

# Electricity | Heat Rate

## Flexible, Transparent Energy Prices

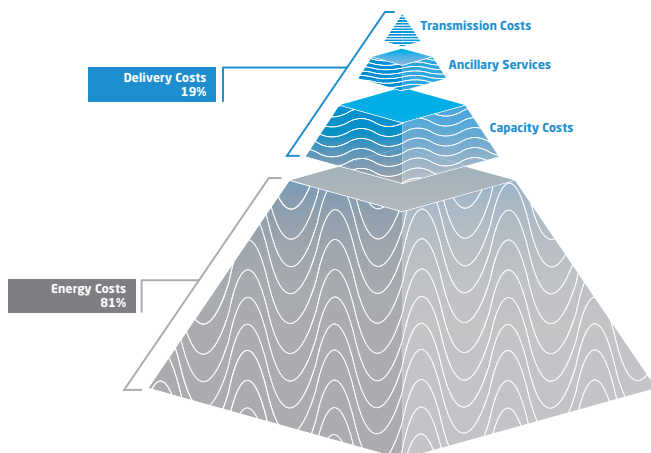


### HEAT RATE WITH GAS LOCKS

The price of a full-requirements electricity service contract has many components that fall into two broad categories—energy and delivery cost. Typically, customers buy electricity in the form of a bundled, fixed, or variable rate per kWh. Another price option is a Heat Rate—a contract based on a conversion factor (heat rate) required to turn an input fuel (i.e., natural gas) into electricity. This pricing method is common in regions where natural gas generation plays a more significant role in the mix of generation resources. Under this product structure, the energy component cost is computed by multiplying two factors: the heat rate and price of natural gas. The other non-energy delivery components are either fixed in the retail adder or floated on the market at your option.

This flexible product provides transparent market pricing tied to the highly liquid NYMEX gas price with the ability to convert to a fixed rate at any time as a percentage of your actual consumption.

### APPROXIMATE BREAKDOWN OF ENERGY AND DELIVERY COMPONENTS



### UNDERSTANDING HEAT RATE PRODUCTS/PLANS

- The electricity price for a Heat Rate product is calculated on a calendar month by multiplying a Heat Rate by a gas price, then adding the retail adder, as shown below:

$$\text{Electricity Price} = (\text{Heat Rate} \times \text{Gas Index}) + \text{Retail Adder}$$

- ▶ Heat Rate: Set at contract signing
- ▶ Gas Index: Floating on index (NYMEX)
- ▶ Retail Adder: Determined at contract signing
- The Gas Index varies based on the monthly NYMEX settlement price of natural gas
- The Gas Index can be fixed by locking the price of natural gas used in the equation

**Example:** Customer A is on a Heat Rate product with an HR of 10 and a retail adder of \$9.50. The gas index is NYMEX. In order to calculate the electricity price for one month, take the NYMEX settle price for that month, \$4.00, and perform the following calculation: Electricity Price = (10 x \$4.00) + \$9.50 = \$49.50/MWh

### INDICATORS THAT HEAT RATES MAY BE RIGHT FOR YOUR ORGANIZATION

- Your company has the risk tolerance for fluctuations in power prices and natural gas prices
- Your company prefers a high level of price transparency
- Your company's procurement personnel are familiar with the natural gas market and are accustomed to regularly monitoring of natural gas prices

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## Managing Price Flexibility Through Gas Locks



Customers can choose to simply let the gas price component “float,” in which case the Heat Rate product will convert to a fixed price once the NYMEX gas settlement price for the delivery month is determined. Otherwise, customers can choose to lock in the gas price component, thus converting to a fixed price well ahead of the delivery month.

- Flexibility on locking the natural gas price component depends on the customer’s load size
- Can be locked in at any time prior to the expiration of the NYMEX futures contract for the delivery month

### BENEFITS

- Heat rates provide energy price flexibility without hourly index price volatility
- Prices set by a highly transparent natural gas index
- Ability to fix the energy price for future periods when markets are favorable
- Fixing the retail adder allows customer to mitigate exposure to delivery costs (non-energy components)

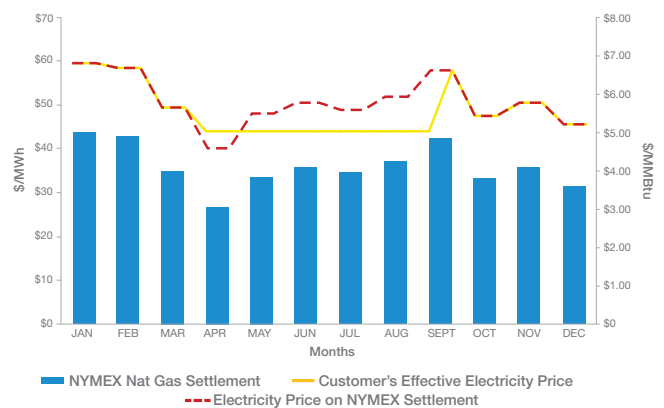
### OTHER FACTORS

- New gas discoveries in the U.S. have reduced gas prices to levels not seen in 10 years
- Tens of thousands of megawatts of coal-fired power generation are being retired over the next few years due to more stringent environmental limits, which may increase market heat rates, making power more expensive in relation to gas
- NYMEX natural gas prices can be volatile for a variety of factors, so there can be risk in the product

An informed energy buyer can use a combination of NYMEX settlement prices and gas lock options within a Heat Rate product to take advantage of favorable market fluctuations.

In this example, the buyer took advantage of a price drop in April and exercised a gas lock option for April through August that gave him an Effective Electricity Price well below what it would have been based on NYMEX settlement prices.

### NYMEX NATURAL GAS PRICE AND EFFECTIVE ELECTRICITY PRICE USING A HEAT RATE PRODUCT



Customer purchases a Heat Rate product with a Heat Rate factor (HR=10) and a Retail Adder (RA=\$9.50). Customer allows the price for natural gas to settle on NYMEX for January through March and the Effective Electricity Price reflects the month-to-month changes in gas prices. The customer elects to execute a gas lock (hedging the price of natural gas at \$3.45) to effectively hedge April through August. The Effective Hedged Power Price is fixed for those months based on the price of the hedge. For the remaining months, the customer continues to allow the natural gas price to settle at the NYMEX Monthly Settlement Point Price, and the price varies monthly.