



*Hedging Software, Systems, and Strategies
Specializing in Energy Risk Management Solutions*

Kase Hedging Services

Natural Gas, Propane, Crude Oil, Refined Products and Spreads

The purpose of Kase's Hedging Services is to assist our clients in establishing and achieving specific hedge goals in a non-speculative manner with an optimal cost to benefit ratio using sound and proven methods.

Successful long term hedging requires logical decision-making. Any rational program must consider underlying market structure and longer-term behavior to find points that minimize risk and maximize the results of a hedge plan. It is also important to find the *best balance* for your company between budget oriented goals and achieving better than market prices. Kase and Company, Inc. offers two proven models delivered via the Kase website in a "chart format". Both models use statistical analysis to generate critical hedge triggers. HedgeModel, for either producers or consumers, identifies statistically high and low points at which to fix prices or buy options and allows for some discretion. It is most suitable for users of moderate to large size (4 BCF per year and up). EzHedge for consumers is a "volume averaging" program that is suitable for very small (0.50 BCF per year) to large size users who want a fully automated computerized approach, with no discretion necessary. Historical results are available upon request.

Rule Based System Based on Probability Theory

Most commodities, including energy, exhibit mean reverting characteristics over the long run, and prices tend to conform to log normal distributions. Weather, politics, and other external factors can trend the market in a given year or season, but eventually these balance out and prices move back to normal levels. The mean reverting market characteristics allow us to make certain useful assumptions about current prices in relation to the central tendency of the market as a whole.

The HedgeModel and Hedge Report

The Kase Hedge Service consists of two elements. The first is the HedgeModel with displays computer generated hedging points, and the second is the Hedge Report. The Kase **HedgeModel** automatically searches for the optimal points at which to capture attractive prices by evaluating the "highest" of a set of probabilities to determine optimal points for producers and the "lowest" for consumers. Additionally, when price probabilities are unfavorable, as when they are on the wrong side of the mean, the Kase HedgeModel automatically identifies optimal points at which protective strategies are recommended. The model functions on natural gas, propane, crude oil, refined products, and spreads.

The **Hedge Report** includes a forecasts for "strips", recommendations on how to set hedging strategies for the forthcoming quarter, including interaction with the model, and changes to the settings used by the model, low-risk hedge targets, recommendations on what instruments to use, a track record and mark to market of recommended strategies, and research results. The Report is available for natural gas and crude oil.

Kase performs ongoing research into market behavior and structure. Our research is oriented toward improving the results of our Clients' hedging strategies. In addition to a thorough evaluation of basis and correlation analysis (gas), standard research included in our quarterly Hedge Reports includes Monte Carlo simulations for estimating price distributions and objectives, statistical analysis of price and volatility, and cyclical behavior.

Customized For Risk Appetite and Goals

Hedging is like politics or religion - your definition of hedging is determined by you. Our role is to help you to implement a strategy to reach your goals. Some of our clients wish to hedge in order to meet budget in the most cost effective way possible, while others believe that hedging means only capturing attractive prices when the odds are that the hedge will add financial benefit over and above transacting business at market. The Kase HedgeModel has already been customized to fit a wide range of risk appetites, from an aggressive, purely budget driven agenda to a more conservative market driven plan.

Kase ezHedge

Kase **ezHedge** is a model that generates hedging signals based on a volume averaging approach, similar to dollar cost averaging. The model divides a price range into five zones based on an evaluation of percentile levels over a range of lookback periods. It selects the lookback length based on market behavior relative to the highest and lowest zones. Dots are color coded to tell the user when and when not to hedge. This approach is easy to follow and results in hedges being placed under all but the most favorable conditions, in which case it leaves volumes unhedged. Users do not have to judge whether a particular price environment will perpetuate or whether prices will rise or fall. ezHedge may be customized to fit each consumer's volume requirements and risk appetite and is for both small end-users such as restaurant chains and hospitals as well as large industrial consumers and utilities.

Differences Between HedgeModel and ezHedge

While both of Kase's models are effective and easy to use, there are differences between the two. HedgeModel is used to place hedges on a three, six or twelve month strip using both fixed price instruments and options at optimal pricing points based upon standard deviations above and below the chosen mean. Longer exposures may also be hedged on a custom basis as well. This model also offers optimal exit points that can be used to remove and restructure hedges. This model is most suitable for both producers and consumers (which have inverse model rules) above 4 BCF per year who are wish to exercise some discretion in the hedge placement and who use options and collars in addition to swaps and futures. ezHedge is a non-discretionary system, that generates buy signals that can be embedded in physical purchases or executed via swaps or futures, and uses only one hedge length - a twelve or eighteen month strip, depending on the users comfort level with those maturities. (A new model with ezHedge is under development for producers, but has yet to be released.) With ezHedge, positions are held to expiration and are never removed or changed. ezHedge is suitable for consumers of sizes from 0.5 BCF per year to 30 BCF per month

Consulting, Risk Management Plans

Based on a conservative philosophy, a rigorous technical background, and solid hedging experience, Kase provides comprehensive, precise, and proven price risk management plans that evolve from a unique statistical approach. A high level of attention to detail distinguishes Kase plans with a view toward bottom line results. For those newly developing risk management plans, Kase offers complete program support: exposure analysis, setting goals, and strategy development and implementation. For others solely interested in execution, Kase provides custom strategies. For firms with existing plans, Kase offers comprehensive review.

No Charge Trial

For a six-week, no charge trial of the Kase Hedge services, contact us at 505-237-1600 or email kase@kaseco.com. For more information about the Hedge services and other services offered by Kase and Company, Inc. please visit us at www.kaseco.com.