

# Strategic Energy Procurement: Understanding Electricity Pricing in ERCOT

GDF SUEZ

Competitive energy markets have come a long way in bringing more options to commercial and industrial customers. In ERCOT, retail electricity providers can now customize pricing offers with dozens of cost components that can be tailored to specific consumer risk requirements. This has allowed buyers to make more strategic procurement decisions based on key operational priorities and energy usage patterns, but it has also added a new layer of complexity to the way energy is priced.

Because there are so many variables at play, GDF SUEZ Energy Resources created the energy pyramid to give buyers a better understanding of electricity pricing components and how they behave from a risk management perspective.

## Energy Costs

Six cost components make up the energy portion of the pyramid and can account for more than 90 percent of a commercial electric bill in ERCOT. These include hub energy, zonal basis, shape, straddle, imbalance, and losses.

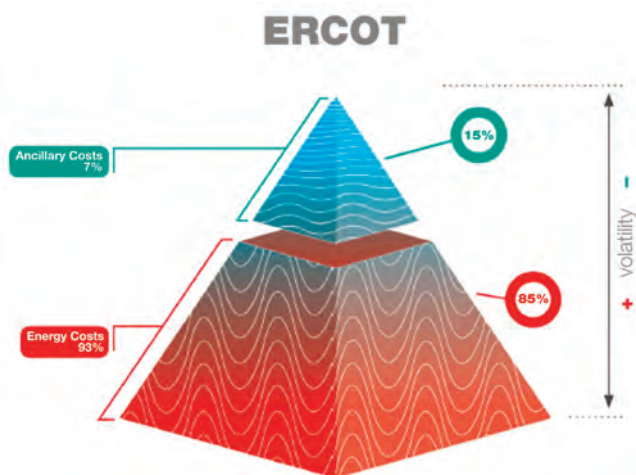
The hubs in *hub energy* are not physical locations but rather an arithmetic average of electricity prices, determined in bulk wholesale power markets at a particularly liquid pricing point.

This component carries a market-based risk that can be mitigated by suppliers who hedge fixed-price exposure on behalf of their customers or by customers who float this component based on the day-ahead or real-time index. Pricing is determined by usage, with location, contract terms, and time of use as key factors in determining overall costs.

*Zonal basis* – also known as congestion – is the price differential between the hub and load zone that establishes a measure of locational value for various load pricing points. This cost component also carries a market-based risk, which is primarily hedged through swaps or Financial Transmission Rights (FTRs). FTRs are instruments that base charges on hourly day-ahead price differences across the transmission path. Overall pricing is determined by usage, with location, contract terms, and time of use as key factors in determining overall costs.

For both hub energy and zonal basis, it's important to understand that fixed pricing does not include basis to the zone. Energy delivered to the zone is normally included. However, it can be priced at the hub. In that case, basis to the zone is passed through or billed as a line item. Block energy can be priced as either hub energy or zonal energy.

*Shape* refers to the cost of serving a customer's unique load shape relative to a flat, round-the-clock block over the same time period. Pricing for this component is determined by mapping a customer's unique energy usage pattern against hourly prices. Generally speaking, a lower load factor typically results in a higher shape cost.



At the base of the pyramid is the energy costs category, which represents the total price of the energy a business consumes. These pricing variables can be very volatile, making it difficult to predict future costs.

The remaining components are comprised in the delivery category, which includes the ancillary costs to flow energy from the output side of the generator to a meter. These components are much less volatile, change less often, and are driven mostly by regulatory bodies and the independent system operator who manages the reliability of the electric grid.

Understanding the way costs are categorized in the energy pyramid is an essential first step to gaining clarity in electricity pricing. Even more important, however, is knowing how pricing components are structured and the potential methods suppliers can use to present these variables in a product offer.



This component carries a hybrid of market-based and nonmarket-based risk that can be hedged or mitigated through risk premiums. Customers can change shape charges by shifting their load usage to off-peak hours.

*Straddle* is the risk premium associated with the volumetric swing provision of a contract. This component covers the risk of the customer's actual load and price shape varying from the historical load and price shape upon which the pricing offer is based.

Like shape, straddle costs are determined by energy usage patterns. It also carries a hybrid of market-based and nonmarket-based risk that can be hedged or mitigated through risk premiums or contract language that transfers the risk to the customer through wider/narrower tolerance bands.

*Imbalance* covers the risk of price and load changes between day-ahead schedules/prices and real-time usage/prices. It essentially covers the risk of a customer's actual load diverging from load forecasts. This cost component, which is also determined by energy usage patterns, carries a hybrid of market-based and nonmarket-based risk that can be mitigated through risk premiums.

Buyers should know that imbalance is included in fixed-price and day-ahead index products and is not applicable in products based on the real-time index. Be aware that fixed price and day-ahead index pricing offers that allow for real-time settlements for both energy and operating costs are based on the supplier's internal load forecast.

*Losses* include the cost of energy that is dissipated in transmission and distribution lines. It covers the expense of additional energy that load serving entities are required to supply to the grid to overcome resistance in the transmission and distribution system.

Pricing is determined by energy usage patterns, with zone, contract terms, utility, and voltage class as key factors in determining overall costs. Losses carry a hybrid of market based and non-market-based risk that can be hedged. In a fixed-price product, losses can be included in the cost or passed through as a line item. With an index product, losses can be included in the adder but are more commonly passed through as a line item.

When reviewing a pricing offer, it's important to determine whether or not this cost component includes both transmission and/or distribution losses. If the proposal only outlines transmission losses, then distribution losses will be an additional charge at the time of billing.

For a true comparison, it's essential to determine where and how line losses are accounted for in pricing proposals. Determine if the loss percentage is stated correctly, particularly when the cost component is passed through as a line item, and understand if losses are included in the price or are volume-adjusted as a line item at the time of billing. Although the latter may seem more attractive in a proposal, the actual calculated cost on the bill may be a lot higher than the charge associated with a contract that includes losses in the total price.

### **Ancillary Costs**

Ancillary costs ensure reliability of the electric grid and make up about 7 percent of a commercial electric bill for large energy users in ERCOT.

When reviewing product offers, keep in mind that these pricing variables can be presented differently by each retail electricity provider. The following list outlines the variables included by GDF SUEZ Energy Resources in its pricing proposals. Other suppliers may categorize certain charges differently or omit them entirely from a proposal.

For example, in components where credits are a factor, GDF SUEZ Energy Resources returns costs to customers when applicable in the fixed price/index adder or as a pass-through item. However, some suppliers retain these credits and omit them from pricing proposals altogether.

To conduct an accurate comparison, be sure to account for all of the costs involved in ancillary services and understand how suppliers treat them in pricing offers. Here is an in-depth look of the costs included in this category by GDF SUEZ Energy Resources.

*Regulation Down Charge* pays operators who can provide frequency regulation service to reduce generation output. This variable carries a market-based risk that can be hedged through bilateral transactions.

*Regulation Up Charge* pays operators who can provide frequency regulation service to increase generation output. This variable carries a market-based risk that can be hedged through bilateral transactions.

*Non-Spinning Reserve Charge* pays generators who are standing by, ready to run, within a 30-minute notice. This variable carries a market-based risk that can be hedged through bilateral transactions.

*Responsive Reserve Charge* supports grid reliability by ensuring generation reserves are available in the event two of the largest units trip offline. This variable carries a market-based risk that can be hedged through bilateral transactions.

*Administrative Charges* pay for the overhead and operational expenses involved in running ERCOT. This variable carries a non-market-based risk that can be mitigated through risk premiums and/or contract language. Note that this cost component is subject to changes in the law.

*Ancillary Service Capacity Replaced – Failure to Provide* is the fee charged to qualified scheduling entities for failure to provide ancillaries. This variable carries a non-market-based risk that can be mitigated through risk premiums.

*Base Point Deviation Payment* is a credit generated from penalties on generators who deviate from ERCOT dispatch instructions. This credit carries a non-market-based risk and is determined by usage.

*Black Start Capacity Charge* pays generators who have the ability to self-start units without energy from the grid. This variable carries a non-market-based risk that can be mitigated through risk premiums.

*Congestion Revenue Rights: ISO Amounts* is a component that allocates auction revenues to qualified scheduling entities based on load ratios. This credit carries a hybrid of market-based and non-market-based risk. It is determined by usage and price depends on auction revenues.

*Congestion Revenue Rights: Zonal Amount* is a component that allocates auction revenues to qualified scheduling entities based on zonal load ratios. This credit carries a hybrid of market-based and non-market-based risk. It's determined by usage and price depends on auction revenues and zone.

*Cost Allocation for Ancillary Services Procurement* covers cost adjustments for market-based ancillary services cancelled or procured by ERCOT. This variable carries a non-market-based risk and pricing is based on usage.

*Day-Ahead Market Make-Whole Charge* is a provision for generators offering in the day-ahead market. This variable carries a non-market-based risk and pricing is based on usage.

*Emergency Response Service Charge*, also known as interruptible load service, is designed to cover emergency operating procedures to prevent rolling blackouts. This variable carries a non-market-based risk and pricing is based on usage.

*Emergency Power Increase Charge* pays generators who are asked to increase output on an emergency basis. This includes unannounced testing. This variable carries a non-market-based risk and pricing is based on usage.

*Reliability Must-Run Charge* pays reliability must-run generators to provide voltage support or stability or to help manage localized transmission constraints. This variable carries a non-market-based risk and pricing is based on usage.

*Reliability Unit Commitment (RUC) Capacity Shortfall Charge* is a fee collected for not procuring energy in support of load obligations. It covers the cost of being short on energy in real time. This variable carries a non-market-based risk that can be hedged. For index products, this variable is a required pass-through item.

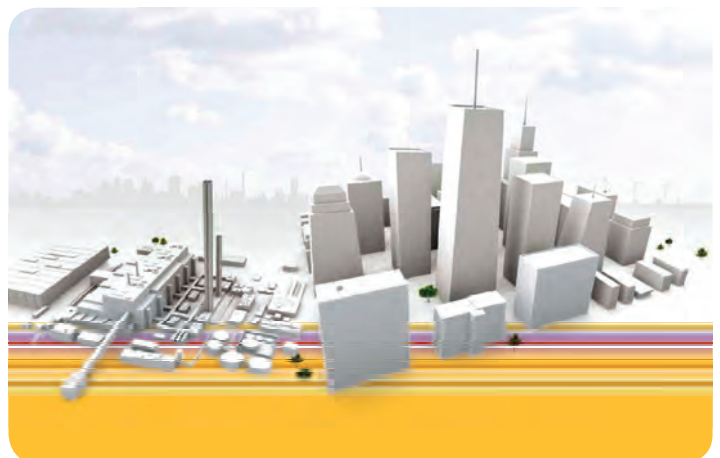
*RUC Clawback Payment* is a payment to qualified scheduling entities for overpayments made to generators for RUC deployments. This credit carries a non-market-based risk and pricing is based on usage.

*RUC Decommitment* is a charge to qualified scheduling entities to compensate generators for cancelling a RUC deployment. This variable carries a non-market-based risk and pricing is based on usage.

*RUC Make-Whole Uplift* is a charge to qualified scheduling entities to compensate generators for providing RUC services that cannot be collected directly from shortfall charges. This variable carries a non-market-based risk and pricing is based on usage.

*Renewable Portfolio Standards* support the purchase of renewable energy to meet state mandates. This variable carries a market-based risk that can be hedged and pricing is based on usage.

*Unaccounted for Energy* is a charge by the grid operator to recover lost energy not otherwise accounted for. This variable carries a hybrid of market-based and non-market-based risk that can be hedged. Pricing is based on usage and is determined by a percentage of energy prices.



*Uplift Charge (Real-Time and Day-Ahead Partial Payments)* is a fee applied to qualified scheduling entities by ERCOT to cover defaulting counterparties. This variable carries a non-market-based risk that can be mitigated through risk premiums. Pricing is determined by usage.

*Voltage Support Charge* is the fee to maintain transmission voltage levels for reliability purposes. This variable carries a non-market-based risk that can be mitigated and pricing is based on usage.

*Real Time Revenue Neutrality Adjustment Charge* is a fee imposed to maintain ERCOT neutrality. This variable carries a non-market-based risk and pricing is based on usage.

## **Making the Right Procurement Decision**

In the end, there is a lot to think about when shopping for commercial electricity. With a range of variables to consider – from cost components and energy market fundamentals to business cycles and risk tolerance – transparency in pricing offers is essential to building effective energy management strategies.

To support consumers in making clear, confident electricity purchasing decisions, GDF SUEZ Energy Resources created My Energy Navigator, a proprietary decision process designed to simplify energy buying.

Customized energy management plans are created through a three-step process that starts with an initial assessment of unique operating factors, such as key business drivers, budgetary structures, and risk tolerance.

A risk certainty profile is then generated specific to your business along with a pricing proposal that fits your company's profile. This proposal, which includes detailed information on each cost component of the plan, is fine-tuned with the help of a GDF SUEZ Energy Resources representative. Every aspect of the product is considered by exploring different cost outcomes in real time and adjusting various elements of the proposal.

Commercial and industrial customers ultimately benefit by getting the transparency and insight they need to shop wisely and choose a product that best suits their company and their budget. Before entering into your next energy contract, be sure to consider a supplier like GDF SUEZ Energy Resources that takes the time to understand important business factors, brings clarity to pricing proposals, and helps you build a strategy that makes the most sense for your business.