many new businesses at once."

Ernst agrees: "They needed a new place to expand in order to generate money and because of that they were willing to look into some crazy markets that may have been a money loser for the first couple of years. What was clearly unfortunate was that the innovation was driven by this negative force that we can only see in hindsight. But that doesn't take away from the people that I worked with there that were just brilliant."

The company's accounting methods also accrue some of the blame. "Cashflow was the simple reason Enron went down," says Perry. "The biggest part of Enron's earnings came from long-term deals, which were marked-to-market as profit long before the cash had been received. So structurally there was always a deficit."

At the same time the company had to show huge growth every year in order to keep investors interested in buying its stock. "There was an insistence on it growing 15% each year as it was perceived as a growth stock by the stock market," says Perry. "On top of that it was only BBB rated, so borrowing more wasn't an option. So unable to borrow or lessen growth, its only solution was ever more creative accounting, which became fraudulent accounting."

Many people see Enron's greatest legacy as the raft of legislation that came in its wake, especially the Sarbanes-Oxley Act of 2002. Others see it as the people that are now dotted across the energy landscape. But most agree that they will never work anywhere like it again. "Lots of folks have theories about what happened and what it all meant, but those were magic times..." says Ed Bell, who worked at Enron from 1990 to 1997, rising to senior director of advanced technology. "I don't know where that sort of magic exists today but I can say without exception that speaking to my friends and colleagues throughout the years, we're all in agreement that we would go back [to that magic] if we could. We'd do some things differently, but given the chance to go back again, I think I would probably take it."

> *[Enron] created a whole generation of people with the attitude that we can go out and make things happen*
>
> *Lynda Clemmons*

"I think most people who started with Enron in the early 1990s had a fantastic time, it was a great place to work, it was a lot of fun and it was a wonderful education," says Lynda Clemmons, who worked at Enron from 1992 to 2000 in roles that included running the company's emissions and weather trading businesses. "And that in and of itself created a whole generation of people with the attitude that we can go out and make things happen. And I think that's a very positive legacy." ■