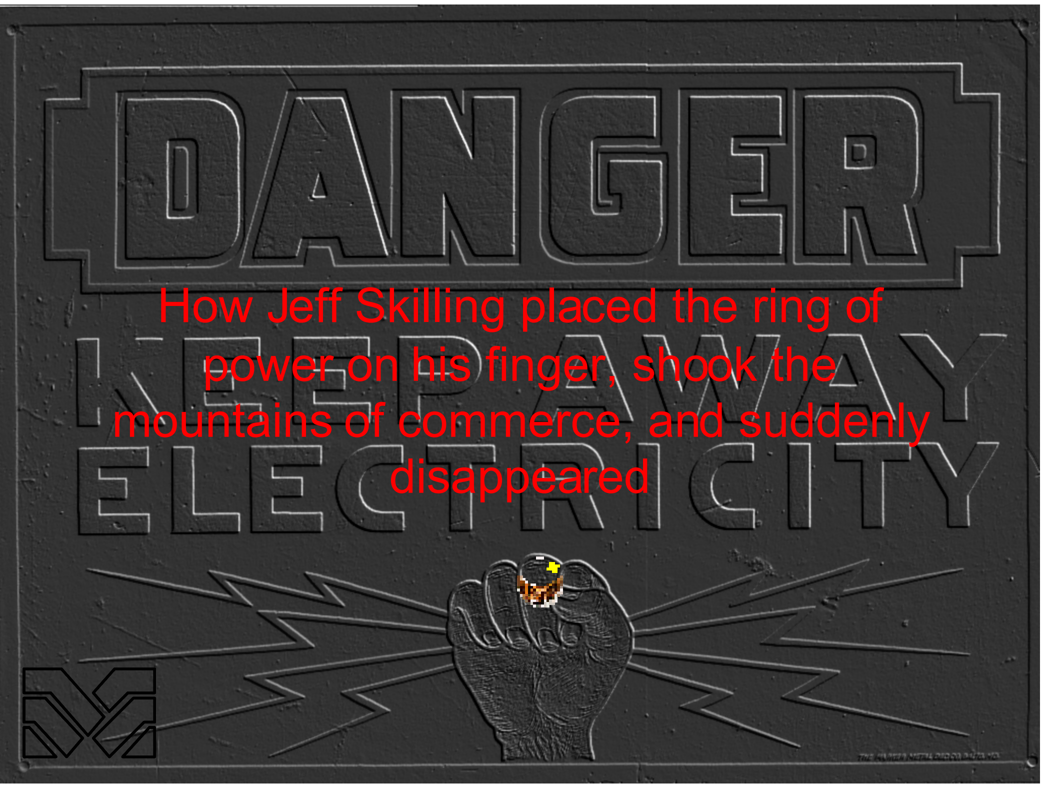
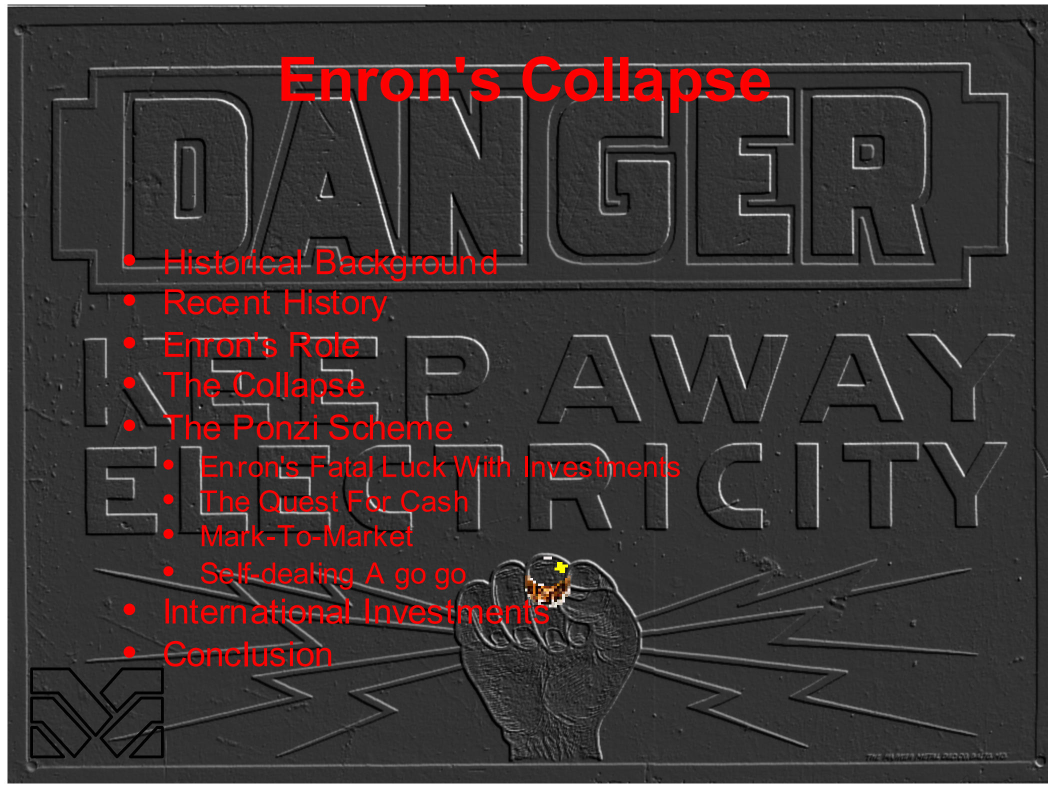

DANGER
KEEP AWAY
ELECTRICITY


Managing Partner
McCullough Research
March 19, 2002


How Jeff Skilling placed the ring of power on his finger, shook the mountains of commerce, and suddenly disappeared


Enron's Collapse
Historical Background
Recent History
Enron's Role
The Collapse
The Ponzi Scheme
Enron's Fatal Luck With Investments
The Quest For Cash
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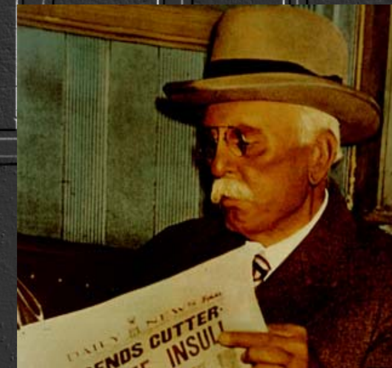
Conclusion

History

- Portland General Electric has figured significantly in two of the largest bankruptcies in U.S. history
  - In 1932 PGE initiated the collapse of the Insull empire
  - In 2001 PGE was one of the major assets of Enron
- The electric and gas industries were largely founded by Sam Insull and J.P. Morgan
- Both companies used Arthur Anderson

The Robber Barons

JP Morgan



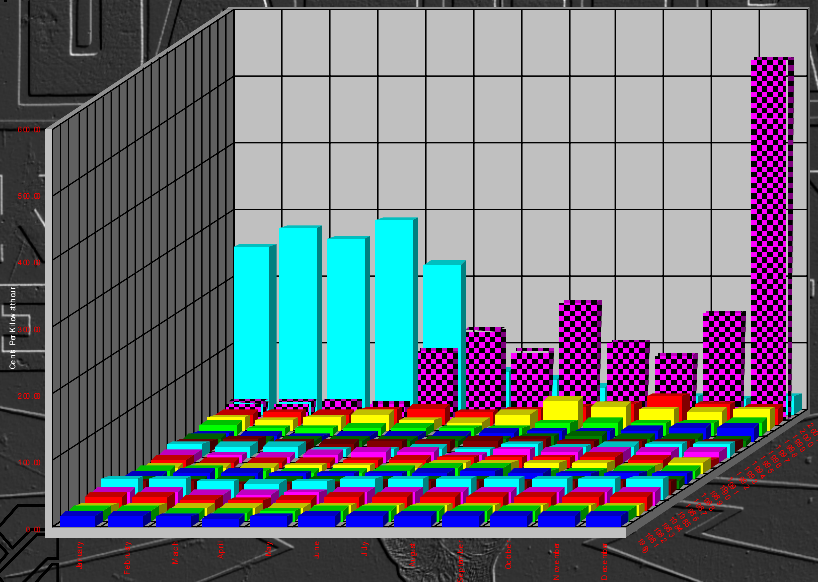
Samuel Insull

Arthur Anderson

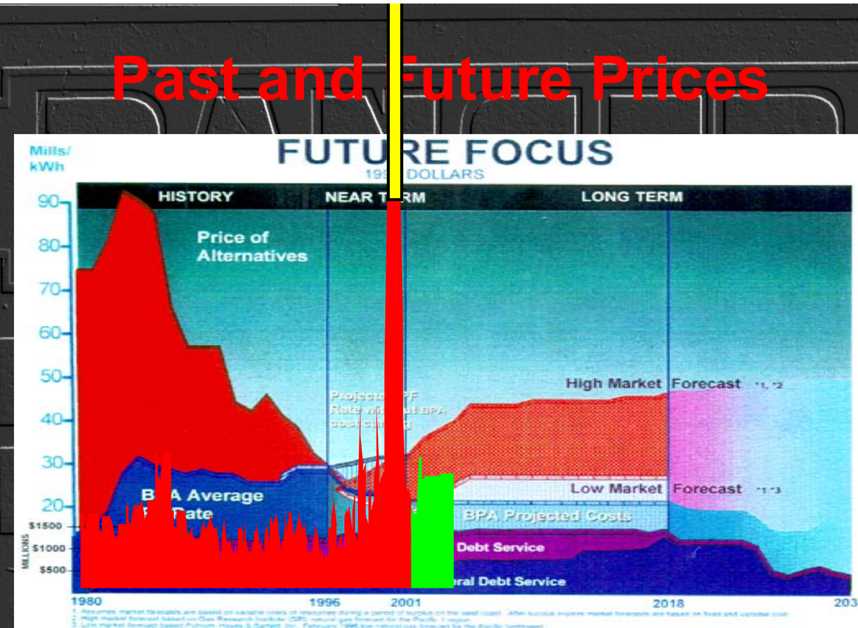
"The thoroughly trained accountant must have a sound understanding of the principles of economics, of finance and of organization. It has been the view of accountants up to this time that their responsibility begins and ends with the certification of the balance sheet and statement of earnings. I maintain that the responsibility of the public accountant begins, rather than ends, at this point."

There were a few ups and downs

Twenty Years At COB



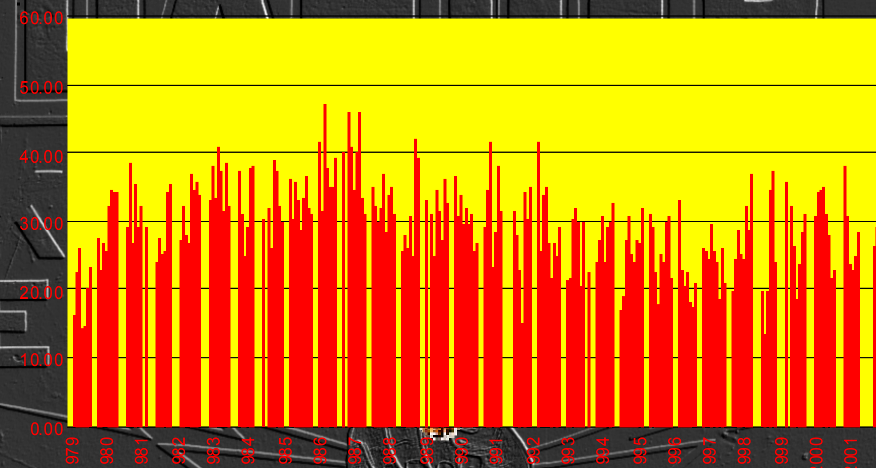
Past and Future Prices



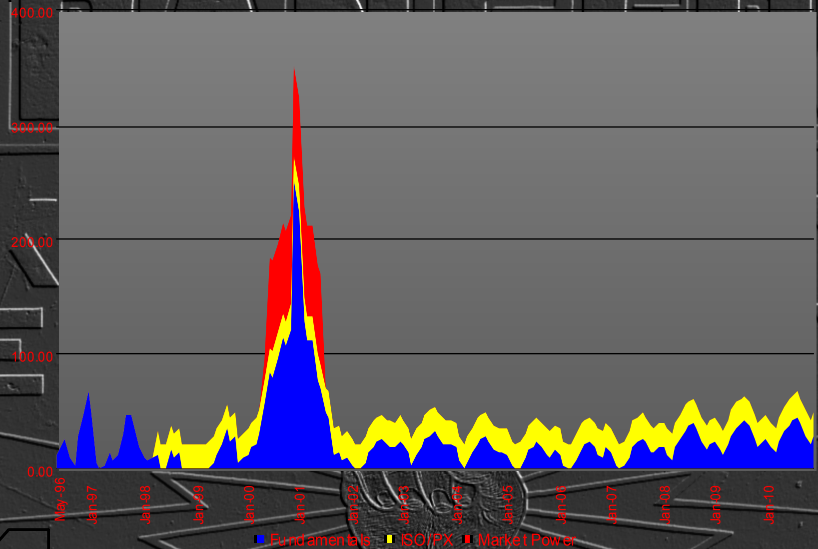
Recent History

- BPA started the competitive wholesale power market twenty years ago (largely by mistake)
- FERC approved the market in 1988
- In 1992 Congress established similar rules for the industry as a whole
- Four years ago California replaced wholesale markets in most of the state with a complex administered market mechanism
- The experiment created a petrie dish for market manipulation
- The resulting problems bankrupted utilities and closed industry throughout the West Coast
- FERC finally imposed price ceilings in June

WSCC Reserve Margins



On-Peak Impacts



Enron's Role

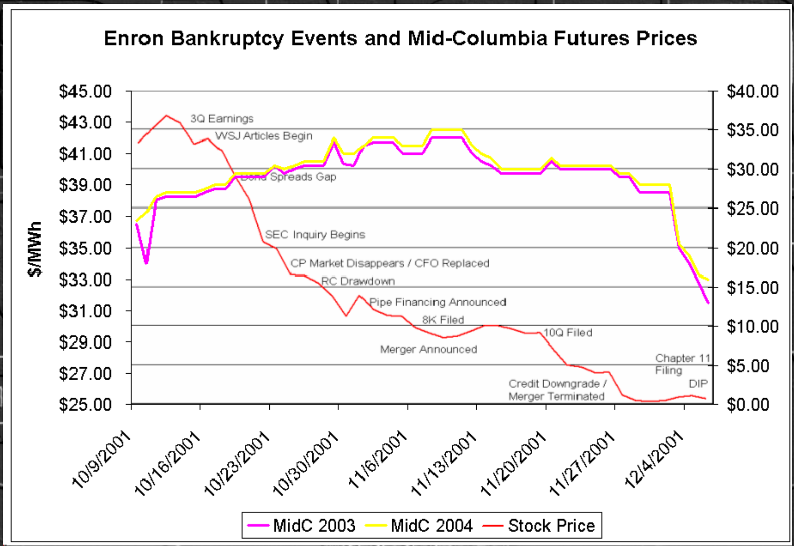
- Formed from the merger of two pipeline companies in 1985, Enron breaks logically into two parts – the relatively stodgy pipeline and utility business encompassing Portland General Electric, and the speculative Wholesale and Retail Services divisions including the Broadband trading operation. Other than a ready source of cash for the perennial cash starved speculative enterprises, PGE and the pipelines appear to have participated little in Enron's meteoric rise and fall.
- Wholesale Services, Retail Services, and Broadband are very different than the pipeline and utility business. In recent years, these three entrepreneurial divisions reported quarter after quarter of enormous growth. As of the third quarter 2001, Wholesale Services' two divisions, Americas and Europe, provided 97% of total revenues.

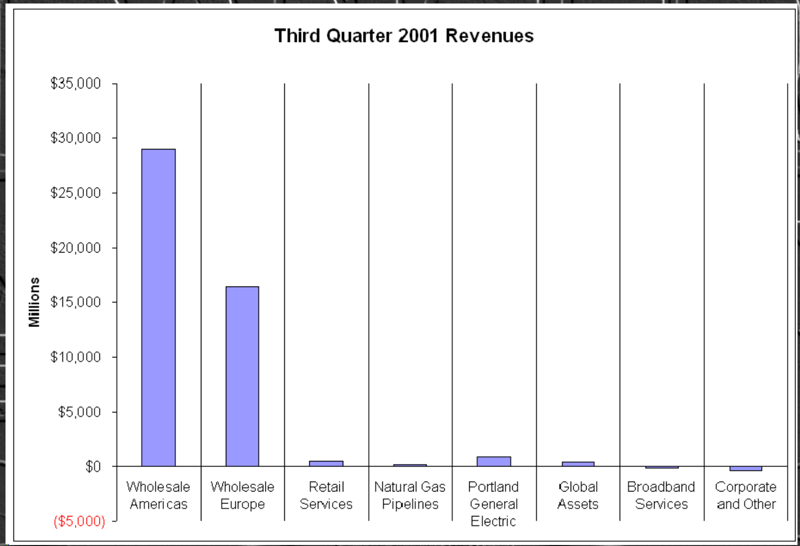
Enron Was An Aggressive Political Player

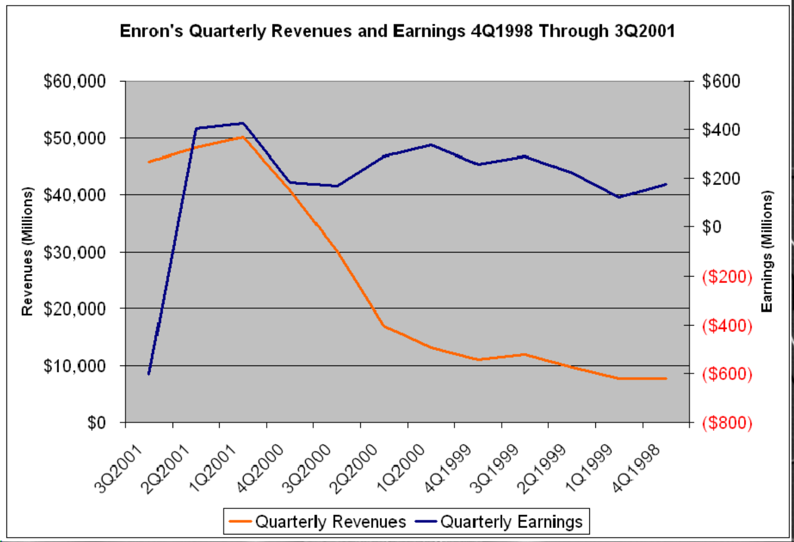
- Enron quickly dominated the deregulatory debate, even though they frequently had little knowledge of the underlying industry
- Enron was central to the California debacle -- participating (and often leading) the hearings
- Enron withdraw from California almost immediately after their scheme was launched on April 1st, 1998

The Collapse

- October 16, 2001 Enron announced its third quarter results
- The overall results were positive -- revenue growth of 132%
- Enron reduced stockholder's equity by $1 billion reflecting the accounting treatment of several unique financing arrangements

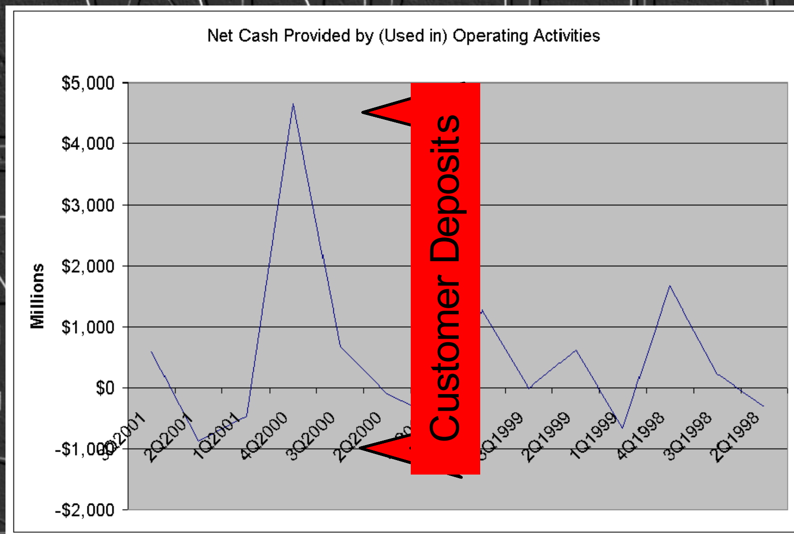




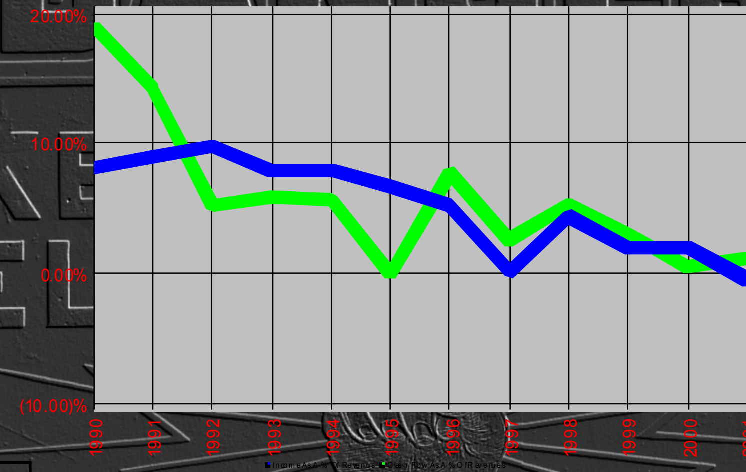


Where is the cash?

- As a percentage of revenues, Enron was earning 2% on revenues from 4th quarter 1998 through 1st quarter 2000. From 2nd quarter 2000 to the present, that percentage has fallen to one half of one percent. This is even more surprising when one remembers that the fabulously profitable markets in California started at the end of the 2nd quarter 2000 and lasted through 2nd quarter 2001.
- The central issue in this analysis is cash. Where has the cash gone? While Enron was showing year after year of ballooning revenues and steadily climbing earnings (albeit at a much smaller rate), Enron's indebtedness was also increasing. In the context of the traditional asset based industrial, this would hardly be a contradiction – additional sales would require additional capacity to produce the products sold. Enron, on the other hand, made a point in its financial statements that it was not asset based. Recent statements, for example, explained their sale of assets as part of their overall strategy.[1]



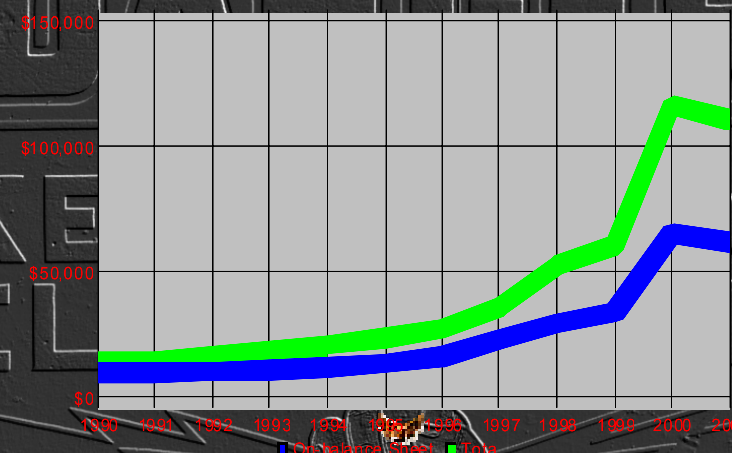
Enron's Falling Income and Cash Flow



Quality of Earnings: Cuiaba

- Cuiaba, a Brazilian project, started in 1997
- September 1999, share sold to LJM1
- December 2000, Mark to Market earnings of $66 million on natural gas purchase from Enron
- May 2001, repurchase by Enron
- December 2001, gas pipeline still unfinished

On And Off-Balance Sheet



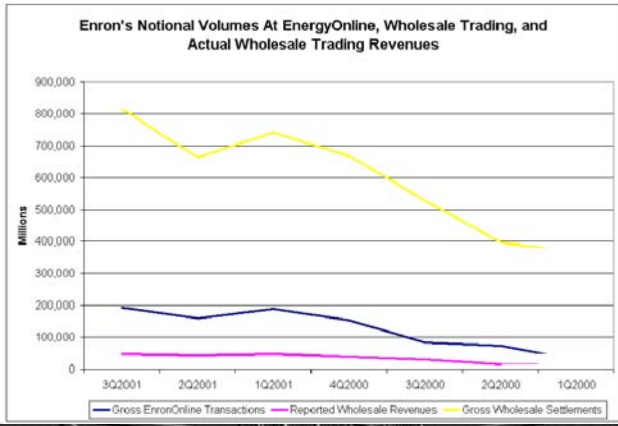
Enron's Cash Use

- December 3, 2001: $250 million in preliminary Debtor-In-Possession financing
- November 21, 2001: $450 million secured credit line from JP Morgan, $690 million payable, disclosed on Nov. 19, had been extended to mid-December
- November 9, 2001 $1,500 million equity infusion from Dynegy in exchange for Northern Pipeline preferred equity
- November 1, 2001 $550 million secured credit line from JP Morgan
- October 16, 2001: $3,000 million borrowed on existing lines of credit, repayment of $1,900 million in commercial paper obligations

Super Recourse Financing

- Most eastern cities have a financial mechanism that allows small firms to borrow significant amounts off the balance sheet. The local shylock will agree to not inform other lenders of his prior lien on the firm's assets – even if they have already been promised to the bank. Instead, the lender practices a form of super-recourse lending – leg breaking – to assure that these debts are always paid first.
- We now know that Enron had a number of similar financial arrangements. These super-recourse loans were more orderly – no gross physical trauma was necessary – but they were still very unusual. The Osprey Trust, for example, had recall procedures tied to stock price and bond ratings.7 This also applied to the similar "Marlin" investment. In effect, this means that any threat to Enron's assets would trigger a payout to the Osprey and Marlin investors long before payouts to traditional bond holders would even be considered.
- On November 19, Enron detailed a series of revelations concerning "triggers" that had led to an early repayment of a $690 million dollar note owed by Enron. This trigger event was caused by the bond downrating – another example of super-recourse financing.

EnronOnline



Sherren Watkins Letter To Ken Lay

- Sherren Watkins wrote the letter we all wished we had sent to our boss
- While her prescient statement that Enron "will implode in a wave of accounting scandals."
- More Importantly, Ms. Watkins identifies two unrealized income statement vulnerabilities:
  - Raptor -- $500 million
  - Condor -- $800 million
- Enron's 3rd Quarter 2001 Mea Culpa only identifies income statement impacts of $250 million in any given year

Unfortunate Last Words

I have heard one manager level employee from the principle investments group say "I know it would be devastating to all of us, but I wish we would get caught. We're such a crooked company." The principle investments group hedged a large number of their investments with Raptor. These people know and see a lot. Many similar comments are made when you ask about these deals. Employees quote our CFO as saying that he has a handshake deal with Skilling that LJM will never lose money.

Fastow Deposition

- New York Times published the text from a depositon of Fastow from the early 1990s
- Andrew Fastow described a complex transaction that apparently led to a mark to market gain on a long term open gas transaction
- Given the difference between gas price forecasts in the early 1990s and the realized gas prices through 2000, Enron realized a current loss in each of the following years

MTBE?

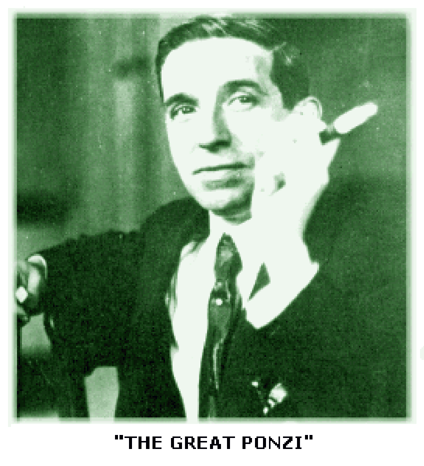
- Nov 1, 1991 MTBE Plant completed
- Nov 26, 1991 Tenneco sells plant for $619 million
- May 12, 1992 Lay announces expansions
- 1995 EPA flip flops on MTBE
- Oct 12, 1995 Major explosion
- Partial write-offs in 1999 and 2000
- May 5, 2001 Revolving door trades in MBTE
- Jun 30, 2001 EOTT purchases at $120 million
- Dec 2, 2001 Enron guarantees to EOTT fails
- Final write down due in EOTT's next financials

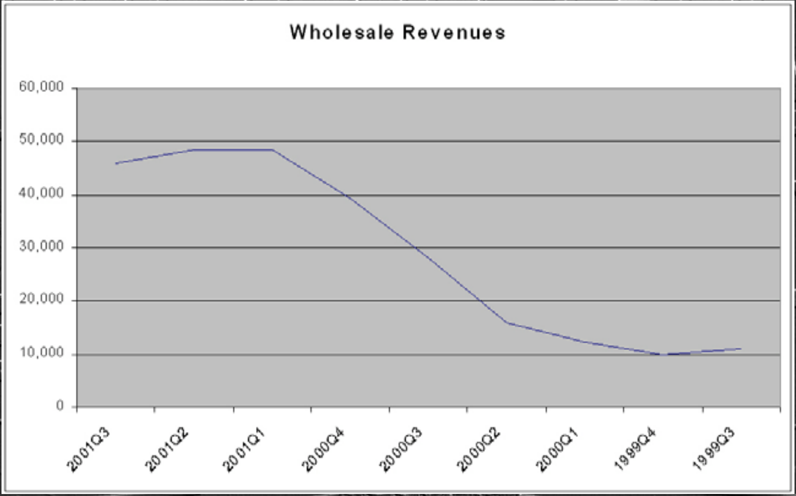
Ponzi Scheme

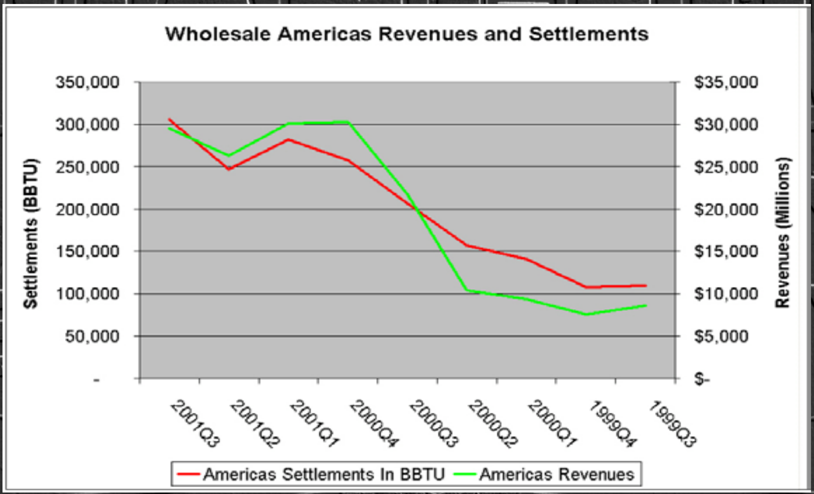
In 1919 an Italian immigrant named Charles Ponzi began the Securities Exchange Company. Like all good pyramid schemes, his company was based on the exploitation of a little understood mechanism – the International Postal Reply Coupon. The Postal Reply Coupon was an international stamp that could be exchanged for the local stamp in every participating country. Since exchange rates varied greatly after the First World War, an opportunity existed to arbitrage such coupons by buying them in countries with devalued currency and redeeming them in a country with a strong currency.

The Securities Exchange Company accepted $1,000 investments, purportedly invested the money in the arbitrage of Postal Reply Coupons, and returned a 50% profit within three months. In practice, early investors were simply paid from the investments of later victims. As long as the growth rate of the firm exceeded 512% per year, enough income existed to repay existing commitments. If the growth rate falls below that rate, not enough cash can be raised to repay the current investors and the scheme collapses. Charles Ponzi was able to sustain that rate of growth until a law suit filed by an early partner froze much of his assets and started a run on the company. Interestingly, Ponzi stayed to the bitter end – maintaining that his company had substantial assets and a real source of profits.

Charles Ponzi







Prima Facie Case

- Enron had a superficially plausible business plan that quickly lost credibility on deeper review. When Bethany McLean of Fortune Magazine attempted to probe Enron's business plan this spring, Enron's CEO, Jeff Skilling, quickly became agitated and hung up on the reporter.[13]
- Enron has averaged a quarterly revenue growth of 39% per quarter over 2000. This growth rate compounds to 371% per annum. This rate of growth isn't impossible, but it is remarkable considering that Enron main products were neither new to the industry, nor terribly well implemented. Although any review of their business skills is necessarily anecdotal, doing business with Enron was often very difficult.
- Financial reporting was minimal and often contradictory. It isn't difficult to find obvious errors in their financial statements. For example, in their Third Quarter 2001 earnings announcement, Enron reported that their three month physical transactions were greater than their transactions for the nine month period.[14] Enron's discussion of risk was especially questionable. At the end of 2000, Enron's 10K reported that value at risk for the company averaged $50 million over the year.[15]
- Enron's central business – trading in the U.S. and Canada – stopped growing after the first quarter of 2001. This is the central indication that without the rapid rate of growth that Enron would not be able to continue – a critical feature of Ponzi schemes. Since the third quarter, Enron has desperately sought additional cash in huge amounts – another sign of a decaying pyramid scheme.

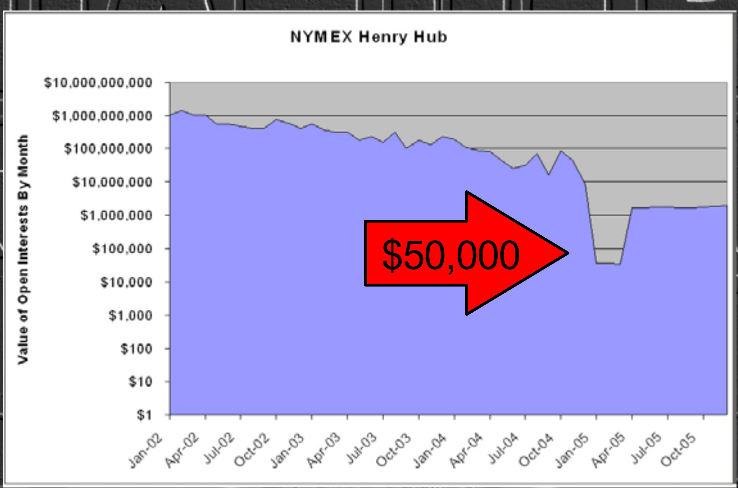
Enron Europe 3rd Quarter

($000)	Realized [1] Margin	Unrealized [2] Margin
Crude & Products	-156,425	280,838
Coal	-53,112	112,782
Vessel Trading	28,336	-17,889
Emissions	97,192	-94,587
Weather	-29,830	56,342
Insurance Risk Markets	681	4,538
Financial Trading	N/A	N/A
Freight	-1,344	4,300
LNG	4,608	-569
Finance and Structuring	401	0
Japan	1	0
Total	($109,483)	$345,775

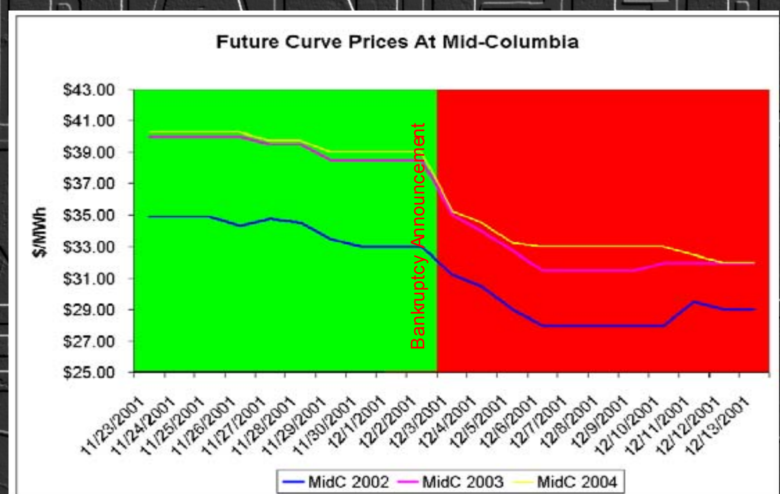
Possible Mechanics

1. Assume a transaction where five years of electricity was purchased at a fixed price for resale in future spot markets. Since a five year supply is more valuable than a spot supply, such a contract would lose cash in the first year. If the contract was valued with a future curve that forecasted the spot price of electricity approaching the fully allocated cost of a new power plant, the contract would be cash flow positive in later years.
2. Using Enron's mark to market approach, the present value of such a contract would be positive, even if it lost money in the first year.
3. Since there is no independent market in long term electric futures, the future curve used in the evaluation is based on bilateral trades between different parties in the market. While such future curves are easy to derive, the liquidity of the market after the current year is very thin.
4. If, as has been the case in competitive power markets for the past twenty years, the price of power in the following year was less than the fully allocated cost of a new power plant, last year's contract would lead to a loss in the second year.
5. A second power contract, 50% larger than the first, would provide enough mark to market earnings in the second year to offset the realized loss on the contract from the first year. Cash flow would now be worse than in the first year – since a loss in the first year of the new contract would be increased by the unanticipated loss in the second year of the first contract.
6. With sufficient growth in volume, earnings can be positive in each year, while cash flows continue to deteriorate.
7. Like any other pyramid scheme, such an approach will fail when sales growth cannot be sustained.

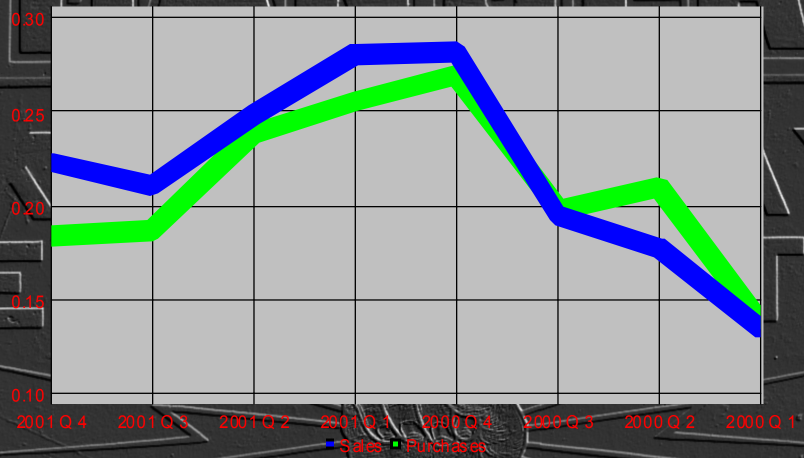
Liquidity of Futures Markets



Possible Enron Impact?



Enron's Market Share



Potential Losses

Could The Collapse Be Losses?

- This would be consistent with the need for cash
- Enron's creditors would probably not support payout of trading losses before debt holders

Conclusion

- The causes of Enron's collapse will remain unknown until a detailed post mortem can be conducted. The sense from a detailed review of Enron's financials is of a firm whose announced income seldom matched its cash flows. While Enron was able to maintain high rates of growth, it was able to disguise its chronic lack of cash through super recourse financings and the collection of deposits. Once Enron's sales leveled off after 4th quarter 2000, maintaining the illusion of prosperity proved impossible.
- The suspicion the facts leaves is that strong revenue growth – even at the expense of declining margins – was used to create the illusion of manifest destiny. The use of mark to market accounting in an environment where the prices of future energy supplies is highly subjective is an incentive to abuse.

International Investments

- Models
- Investments

Nov. 14, 2001 Conference Call

- In hindsight, we made some very bad investments in non-core businesses. Our investments in various international assets such as Azurix, India and Brazil to name a few, have performed far worse than we could ever have imagined when we made these investments;
- Because of these investments and other matters, Enron became over-levered. While the poor performance of our investments was bad enough, the negative impact of these investments on the Company have been exacerbated through the extensive use of debt capital both on and off the balance sheet;
- We entered into related party transactions that produced various conflicts of interest both real and perceived. Although we put in place significant safeguards to protect Enron and its stakeholders, investors still perceived conflicts and the loss of investor confidence from these transactions has been very damaging;
- We have been criticized regarding the breakdown of the results of our various business activities as being opaque and difficult to understand; and
- On top of it all, we discovered and disclosed errors in our financial statements which will require a restatement of our previously reported financial statements.

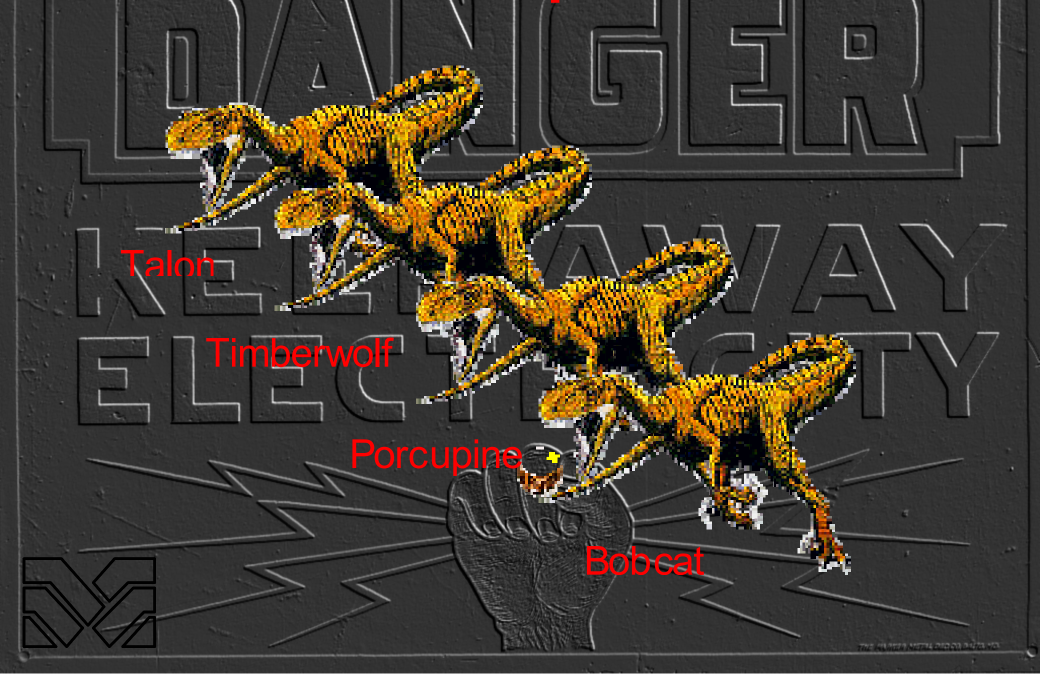
Enron Mechanics

- Enron's frenzied inventiveness involved a cluster of techniques designed to avoid accounting controls
- Favorite among the techniques are transfers between Enron's controlled entities with value backed by contractual commitments
- Enron's structure required "independent" entities often controlled by Enron officers

LJM1

- Fastow forms a partnership with limited partners Credit Suisse and NatWest
- LJM1 forms SwapSub which "hedges" Enron's stake in Rhythms Netconnection
- LJM1's assets are 6.8 million shares of Enron stock and $16 million of invested funds
- Upon unwind, 3.7 million shares are left in LJM1's hands
- LJM1 also was the agent in the Cuiaba manipulation

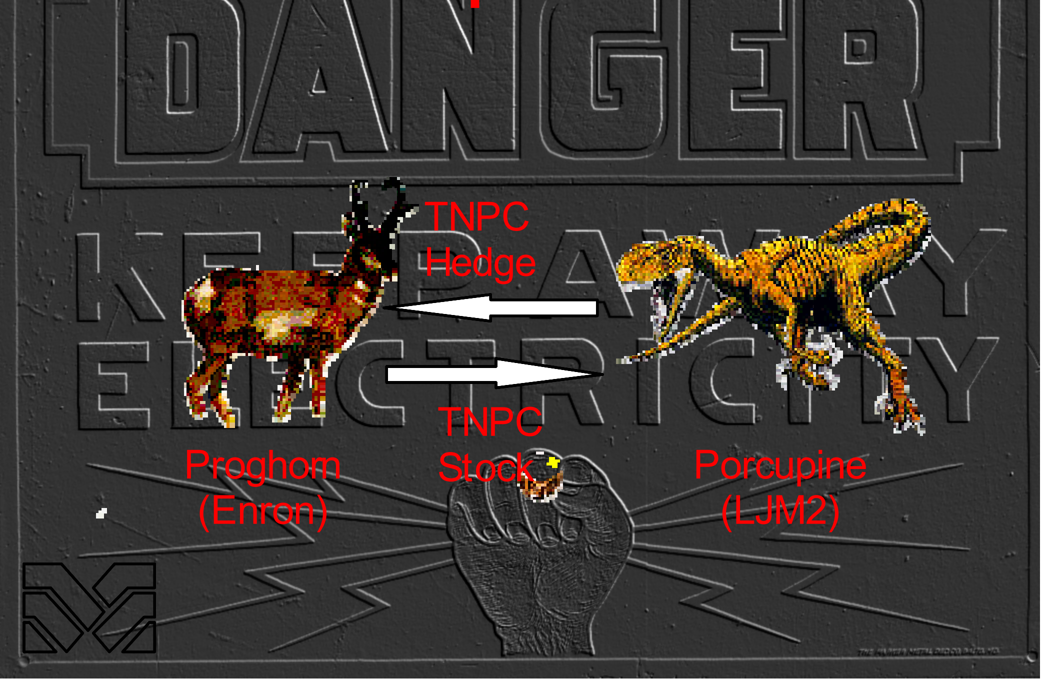
The Raptors



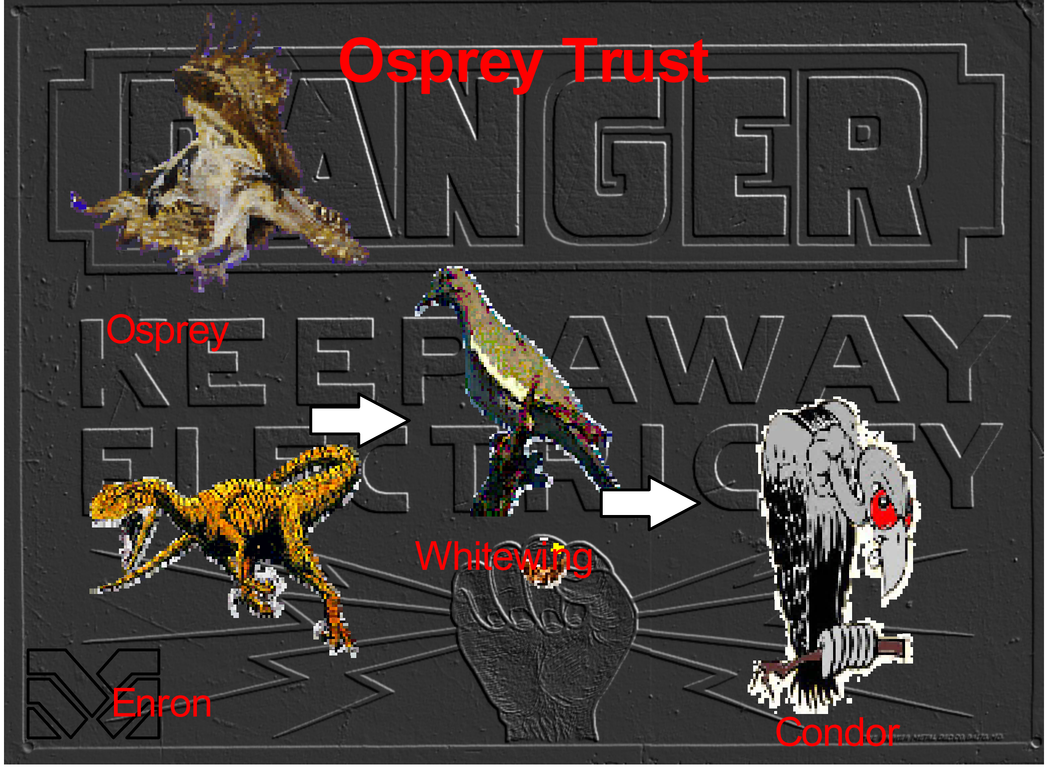
The Raptors

- LJM2 hatched four SPEs designed to "hedge" doubtful Enron investments
- In each case, Enron funded the SPE and received payouts when the asset price fell
- In one case, Raptor III (Porcupine), the hedge asset was the asset to be hedged
- These SPEs contributed 2/3rds of Enron's earnings over the past five quarters

Raptor III



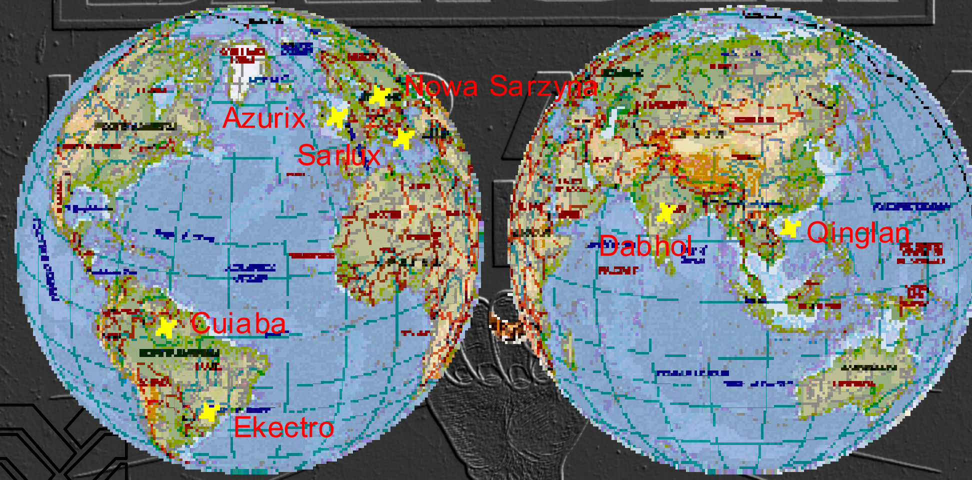
Osprey Trust



Osprey

- Osprey and Enron own Whitewing
- Whitewing's assets are $2.1 billion in questionable assets including Elektro and Nowa Sarzyna plus $2.4 billion in Enron shares
- Osprey would appear to bankrupt

International Ventures



Nowa Sarzyna

- 1999 Sold to LJM2
- 2000 Sold to Whitewing
- 2001 Construction, contracting, and fuel problems

Cuiaba

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- December 2000, Mark to Market earnings of $66 million on natural gas purchase from Enron
- May 2001, repurchase by Enron
- December 2001, gas pipeline still unfinished

Sarlux

- 2000 Contributed to Sundance
- 2001 Senior debt at EPLC owned by LJM2
- 2001 Startup
- 2002 Valuation questionable due to the complexity of financing

Dabhol

- June 1992 MOU signed
- Dec. 1993 First PPA signed
- Aug. 1995 Buyer sues – citing fraud
- Aug. 1996 Second PPA signed
- 1999 Phase 1 completed
- Jan. 2001 Buyer defaults

Elektro

- 1998 Enron pays $1.3 billion for Elektro – approximately twice current value
- 1999 Elektro sold to Whitewing
- 2001 Drought causes electricity shortages
- 2001 Brazilian government questions Elektro accounting
- 2002 Current valuation $600

Azurix

- 1998 Azurix created
- 1998 Wessex purchased for $2.4 billion
- 1999 One third of Azurix is sold to the public – shares fall sharply
- 2000 Azurix folded into to Atlantic Water Trust to avoid a writedown and "avoid public scrutiny"
- 2000 $326 million write down for asset impairment
- 2001 Enron sells Azurix North America

Qinglan

- 1994 Power contract signed
- 1994 50% sold
- 1996 Plant completed
- 1996 Power contract renegotiated
- 1999 100% of the plant shows up in Enron's financials

Reprise

- Enron's actual business appears to have been poorly managed and absent of any real profit
- Enron's accounting and public relations were works of art
- Actual earnings and cash flow fell continuously over the past decade
- Enron appears to meet the conditions for being a classic Ponzi scheme