FALL 2004 – IDEOLOGY & DEREGULATION

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DIALOGUES & INTERACTIONS

1. Background & Questionnaire Results

The Bordeaux Energy Colloquium was held in Cap Ferret this year from the 21st till the 24th of October. The theme of this Colloquium was the impact of deregulation on grid infrastructure and investment. The participants consisted of a delegation involved primarily with the policy design, investment, and implementation of the electricity grid infrastructure. Participants ranged from utility and industry executives, financial investors, and energy regulators.

The weekend was formatted around four formal dialogues and many informal discussions.
Questionnaires (Exhibit A) were distributed addressing:

Ideology of Deregulation Serving Public Good
Reliability of the Grid
Investment in Infrastructure
Serving Public Good

The group dialogues and survey results painted a more cautious and conservative approach towards moving aggressively into a competitive energy market. Finding a middle ground rather than accepting the black or white prescriptions of 'free markets' versus 'regulated monopolies' continued to be the primary focus.

Old Regime	**New Regime**
Public Service	Commodity
Government	Free Market
Monopolies	Competition
Regulation	No Rules
Intervention	No Intervention

The key concern centered on the transition period between the two regimes, which received the highest degree of uncertain opinion. The majority of participants agreed that a "shock treatment" approach to entering the New Regime, such as the California model was unacceptable primarily due to the pain associated with the resulting pricing volatility and uncertain reliability. Many participants felt discouraged about the stalemate situation of the energy market reform in the US. Ken Malloy identified what he called the Four Apocalyptic Horseman that have ground reform to a halt: Enron collapse, California crisis, Northeast Blackout, and the scandals and subsequent implosion of energy trading firms. Adding to the inertia was an election year with a highly uncertain outcome. Federal Energy Policy, vis a vis, the Energy Bill was viewed as a messy conflictual wish list of special interest groups.

In addition, the grid lock between the states and FERC over regulatory authority continues to support the failed implementation of a consistent set of rules necessary to encourage private investment. The overall pessimistic view of competitive energy markets in the US did give way to some avenues of hope. The lessons learned the hard way in the US, Europe and South America have offered many valuable lessons about the key areas to be managed. It is now clear that the old regime represents an extremely comfortable structure for the majority of interested parties including, utilities, regulators, financial markets and even the average consumer. Breaking a well-entrenched, stable structure into a highly uncertain, highly inconsistent and highly volatile network requires a generously rewarding outcome to ensure the tenacity of the players to see the process all the way through. To date, the pot of gold at the end of the rainbow has remained evasive to most.

The following sections outline the survey results and summarize participant discussions:

1. The Ideology of Deregulation

Low prices are achievable through competition for all customer classes.

Agree	Disagree	Neutral
15%	85%	0%

Market forces do a better job than government or regulatory agencies in determining prices for commodities such as electricity.

Agree	Disagree	Neutral
54%	31%	15%

Pricing volatility is a necessary part of an efficient electricity market that will promote the long term best interest of consumers.

Agree	Disagree	Neutral
54%	15%	31%

Government should shield consumers for market risks and pricing volatility through instituting price caps.

Agree	Disagree	Neutral
31%	54%	15%

Vertical integration is necessary in the electricity market. Although free markets may do a better job in managing rail, phone and airline prices they have yet to match the regulator's ability to juggle the complexities of electricity.

Agree	Disagree	Neutral
8%	69%	23%

DISCUSSIONS

Deregulation of the energy market was sold on a false set of promises of guaranteed low prices without any side effects to reliability and continued innovation. Low prices are not the goal of deregulation. Participants agreed that the first phase of "deregulating" the US energy market consisted more of salesmanship than leadership and promises of guaranteed lower prices on electricity set up unrealistic expectations. Markets do not equate to "low" pricing they equate to "right" pricing. In properly functioning markets there will be inequalities in pricing between customer classes, regions, seasons and the natural dynamics of over-supply or increased demand. In the second round of market reform, clearly the value statement of changing the structure of electricity markets must include more than just "low prices".

Much of the group's debate still focused on electricity as a commodity versus a public service. The new regime of deregulation calls for a commodity model to allow the market dynamics to work through expected times of pricing volatility and availability. There was wide agreement that electricity as a public service in the U.S. has been burdened with too many social subsidies in a regulated, cost based model. "Acceptable" subsidies covering issues such as regional development, pollution control, life-line programs have been extended over time to include covering investment risks in nuclear programs, independent power producer (IPP) contracts and overall built-in infrastructure redundancy.

The result is that regional utilities have real inequalities in the cost of service making the transition period fraught with stranded cost recovery, retail price caps, and guaranteed discounts that drive artificial pricing mechanisms and stunt real competition. Hiding behind the issues of serving public good, regulatory agencies have created piecemeal amendments to a properly functioning market structure- many of which have had disastrous consequences as witnessed in the California market meltdown.

Transition periods are clearly the most treacherous times for regime changes. Volatility of pricing and supply and the constant threat of black-outs due to deteriorating infrastructures, drove the U.S. restructuring efforts to a stand-still. The California model adopted a "shock-treatment" approach of opening the market with all its changing variables at the same time. Even the most optimistic of market advocates had to agree that the subsequent crisis was not worth the promise of accelerated change. The resulting remedies of regulators both at the federal and local level pushed the crisis situation into a multi-billion dollar failed experiment that set-back competition models across the nation and the globe.

In contrast, the privatization efforts in Great Britain were tied to more realistic and achievable goals. Margaret Thatcher drove economic reform with a carrot and stick approach. While standing firm in her leadership against the strong forces of opposition to her deregulation movement, she also involved effected parties by giving them a personal interest in the movement. In addition to promoting an emotionally loaded ideology of Capitalism prevailing over Communism she also linked privatization to personal wealth creation by giving people shares in public companies and direct ownership in public housing. The direct personal link to the success of the process created the emotional stamina needed to weather the inevitable storms associated with large scale systemic change.

Regardless of the reward structure, government still has a role to play in shielding consumers from excessive market risks during a restructuring of a market segment. The methodologies, however, need to be carefully selected. Electricity markets, like other network industries, should operate with degrees of pricing volatility. There will be times of excessive supply and low prices and times of shortage and subsequently higher prices. Supplying one house on the top of a mountain should be more expensive than adding an additional meter to a city block.

Majority opinion now holds that electricity is not too complex to work in a competitive market model but as a basic human need in modern society, government oversight will always be necessary. Energy market reform should target the elimination of monopoly power, cost based rate structures, hidden corporate and government subsidies and introduce competition, innovation and choice. The first round of energy reforms in the U.S. has caused an either all or nothing mentality of old regime versus new regime. The key to success in reinvigorating competitive energy markets is to focus on the transition dynamics and design in filters to dampen the natural effects of volatility during large systemic change.

2. Reliability of the Grid

Statement: Reliability is defined as adequacy of supply and security of operations. Competition encourages companies to focus on their **core competencies**, particularly those that are linked to ensuring reliability.

Agree	Disagree	Neutral
33%	50%	17%

Statement: A modern industrial society cannot function if security of supply (that is reliability) is dependent on free markets subject to economic cycles and shortages.

Agree	Disagree	Neutral
50%	33%	17%

Statement: The owners/operators of transmission and distribution facilities and providers of coordination and systems control should be required to provide access to any buyer/seller on a non-discriminatory common carrier basis.

Agree	Disagree	Neutral
92%	8%	0%

Statement: As system operators manage reserve deficiencies, the reliability of the system may deteriorate and random black-outs may be necessary.

Agree	Disagree	Neutral
25%	67%	8%

Statement: High prices will reduce harmful waste of resources and eliminate unnecessary power plant construction.

Agree	Disagree	Neutral
50%	42%	8%

DISCUSSIONS

Defining core competence consumed the majority of the group discussions. Core competency as defined as increasing reliability and adequacy of supply met with much skepticism. Core competence as defined as developing in-house specialization such as nuclear, transmission & distribution, billing or retail services met with greater agreement. The first wave of electricity deregulation ushered in an unprecedented phase of mergers and acquisitions within the industry. The race was on to establish a superior position either through geographic dominance or a functional core competence in generation, T&D or retail services.

While Wall Street loved the surge of activity, many within the industry worried about the loss of the traditional focus on critical investments in grid infrastructure, peaking power and maintenance. Both in theory and in reality, competition does force consolidation. In defining the playing field as broadly as the continental US, the merger frenzy was inevitable. M&A mentalities dominated the attention span of most major utilities and private companies alike, adding to the loss of focus on fundamentals. In essence this frenzy of activity handed another degree of uncertainty into the market volatility equation, inevitably accelerating the inevitable crash of opening too many variable to change at the same time.

Modern industrial society cannot function without a near perfect reliability of electricity, met with universal agreement. Black-outs, power interruptions and “unclean” power have enormous financial impacts in today’s electricity dependent world. Whether free markets, which are inherently fraught with economic cycles and times of oversupply or shortage, are the cause of unreliable power met with mixed results. Discussions revolved around the requirements for a regulatory framework with built in filters, but not circuit breakers. The creation of price caps, guaranteed discounts, single source buying options (i.e. the PX) and corporate subsidies (i.e. stranded cost recovery), created breaks in the natural flow of the stages of a market’s evolution. Containing the size and pace of deregulation was often cited as one way to dampen the volatility effect of a regime change to competitive markets.

As seen in the break-up of the telecommunications industry, regulators built in geographic filters by containing activity first regional consolidation- through the creation of the baby bells- and secondarily through one national set of rules that applied to everyone. Electricity reform had neither of these buffers. FERC tried to impose regional demarcations through the formation of RTO’s (regional transmission organizations) and exert a single set of market rules. State control and special interests blocked both efforts with the exception of open access on the transmission system. The result of a large playing field

and the ambition to open competition up to all users at once, created chaos. Anyone who has studied chaos theory can account for the unpredictable nature of a system with too many open variables. Patterns eventually emerge, but in this case were seen as skyrocketing prices and blackouts.

Results from the survey have shown that it is nearly universally accepted that the transmission system remain the regulated backbone of the market and that any player be given non-discriminatory access. While theoretically this has been implemented, the lack of coherence and planning within and among the RTOs has created the need for user prioritization under the banner of congestion management. Many argued that without the separation of regulatory control of RTO's to a federal level, real physical constraints and artificial special interests will continue to short-circuit competition. RTO's need 15-20 year planning horizons and active implementation of grid upgrades that are not bogged down in intra-state conflicts and permitting processes. Without this level of coordination, which can only be effective if mandated from the federal level, many participants felt that black-outs are a guaranteed part of the future.

After Shanti Muhati's presentation clearly showed the glut effect of over building natural gas peaking plants in the last few years, blaming reserve deficiencies as the cause of black-outs seemed a bit ludicrous. Reliability is only as good as its weakest link was the resounding mantra. The supply side mantra of generation of electricity met with the obvious inability to move electricity through transmission and distribution bottlenecks. The demand side mantra meets with technology constraints to manage electricity in a real time fashion. The real issue lie on neither side of a supply versus demand argument but at the center of market design. Correct market design properly balance these factors to avoid the extremes of black-outs or artificially high prices.

It's "right" pricing not "high" pricing that is an essential mechanism to control the balance of supply and demand of any network system. The false presumption that large quantities of reserve capacity ensure reliability is compounded by the artificial pricing of a regulated market regime. The catch 22 is that high electricity prices encourage investors to build power plants while at the same time drive consumers to cut back on demand. A combination that creates economic bubbles that burst into a wave of oversupply and bankruptcies as recently witnessed in the natural gas generation segment.

3. Investment in Infrastructure

Statement: Restoring public confidence in energy trading is an important policy priority.

Agree	Disagree	Neutral
79%	0%	21%

Statement: Regulation misdirects investment signals where competition forces a reassessment of risk/reward allocations.

Agree	Disagree	Neutral
36%	50%	14%

Statement: Uncertainty about new regulatory and market rules has slowed grid investment to alarming levels.

Agree	Disagree	Neutral
71%	21%	7%

Statement: Government involvement in the market shifts investment focus to an outcome based on longer term investments that benefit consumers.

Agree	Disagree	Neutral
71%	21%	7%

Statement: Attempting to let markets price supply for electricity leads to investment inefficiencies in an easily monopolized market, the incentives are toward strangling the market, not supplying the market. Generating power shortages becomes far more lucrative than generating more electricity.

Agree	Disagree	Neutral
43%	43%	14%

DISCUSSIONS

A surprisingly large percentage of 79% of the participants felt that restoring confidence in energy trading was an important policy priority. Market proponents stated underlined the necessity of liquidity and financial vehicles to hedge risk if electricity were to be treated as a tradable commodity. As a commodity, many felt the corruptions that were seen in the PX in California should come under the regulatory arm of the SCC and not through traditional electricity regulators.

Pricing transparency is an essential part of a successful market design. The key problem in the electricity market is the inelastic pricing nature of power at peak periods. Pricing, like reliability, is only as good as its weakest link. If power cannot be moved to where it is needed during peak periods, pricing can reach astronomical levels. Pricing transparency sends the needed signal to the market to cut back and manage peaks through demand reduction. Therefore, properly structured energy trading that includes demand side bidding and real-time pricing signals to consumers is an important policy priority.

Regulation misdirects investment signals where competition forces a reassessment of risk/reward allocations, met with the need for re-clarification. Regulation under the old regime, of cost based rate making encouraged over building as this was a key to increasing revenues and profits. Demand reduction had the inverse effect and subsequently little to no attention or serious investments were made in this arena. Even with some degree of competition in today's energy market, remnants of this supply side thinking still exist and effect false solutions.

Participants argued that “good” regulation can help investments as investment dollars follow the path of least resistance. Investing in the current quasi deregulated market place represents too many perverse risks to the investment community. Uncertainties about regulatory control and changing rules, volatile or capped pricing schemes all add up to a hiatus in investments in the sector. Areas where returns on investment are still backed by stable state regulations have seen investments such as the bubble of gas fired generation build-up in the southern central states.

This uncertainty about new regulatory and market rules has slowed grid investment to alarming levels met with 71% agreement among participants. The need for collective agreement between states and their regulatory bodies has amplified the uncertainty of investment in the transmission sector. Gil Quinones presented sobering examples of transmission projects built and abandon in New York due to local politics and the void of strong regulatory control.

This led directly into the discussion that government involvement in the market shifts investment focus to longer term investments that benefit consumers. Clearly projects requiring a 15-20 year pay back cycle require some degree of certainty of returns. The large scale projects required in transmission will not happen until an entity with real financial resources, unlike the on-paper only RTO organizations, can back up financial risk with guarantees.

Finally, the participants were evenly split. The California circumstances that presumably led generators to withhold supply to force prices higher has left a scarlet letter on competitive markets. In any market, the ability and perhaps willingness to game the system for higher profits exists. Treating electricity as a quasi-commodity to be regulated under the trading rules of the SCC and a regulated public service to be regulated under the engineering rules of state public utility commissions has created more vulnerability to corrupt behavior than normal.

4. Serving the Public Good

Statement: The provision of telephone, water and electric service to the rural and poor cannot be trusted to a market notorious for pursuing only the most profitable opportunities.

Agree	Disagree	Neutral
69%	15%	16%

Statement: There is a ‘societal compact’ that compels regulators to assure recovery of utilities cost of renewable portfolios, lifeline programs and economic development rates.

Agree	Disagree	Neutral
46%	31%	23%

Statement: When utilities are privatized, the state should still retain responsibility of providing universal access to water, gas and electricity at affordable prices.

Agree	Disagree	Neutral
69%	16%	15%

Statement: The role of energy efficiency and renewable programs should shift to a government authority and not remain the responsibility of the incumbent utilities.

Agree	Disagree	Neutral
23%	54%	23%

Statement: Much of the debate about industry reform is being conducted exclusively in the economic domain. There is a lack of any serious analysis and debate on the political, social and environmental dimensions of reform.

Agree	Disagree	Neutral
46%	54%	0%

DISCUSSIONS

Markets fall under the heaviest criticisms when the discussions turn to issues of public service. Clearly electricity has become a basic human necessity in modernized societies. 69% of participants felt that leaving the creation of "safety nets" to protect the rural and the poor to the goodwill of competitive market players would result in disaster stories. However, provisions can be set by the public sector and executed by the private sector. Under the old regime of cost based rate making subsidies were passed directly through to the consumer in the rates. Under a new regime of competition, these subsidies can be turned into investment incentives to build in rural areas or folded into other government welfare programs that provide food stamps, free medical and other services to the poor.

It was easy to agree that there is a societal compact for government to take care of the less fortunate in society and to protect the environment. It is less clear as to whether it is through the utilities that these initiatives should be executed. Pollution penalties and clean energy credits should be implemented to protect the environment and life line plans should be subsidized to provide basic services to the elderly and needed. Government has a role to play in maintaining the basic services to the public and can do so through mechanisms that support competitive market dynamics.

Question 3 regarding government's role in keeping pricing affordable for basic needs again underlines the viewpoint of electricity as a "special" commodity that needs to be treated differently from pork bellies or gold. The question also resurfaces the implication that wild pricing volatility inherent in such an inelastic

commodity cannot be borne by the average consumer. This argument has been the support beam under a fixed rate pricing scheme for utilities for years.

The truth remains that fixed priced plans can still be offered under competitive market regimes. The patterns of consumer usage are well known with the only variable being the weather. Controlling pricing risk should be the become the problem of the market player, who will in turn demand the market to provide mechanisms such as long-term contracts, demand side management, risk insurance and financial futures to curb these risks.

Shifting the role of social good programs to government authorities met with general disagreement. Government should not become the owner and executer of programs but should install mechanisms and incentives within the market to ensure their existence.

Finally on the question about debate within the industry focusing too much on the economic interests, the group was evenly divided. Many felt there is still a strong environmental lobby that is keeping that discussion alive and that much of the discussions at the State level are focused on preserving the obligations inherent in the "must serve" mentality of the old regime. In addition, States enjoy the ability to use utilities as economic incentive chips in economic development programs and are wary of shifting these costs into other tax based funding sources.

Clearly participants felt that the real debate about electric competition was divided between the corporatist and the consumer. The consumer level arguments have been boiled down to simplistic fear tactics of skyrocketing prices and black-outs, where the corporatist discussions have been self-serving and short sighted. The need for more leadership, more debate and most importantly more concrete suggestions for action is the only direction that will propel energy markets towards competition again.

In conclusion, one of the roles of the Bordeaux Energy Colloquium is to identify which actions the industry will embark on given the hypothesis of a move toward a competitive marketplace. The following top ten list derives from the dialogues at the Colloquium but is in great part personal hypotheses. They are intended to be predictive in nature, taking a position to test its validity. These actions address some of the most pressing issues captured at this point of the market's evolution. The resolution of key issues in the industry rests in successful implementation. These will be monitored over time to determine their efficacy.

ACTION ITEMS TO WATCH

1. Pricing Volatility

Clearly customers must be able to respond to pricing signals, particularly in times of high demand and scarce supply. Giving customers the choice about an acceptable level of volatility through various pricing plans is a solution that works in either a regulated or competitive environment.

2. Phased in Retail Access

Larger industrial and commercial customers have more benefit and thus more incentive to actively engage in a competitive energy market. Phasing in retail competition from larger users to residential users over time allows for market mechanisms to be worked out over a smaller number of users.

3. Intelligent Grids

The real-time nature of electricity makes scheduling access to shared grids a daunting task. The use of real-time metering linked to central control systems allows for more responsive action, particularly in high use times.

4. Demand Reduction Bidding

Allowing Demand side management programs to bid reduced or avoided demand the same way generation bids into the market. Real time metering and smart control systems at customer sites will enable accurate reporting.

5. Less new Transmission, More Upgrades

It is becoming too costly and too difficult to build new transmission systems to meet increasing local demand and the intrastate wheeling of power. New technologies will be incorporated into existing grids to enhance the flow of power. The interconnection of central control systems with demand side programs will also open up significant transmission congestion.

6. Fewer peaking plants, more distributed resources

The buildup of gas-fired combined cycle peaking plants will taper off. The few hours per year of critical peaking time and the inability to price that power at 'scarcity' rates will curb investments in central peaking plants. A move toward local control of small scale distributed resources will be combined with the increased control schemes and real-time metering to create pockets of power closer to ends of the grid. Of course, this also has a positive side effect on opening more transmission space.

7. New Financing Vehicles

The investment community will have to change its perspective on 'old regime' financing of plant and infrastructure. Guaranteed 30 year returns are becoming a thing of the past. Like the housing markets incredible creativity with home financing, the investment community will begin to offer new financing packages that spread around risk and offer variable rates.

8. Renewable Energy Credit Program

The continued support of renewable energy will require incentives within the market. The mandating of percentages by State government is one way to handle the problem. A second more market driven solution is to create a renewable trading program is a similar fashion as the emission trading. Percentages set by the state are then regulated primarily by market mechanisms that are allowed to trade credits as they see necessary.

9. Regional Regulatory Control

The physical reality of the interconnectedness of the power grids will force a shift from State legislative and PUC control to regional centers such as proposed by FERC's RTO's. State legislative and PUC control will focus more on public good programs such as lifeline and economic development programs.

10. More Federally mandated programs:

Due to the scale of the recent blackouts, the federal government will once again play a strong role in energy policy. Mandating the construction of transmission lines, nuclear power plants and domestic oil and gas production, will fall under the domain of the feds. Whether FERC continues to be the enforcement agency will greatly depend on the issue of State rights.

Individuals interested in participation in our updates and subsequent white papers can email their particulars at: kimberlysamaha@yahoo.com

We will keep you up to date with our progress.

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