

Back to the Future(s): The Best Commodities Benchmarks Are Still Physically-Settled

Since 2002 and the advancement of financially-settled energy products via the NYMEX ClearPort platform – incumbent futures exchange operators have mostly neglected physically-settled markets. This created problems. Why? We dig into the issues below and present tangible arguments why today's LNG and other global commodity markets require physically-settled benchmarks for better price discovery, more reliable hedging, and improved risk management.

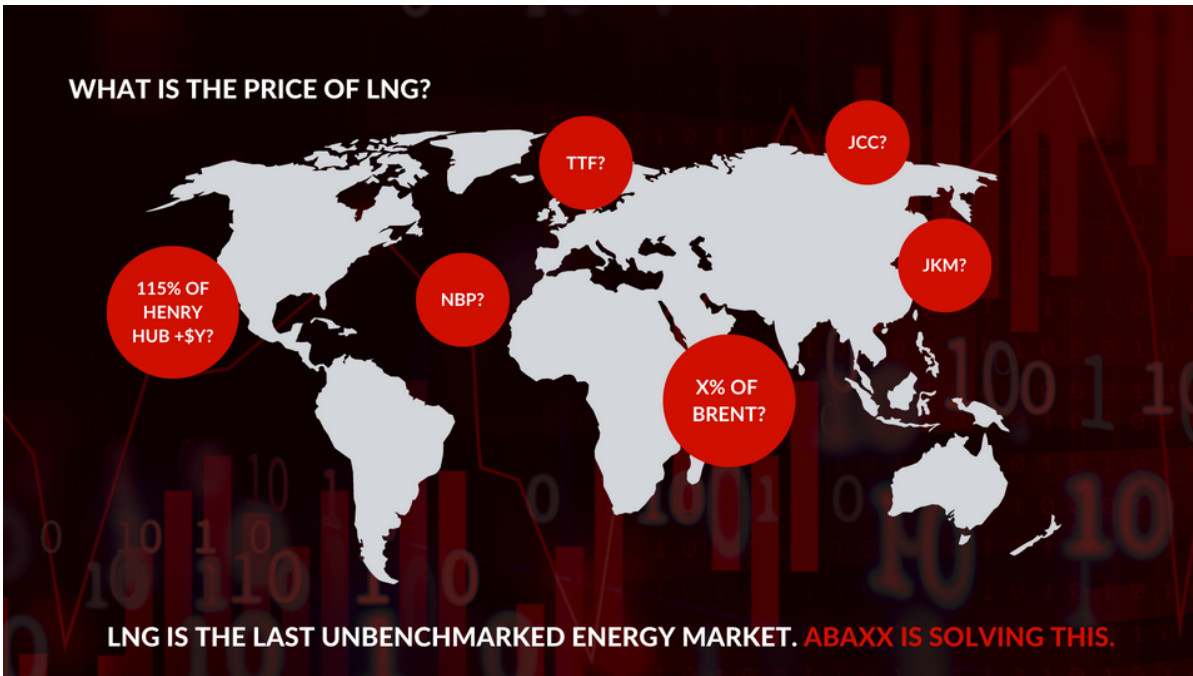
What is a benchmark and what is the role in global commodity markets?

It is certainly important before digging into the history of commodity benchmarks and their construct to define what we are discussing. What exactly are benchmarks? This subject has been debated for decades on their effectiveness and reliability.

- A benchmark is a standard or reference point against which the performance of a security, investment, or commodity can be measured. In the global commodity markets, benchmarks are used to determine the value of commodities based on factors such as production, storage, and transport logistics.
- These values can be volatile and vary depending on the quality and grade of the commodities being sold, as well as the location and delivery time.
- Benchmarks provide measurable metrics to compare the performance of commodities to support investors and traders in making informed decisions as well as provide a basis for setting prices and determining values of different commodities

Benchmarked commodity futures markets afford the benefits of price discovery and liquidity while enabling market participants to efficiently transfer price risk. This allows those participants the ability to make business decisions based on their economics and exposure to the underlying instrument. Physically settled benchmarks exist in several key commodities markets including – and certainly not limited to – crude oil, petroleum products and natural gas. The growth of oil and natural gas production and distribution in North America over the past 20-30 years, especially through the “modernization of fracking,” was enabled by the well-functioning physically-settled futures benchmark Henry Hub for US natural gas, and West Texas Intermediate for light, sweet crude oil. Market stakeholders with preliminary or contractual investment exposures in geology, property rights, capital markets and technology conveniently secured necessary financing by revealing hedged positions to demonstrate not only that they could get supply to market, but could do so with the economic certainty delivered with the hedge leveraging a reliable price reference.

Benchmarks are vital in commodity markets in reflecting the values in the dynamics of production, storage and transport logistics. These dynamics are inherently volatile, with varying qualities and grades being sold at different locations for delivery at different points in time. Reliable benchmarks must bridge these tensions. A constellation of many small fragmented and illiquid markets does not support competitive price discovery or provide a liquidity pool for transferring risk. A market supported by a reliable benchmark creates a centralized market with competitive price discovery and a deep pool of liquidity for risk transfer. It also develops peripherally related markets that vary by specifications such as location, grades, qualities, and delivery times. Over time, meaningful common references have flourished to determine comparable differential or basis spreads to the benchmark.



The Consequences of a Missing Physically-Settled Benchmark in Today's Global LNG Market

In today's developing global LNG markets, there as of yet does not exist a physically-settled waterborne LNG benchmark that promotes price discovery, risk transfer and transparency. As evidenced during the maturation of today's oil and onshore natural gas markets, reliable benchmark prices supported the financing and development of critical energy projects including exploration and production, pipelines, refineries, storage hubs and export/import capacity. The absence of an LNG benchmark has arguably deterred investors from participating as a result of the lack of a trusted forward price curve. As the European natural gas market has become more dependent on LNG, the lack of a waterborne LNG benchmark is having a greater impact on these markets, as onshore gas price references cannot, by definition, reflect the dynamics of the international LNG market.

Physical commodity markets adapt over time as the underlying commercial trade between suppliers and consumers evolves. For example, EU based utilities and LNG buyers globally, have been forced to hedge their fuel exposure with non-correlated instruments such as Brent Crude Oil and pipeline gas when their exposure is ultimately to waterborne LNG. Of course this requires benchmarks to evolve and to be structured so that they can continue to meet the commercial needs of the market.

This also raises real world consequences for supplying LNG to Europe over the coming year. For example, consider this scenario: with high volatility in onshore pipeline markets in Europe, at the margin a trader might not take the risk of diverting a \$100 million cargo to Europe if they cannot lock in and finance their actual product given all of the unloading and regasification factors out of their control before the product is equivalent to the onshore gas market.

“Best practices in commodity risk management are sorely lacking in today’s financially-settled LNG index markets. Improved price transparency and a physical benchmark would help market participants advance best risk management practices and allow for a better audit structure of trading books.”



Building a Reliable Commodity Futures Benchmark

Well-functioning benchmarks share a few key characteristics. They reflect the dynamics of the underlying physical market at a competitive delivery point or points, which are relatively unconstrained and not prone to manipulation. The most relevant examples are physically-settled commodity futures contracts which, if not executed prior to expiration, will result in the physical delivery of the underlying commodity to the buyer in accordance with the delivery rules of the contract. Because futures contracts are designed to align with physical transactions in the commodity, the spot and forward prices will converge at maturity. Competition at the delivery point is important so that the price signal generated by the benchmark is trusted. The North American natural gas futures benchmark has over 100 firms that can make or take delivery and the competition at the price point is akin to a “knife fight in a phone booth.” That competition inspires market participant confidence that the price is not subject to manipulation and encourages participation through arbitrage in the price discovery process. If a trader believes that other market participants can apply undue influence on price, the trader is unlikely to take significant risk in the market and liquidity in the contract does not accumulate.

It is important to note what commodity futures benchmarks are not. They are, by their actual use, not in general terms the most representative or the most, with the exception of LNG, homogeneous. For example, many crude benchmarks are not the dominant type of crude oil utilized in physical refining. They are not the most representative because the benchmark must balance providing an effective hedge with creating a large pool of liquidity for price discovery and risk transfer. By balancing these two needs, this allows different locations and grades/qualities to be traded as a spread, basis, or differential to the benchmark, which creates better hedge effectiveness through the use of spread trading.

Ultimately, they are also not effective financially-settled instruments. With a physically-settled futures contract the buyer and seller have agreed to a true transaction: an exchange of money at a particular time and place in exchange for the specified commodity, with an agreed price and quantity. This is a critical feature of an effective benchmark, and one that financially-settled futures contract cannot and does not provide.

Why Financially-Settled Instruments Aren't Effective Commodity Futures Benchmarks

Why are reliable commodity futures benchmarks physically-settled as opposed to financially-settled? Craig Pirrong, Professor of Finance and the Energy Markets Director for Gutierrez Energy Management Institute at the Bauer College of Business at the University of Houston stated it well:

“Cash settlement works if there is an independent, reliable, relatively un-manipulable source of cash market prices that can be used to set a futures price at expiration. The markets for which these conditions prevail are very, very small. Cash settlement works in equities for contracts like the S&P500/eMini because there is an active, transparent cash market for stocks. It works pretty well for live hogs because the USDA collects data on the price paid for every animal bought by processors.

Beyond those examples, cash settlement is problematic, or in many cases, actually counterproductive. In the late-90s/early-00s, cash settlement in natural gas indexes was rife with misreporting and fraud. In 2008 I wrote a few posts about reports that banks were putting the lie in LIBOR.

Virtually no commodity market has enough active, transparent cash markets to support cash settlement.”



Commodity futures markets evolve from illiquid bilateral contracting, not well-functioning highly liquid cash markets. The challenging and expensive logistics of the commodity trade set a high barrier to entry. Through the process of standardization, the physically-delivered commodity futures benchmark builds on the structure of bilateral contracting and improves it. The next step in commodity contract standardization is the creation of a centralized futures trading venue where buyers and sellers are matched on common standard terms, reducing credit risk through the clearinghouse, and allowing the standardized futures contract to trade in a liquid fungible way that promotes price discovery and the efficient transfer of risk. The sequential development of a physically-delivered commodity futures benchmark is an essential stage in the growth of the physical commodities market.

The physically-settled commodity futures benchmarks help markets develop by drawing more and more diverse participants to the markets, thereby creating deep and more diverse participation in the price discovery process than is possible in any index methodology. In contrast, participation in index calculations relied on by most financially-settled pricing instruments tends to be relatively limited to those willing and able to meet the criteria in the index methodology.

The most recent well documented issues with LIBOR manipulation speaks strongly to problems with financially settled products with little correlation nor ultimate convergence to the physical underlying markets.

Benefits and Challenges of Physically Settled Futures

There are more examples of financially-settled futures contracts that serve the industry, but there are few, if any, that exceed the reliability, reach and liquidity of those that are linked to physical delivery. A key distinction between the two is the process behind the price reference.

Financially-settled instruments require a price reference or index. Physically-settled futures markets produce a price reference because it's built into the structure of the futures contract. Market and regulatory expectations require that indices be based on physical market transactions, but history shows there are periods where the underlying activity may be limited and may not provide a reliable outcome.

Physically-settled futures go a step beyond what any index methodology can achieve by offering market access to a broader group of market participants than those eligible to participate in index calculation. The depth, diversity and scale of those able to participate in price discovery is larger by definition in a physically-settled futures market and it grows as liquidity offers more opportunity to shift risk. If the market is designed well it invites that depth, diversity and scale in practice. Index participation will always, by definition, be limited in terms of participation to those willing and able to meet the methodology criteria.

The challenges of building an effective benchmark for a physically-settled futures contract is in finding that common ground amongst potential market participants that attracts the depth and diversity necessary to build liquidity.

Abaxx Delivers a Physically-Settled Waterborne LNG Benchmark Futures Contract

In the recent past, the need for a benchmark in Europe tied to waterborne LNG was minimal. Russian-supplied pipeline natural gas made TTF a suitable pricing instrument for Europe. As that pipeline gas flow became prone to disruption, Europe was forced to look to global LNG markets for incremental supply. Lacking a relevant LNG benchmark for the region, buyers were left to negotiate in the context of price references that didn't necessarily reflect the value of LNG from competitive sources.

Recent efforts by incumbent exchanges to help mitigate these price and risk issues in Europe have failed to address the physical aspects of this market, instead relying on quick fixes by listing financially-settled index related contracts at a time where transaction data is limited due to low turnover in the spot market.

Abaxx is addressing these issues by listing a physically-settled LNG futures contract for the region that will complement the existing bilateral contracting taking place. The contract is designed to provide a standardized market of last resort to lower transaction costs, eliminate basis risk and encourage increased depth and diversity amongst market participants. More depth and diversity in the market leads to improved price discovery and hedge effectiveness. More effective price discovery and hedging gives market participants the confidence needed to rely on a benchmark forward curve that can inform and de-risk project finance decisions.

Futures contracts settled against a published index have been offered as a solution to those seeking a more effective price benchmark to serve Europe as the landscape of the market has changed. These efforts may address some of the requirements for better price discovery in the regional LNG market but they are completely reliant on a sufficient level of turnover in the spot cargo market to produce a valid index value at a time when the spot market is stressed by tight supplies and very little remaining credit capacity which discourages spot market turnover. Abaxx has designed physically-settled LNG futures contracts that enable broad institutional participation in price discovery across the region. Providing this forum gives market participants a proxy market that encourages and enables proactive unilateral trading events when traders seek to convert their supply imbalance into a hedge or their hedge into spot market sales/purchases that reflects the value of marginal supplies of LNG delivered to Europe.

Conclusion: Abaxx Exchange is Building Smarter Global Markets for LNG

Abaxx Exchange's focus is to list physically-settled regulated futures contracts for waterborne LNG to bring reliable price discovery to regions that need it. We are addressing the current market price and supply dislocations by organizing these markets differently than the current incumbent Exchange approach. This approach requires a commitment to identifying and reflecting commercial needs in fair and balanced rules and standardized contracts, leveling the commercial playing field and creating an effective price benchmark with market participants, for market participants.

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