California Experience – Why the Market Failed

The California market failed as a direct result of political and regulatory uncertainty. Neither the politicians nor California's regulators were willing to allow the market to develop and respond to the appropriate market signals. Signals that were acceptable as long as prices were low but were not acceptable when prices rose. It appears that the Regulator was overall focussed on delivering consumer price benefits through regulatory action, rather than creating the conditions for successful competition in both retail and generation markets.

At a time when California should have been trying to attract new generation to the state, it was actually putting in place procedures that sent inappropriate signals to the market. As California has all-too-painfully found, price caps do not spur investment in generation or in demand-side response mechanisms. Rather, caps dampen the price signals needed to encourage new construction and the introduction of price responsive load shedding measures that are needed in the long run to control price volatility and preserve reliability of supply. In addition, it is clear that decisions on the required supply/demand balance necessary to ensure the security of energy supply must go hand in hand with land-use and environmental protection planning regimes.

The primary structural weaknesses regarding the restructuring of California's power industry can be summed-up as follows:

- **Lack of retail competition -** A lack of retail competition and, in turn, a lack of hedged retail products for consumers, brought on by a combination of legislatively mandated rate-cuts and stranded-cost-collection schemes

- **Lack of clear price signals -** As mentioned above, the law deregulating California's electric industry specified that the rates paid by small consumers were to be 10% less than they were in 1996, when the law was passed. The rate reduction remains in force until the utilities recover all of their stranded costs or until 2002, whichever occurs first, at which time the domestic rates will be allowed to float with the market.

  The utilities were very much in favor of this scheme, as they expected to recoup their stranded costs quickly. The 10% rate reduction was probably less than they should have been forced to provide, given they had not had a rate case in several years, fuel input costs had decreased significantly, and the majority of their assets were fully depreciated.

- **Utilities were forced to sell to and buy from a single exchange -** A requirement that the California utilities sell to and purchase from a single power exchange ("PX") resulted in an excessive reliance on spot market purchases, all at the highest market-clearing price. (This is similar to the UK Pool System, but without capacity payments to encourage investment).

For more than two years the wholesale prices in California were very low at approximately 3.5 cents per KWh. In 2000 however, the extreme weather and rising fuel prices exposed the depth of the underlying weaknesses and structural flaws in the California market model:

- **Unprecedented and unpredicted growth in demand –** California's economy grew by a phenomenal 32% in the last five years, fueling a 24% increase in electricity consumption. This highlights the need for a fully independent TSO responsible for long term planning and load forecasting, on a transparent and published basis. Market mechanisms are required to reward capacity that is normally regarded as system reserve and it is essential to prevent power outages and maintain security of supply in the event of severe market conditions.

- **Lack of new generation due to political and regulatory risk –** At a time when demand was increasing sharply, price caps were instituted in California's ancillary services and real time markets. These price caps had the undesired effect of reducing the number of power plants being built. In 1998, when the law deregulating California's power industry went into effect, there were plans to build approximately 18,000 MW of new generation, of which only 672 MW has actually been built.

- **Lack of new generation due to siting issues –** During the last 10 years only 672 MW have been added to California's generation capacity; this was during a time when demand grew by more than 10,000 MW. Additionally, it takes approximately 7 years to build a new power plant in California.

  In order to ensure that new entrant developers are able to respond to pricing signals at the earliest opportunity, it is essential that countries have in place a clear and rapid system that takes appropriate account of land use and environmental issues, as well as the requirements for new capacity.

- **Reduction in imports to the California market -** A reduction in available imports from interconnected areas because of rapid economic growth in the adjoining areas and the reduced availability of hydroelectric resources this past summer as a result of climatic conditions. This emphasises the need for sufficient interconnection capacity and for Transmission System Operators to work closely together to consider the regional supply/demand balance. In Europe there may be particular lessons here for the Nordic region.

Unfortunately, subsequent political and regulatory actions in California have only fueled the firestorm caused by these weaknesses. In EFET's view, once political and regulatory judgements have been made, there is a natural tendency to seek to justify these actions, often resulting in further and more detailed regulatory actions that can act to compound the effect of the initial decision.

- **Price caps in real-time wholesale markets -** Price caps that artificially lowered prices in real-time markets resulted in greater and greater amounts of demand being purchased from the real-time markets – bad enough to be purchasing all power requirements in day-ahead markets, worse still to be buying it all in the real-time market In addition, as price caps are bureaucratic instruments and necessarily subject to the requirements of careful, transparent decision taking, they inherently fail to respond to fast moving changes in market conditions e.g. very rapid demand growth or

reductions or the effects of severe weather conditions. In this way they tend to suppress the fully cost-reflective pricing signals that ensure the market has the ability to evaluate whether or not very short term price fluctuations result from slightly longer term changes in the value of capacity and to react accordingly. EFET believes that the regulatory emphasis should be on developing well-structured competitive wholesale markets, in which case there would be no need for price caps.

- ⇨ **Price caps in retail markets –** Re-imposition of legislatively mandated sales price caps in San Diego actually reversed what was a significant demand-side response to the higher prices - lower consumption. EFET believes that price caps should only be set with considerable care and only in those markets where there is an insufficient degree of retail competition. Again, such decisions should take into account the supply/demand balance, including extreme circumstances. EFET further believes that the regulatory goal must be to develop competitive markets that allow price caps to be removed as quickly as possible. We also note that recent press reports indicate that the focus on delivering short term gains for electricity consumers through inappropriate regulatory intervention, may ultimately cost California taxpayers US$40bn.

- ⇨ **Continuation of legislative retail price caps** to the domestic market in other areas not only eliminated the incentive for consumer demand-side response; it threatened the financial viability of the utilities. The utilities were forced to sell electricity below market prices, while buying the commodity at very high prices on the open market.

- ⇨ **Regulatory uncertainty –** 37 major tariff amendments since April 1997 (averaging one amendment per month) created a climate where generation and market investment was severely curtailed due to the perceived level of regulatory risk and the inability for that risk to be reflected in market prices. As a result investors, including the now almost bankrupt investor owned utilities, invested in other states or countries where there was less market uncertainty. This demonstrates the importance of a clear and transparent regulatory contract; of regulatory decision taking based on balanced and objective criteria; and of the need for regulators not to be subject to short-term political goals. **The market needs certainty**!

- ⇨ **Regulatory retrospection** – The Californian utilities felt unable to take the risk of utilizing forward contracts that could have leveled prices because of the fear that the California Public Utility Commission would later disallow such contracts. This had the effect of preventing them from effectively managing the market risks to which they were exposed by entering into longer-term, lower-priced contracts before prices spiked.

Making matters worse, California missed the opportunity to avoid the most recent winter price spikes. As prices rose early this past summer, it appeared that the utilities and some government officials, having already intervened in the market, naturally sought to justify previous decisions, effectively providing a greater focus on the search for a scapegoat than on the search for realistic solutions that would have produced some short-term and long-term

relief. Since May 2000, the new entrant participants took many proactive steps in California that could have provided price protection to consumers and removed some of the volatility from the market. These included making fixed-price sales offers to San Diego, Southern California Edison, and PG&E that were significantly below the average market-clearing price. The utilities were unable to accept these offers because of their concern that the California regulator would call the purchases imprudent if actual spot market prices out-turned at levels lower than the long-term contract price.

In short, the utilities were caught in a regulatory paradigm that effectively prohibited them from managing the risks inherent in their electric supply portfolios, provided no demand-side price-signals and response mechanisms, and led to a retail electric market that had virtually ground to a halt. As demand outstripped supply, prices spiked and the lack of any realistic fixed-price options meant that first the utilities and ultimately the taxpayers and consumers will have to foot the bill for what should have been an avoidable crisis.

Neither should we forget the disruption the crisis caused to the local economy and the potential medium and longer-term impacts this may have. Domestic, industrial and commercial customers had their electricity supplies interrupted and there was a complete security of supply failure. In addition, the State of California has had to divert precious financial and human resources to solving this crisis instead of addressing its other concerns. The consequences of this crisis are immense and will be felt by California well into the future. Europe must avoid a similar situation.

Europe's regulators and parliaments: To avoid the mistakes of the California market regulation within the various countries of the European Union should address the following issues:

- **Real retail access –** To insure effective competition develops in Europe, at the retail level, there must be access to the transmission grid so the demand side of the equation has real options when choosing a supplier. This access must be open, non-discriminatory, and easily contracted. European utilities must be allowed to hedge their positions in the new markets.

- **Role of the Transmission System Operators ("TSO"s)** – TSOs should undertake comprehensive network planning and load forecasting on a fully transparent basis and should work together to ensure that assumptions made are compatible on a cross-regional basis. Access to interconnectors must be made available to all market participants.

- **Planning and interconnection –** There should be a transparent and well-defined planning policy that allows for the development of new transmission lines and the interconnection of new power plant to the grid, whilst taking appropriate account of land-use and environmental considerations. The construction of new facilities should not become mired in bureaucracy.

- **Regulatory and political certainty –** Certainty and consistency are important for a competitive market. Regulators should allow and encourage forward contracting of power supplies by utilities, provided that they are not doing so in order to prevent new players from entering the market. Regulators,

independent from the political establishment, must give the market time to develop and permit utilities to respond to market driven pricing signals

- **Encourage forward markets –** Forward markets – both for energy and capacity – are critical to enable the development of an appropriate mix of new generation (baseload, intermediate, and peaking) and to encourage investment in technology to enable demand to respond to market price signals.

- **Price caps –** Caps on energy prices or ancillary services result in the wrong signals being sent to the market. These wrong signals will ultimately have a negative impact on the market, i.e. California. EFET believe Regulators should be working to develop fully competitive markets, in which case price caps are not required and should be removed as soon as possible.

- **Centralized markets -** If centralized markets are allowed then their influence must be limited or reduced to the extent feasible. Utilities must be allowed to enter into bi-lateral or future contracts and must not be forced to purchase energy requirements from a single power exchange.

- **Separation of natural monopolies –** There must be a real separation of both transmission and distribution systems, which are naturally monopolies, from energy supply and generation.