



Are Oil Linked Contracts a Thing of the Past?

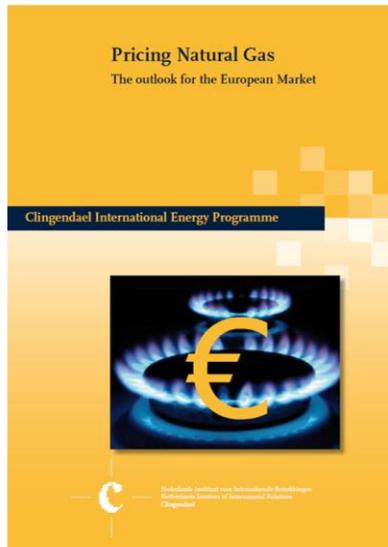
A View from Gazprom Export

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The Term 'Hybrid Pricing System' Originates from 2008 Clingendael's Research Paper



This paper “concludes that there is no strong evidence that the current hybrid situation, in which both forms of gas pricing co-exist, cannot continue. There are also no overriding reasons to intervene in the market practices of price formation. Both systems have their advantages and disadvantages under different market conditions, and to some extent complement each other in the current markets. Different types of risk and the appreciation thereof by the trading parties will determine particular choices of pricing rules and contracting conditions”.

What we often hear today is that Gazprom is fighting a losing battle to preserve its oil-indexed contracts at a time when Europe moves at high speed and with great enthusiasm to hub-based pricing.

I still see no reason why oil-indexed and hub-based prices cannot continue their historic synergistic relationship or in other words coexist peacefully and with mutual benefit. Any real or perceived conflict between the two could be mitigated if properly handled as I will demonstrate later in my presentation. Further, I claim that the European hubs will flourish in the 'shadow' of the oil-indexed long-term contracts.

All Europeans have to do is to understand what a unique pricing system they have at the moment and what will happen if this pricing system collapses.

The existing two-tiered pricing model is best described as “hybrid”. This model is represented as a combination of mainly oil product-indexed long-term contracts and hub pricing. I am using the term hybrid in order to indicate that these two different pricing methods within one model do not exist in parallel worlds. They are closely interconnected and operate as a single, unique, mechanism.

Under the existing model, oil-indexed prices play a leading and dominant role, while hub prices play a balancing and subordinate role. Together, they comprise a purely market-driven and highly competitive system although competition manifests itself in a different way compared to the U.S. supply-demand pricing model. What I will demonstrate in my presentation is that the Continental market not only has its own unique organization but has already mature enough to perform the functions that it is designed for. There is no cause for an inferiority complex for Europeans that is one of drivers of proposed changes to the market model.

The term hybrid is not my invention. A 2008 paper by Clingendael, the Netherlands Institute of International Relations, uses this term when describing the pricing system in Continental Europe.

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Pricing Model Options for Continental Europe Gas Market or 'Quick Choice, Long Repentance'



Model	Applicable To	Description	Supplier Acceptance
Oil Indexation	Asia	<ul style="list-style-type: none"> • LT contracts • 100% indexed to oil • No hubs 	Yes
Hybrid	Continental Europe	<ul style="list-style-type: none"> • Primarily, LT oil/oil product indexed contracts • Minimal gas-indexed component in LT contracts • Hub pricing 	Yes
Modified	Continental Europe (?)	<ul style="list-style-type: none"> • LT contracts linked to gas indexes • Hub pricing 	No
Hub	North America	<ul style="list-style-type: none"> • Near absence of LT contracts • Pricing based on supply & demand 	Not the best option for Continental Europe

What we are witnessing now is the concerted attempts to displace oil-indexed prices with hub-indexed prices and, as a result, demolish the existing hybrid model. In many cases, these attempts are not directly targeting the hybrid pricing model as it is -- simply because many people including those who sit in this room have never heard of it before.

There are two different strategies to bring oil-indexation to an end -- one strategy could be named 'pull' and the other 'push'.

The 'Pull' strategy is evolutionary one. It suggests that transformations of the hybrid pricing model could be carried out in a steady way, simply by means of increasing the share of the spot component in the long-term contracts at the expense of oil indexation.

The second 'Push' strategy employs arbitration as means to put an end to oil-indexation in the long-term contracts forever. Supplier obligations remain the same under the hub-linked 're-engineered' long-term contracts.

What I will try to show you is that both strategies will not be acceptable to suppliers. Existing long-term contracts are specially designed for oil-indexation. Displacement of oil indexation by hub-indexation changes a fragile balance of risks between a buyer and seller in favor of a buyer. Gazprom as seller keeps unequivocal obligation to deliver gas irrespective of the price while having no means to affect hub prices.

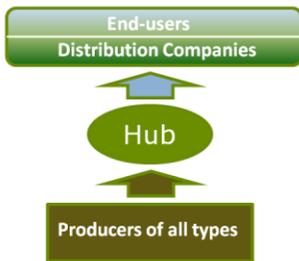
Indeed, if hubs are liquid enough, there is no need for a supplier to get into long-term contract obligations or these contracts should be structured differently from the existing ones and have a right to divert flows to other places when prices do not meet its expectations, or at least have a seller's option.

In terms of the existing pricing model alternatives, a supplier can accept the American pricing model in case of hub-indexation but that is not the best option for import-dependent Europe.

Continental Supply & Demand Does Not Dictate Hub Pricing



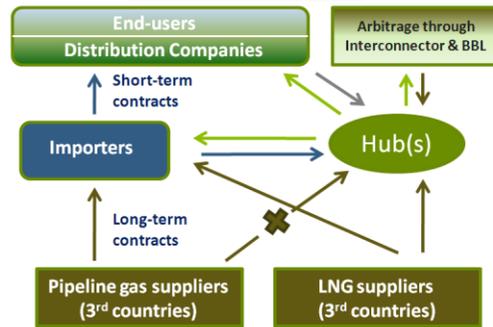
U.S. Pricing Model



PH_{US} – hub price in the USA
 S_{US} – total supply
 D_{US} – total demand

$$PH_{US} = F(S_{US}, D_{US})$$

Hybrid Pricing Model



$$PH_{CE} \neq F(S_{CE}, D_{CE})$$

PH_{CE} – hub price in Continental Europe

SH_{CE} – total supply = $SHI_{CE} + SHEU_{CE} + SLNG_{CE} + SUK_{CE}$,

where:

SHI_{CE} – sales to hubs by importers

$SHEU_{CE}$ – sales to hubs by end-users (ToP obl.)

$SLNG_{CE}$ – LNG supply to hubs

SUK_{CE} – UK supplies through the Interconnector & BBL

DHI_{CE} – demand by importers for hub gas

$DHEU_{CE}$ – demand by end-users for hub gas

DUK_{CE} – UK deliveries through the Interconnector and BBL

$$PH_{CE} = F\{SHI_{CE} + SHEU_{CE} + SLNG_{CE} + SUK_{CE}, (DHI_{CE} + DHEU_{CE} + DUK_{CE})\}$$

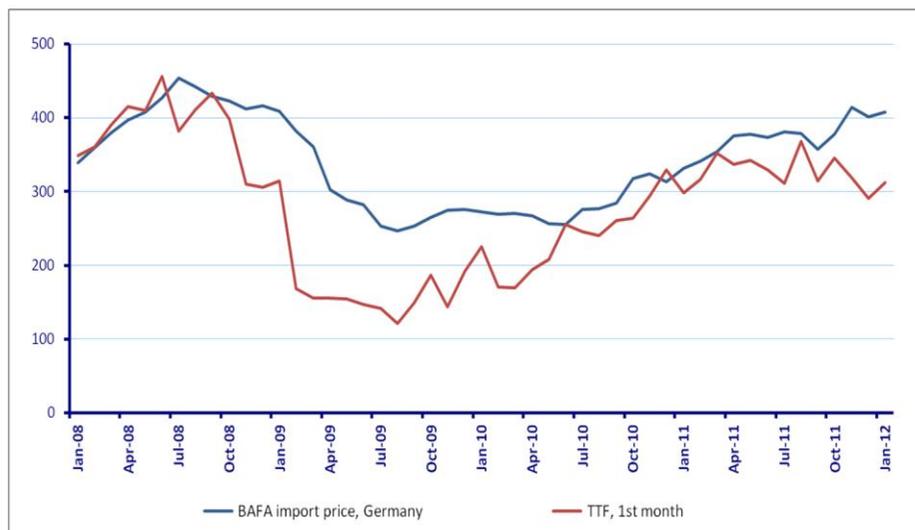
What we hear today is that Europe has reasonably liquid hubs especially in the North-West and spot prices are integrated enough to serve as indicators of the total European supply and demand balance. As such, these freely set hub prices in their present form can be substituted for oil products in the price formulas in the long-term supply contracts. In accordance with this viewpoint, our clients are demanding such substitution, and call for day-ahead, month-ahead, or year-ahead hub-link indexes, or various forward gas prices to displace oil-indexed prices.

Although we understand the interests behind this proposal, we can only say that a move towards supply and demand pricing desired by so many cannot be accomplished because the existing hub prices on the Continent **are not a function of total supply and demand**. Although prices on hubs are determined by supply and demand, hubs maintain equilibrium of only the residual volumes that remain after long-term oil-indexed contacts meet the bulk of demand.

Therefore, Continental hub pricing is not a function of total supply and demand but a function of something quite different; balancing and arbitrage of all kinds, between different contract pricing structures, between contract and spot prices, between hubs, between the UK and the Continent. In fact, the market in Continental Europe is an ideal stage for arbitrage. Although hubs could be reasonably liquid it does not mean that they serve as universal price indicator.

Let us call things by their proper names. In contrast to North American hubs, hubs in the hybrid pricing model do not provide a true indication of the supply-demand balance but only of a fake imitation of it. But the hub price is a perfect instrument of all kinds of arbitrage, a role delegated to it by the hybrid model.

Asymptotic Contract and Spot Price Behavior



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The relationship between hub and contract prices within a hybrid pricing model may best be described by the mathematical term, “asymptotic”. The asymptote in our case is the distance between the contract and hub prices. Once the importers who typically hold long-term contracts with multiple suppliers have exercised arbitrage options, they set up a price ceiling as a benchmark for whole market. Hub prices tend to settle at a discount to the contract prices. Hub prices may cross the contract price line, yet that constitutes the exception rather than the rule.

That asymptotic relationship explains a paradox of the UK hub prices. UK prices are formally completely ‘delinked’ but they are driven by oil indexes which is not the case with the true supply-demand based Henry Hub prices. Moreover, our analysis shows that NBP and TTF prices are not only reasonably aligned to each other but have a strong positive correlation with Gazprom oil-indexed prices with coefficients of 0.75 and 0.79, respectively. Doesn’t this prove that these prices are not free enough but are largely dependent on an oil-indexed contract price benchmark and are in fact derivatives of Gazprom prices?

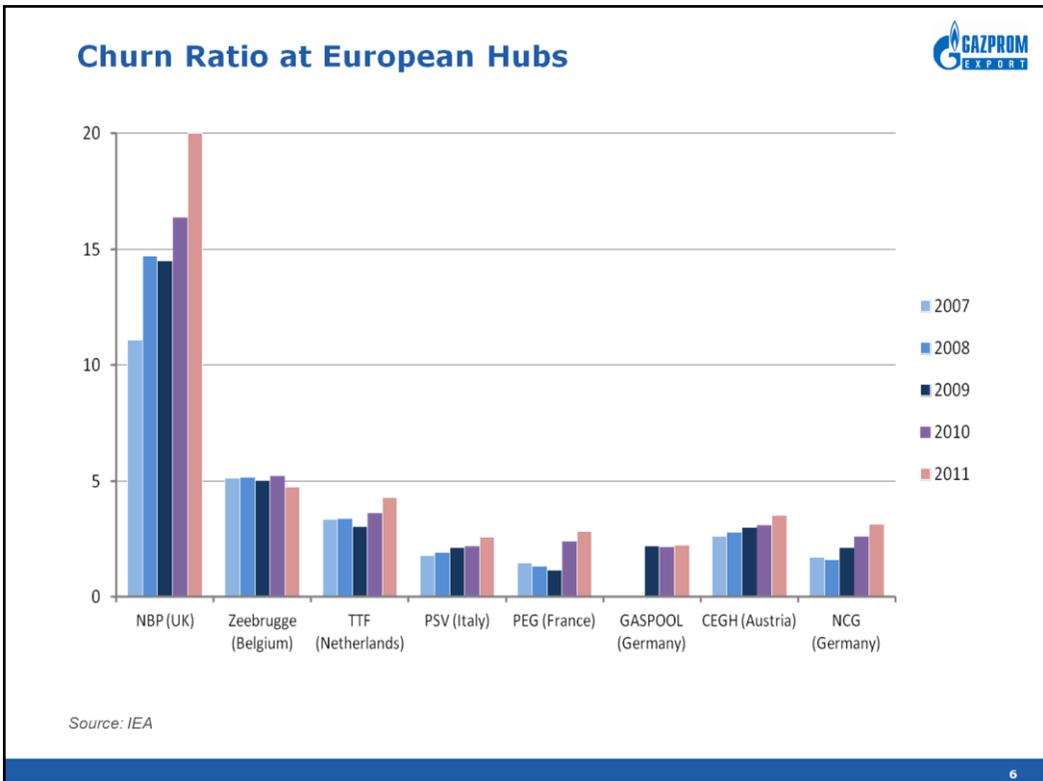
Let me come to the contract and spot price diversion issue. A major reason for the price diversion is the value of flexibility provided by long-term pipeline suppliers. Hubs offer standard lots with no flexibility. A good question is “what should be the price for this flexibility?” One, two, or maybe even 3 dollars per MMBTU?

A second reason why spot prices usually lag behind contract prices is the existence of one-sided balancing on hubs. In the case of a short-term undersupply, it is more convenient to use the existing long-term contract arrangements for securing additional deliveries. In the case of oversupply, selling gas at hubs is a quick-fix. A good example of a one-sided fix is the Finnish market, a “gas island” with lower prices on a small hub than those coming from one single supplier under long-term contracts.

The third reason for diversion between hub and long-term contract prices is the availability of flexible LNG that is rerouted from the USA and cheap gas from the UK that arrives to the Continent through the Interconnector.

In the few cases when spot gas is more expensive than contract gas on the Continental market, it is a result of the inadequate capacity of the gas infrastructure at a time of strong demand for gas like in February of this year. The more developed this infrastructure is and the more integrated the EU domestic market is, the rarer will be instances when spot prices rise higher than contract prices.

Gas producers cannot accept a proposal to make contract and spot prices comparable by lowering contract prices. In most cases, spot prices will respond immediately by decreasing further. That is, any further decreases of oil-indexed contract prices accomplished by decreasing the base price or increasing the component indexed to hub pricing would result in a new cycle of downward adjustment in the spot price. Contract price reduction may make sense only in the case it increases offtakes under long-term contracts. This is likely to occur only when there are other suppliers that are hesitant to deliver gas at a reduced price.

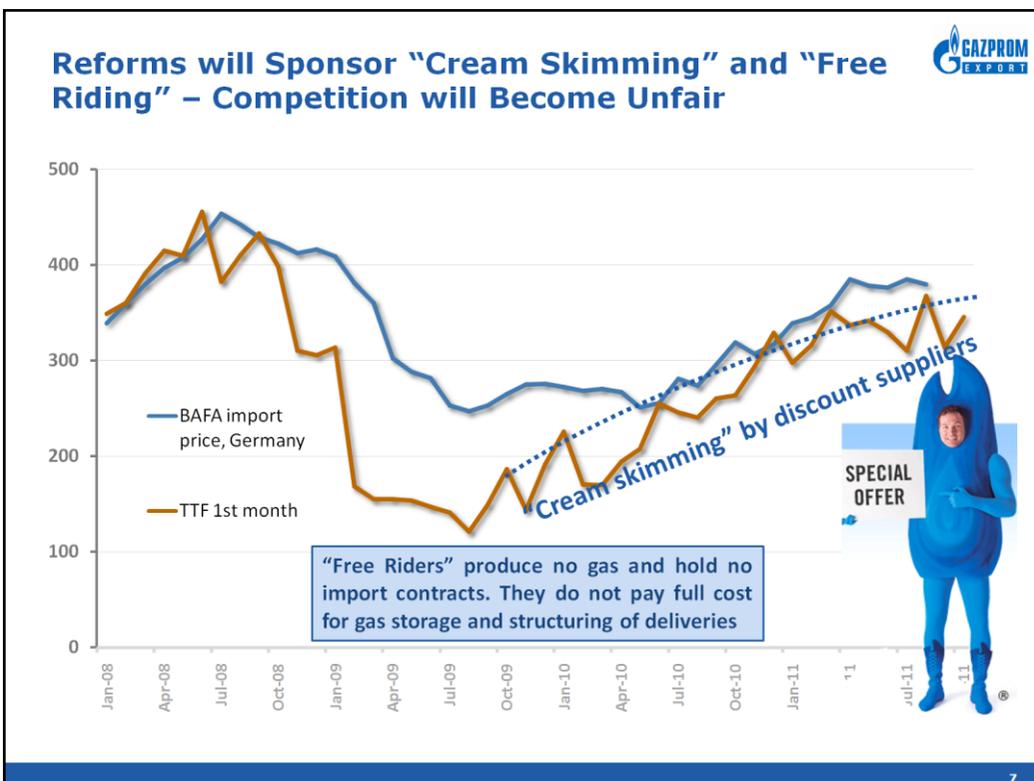


There is also another reason why producers cannot accept the "re-engineered" pricing model.

The specific character of natural gas price signals in Europe is demonstrated by the extremely low churn ratios at Continental hubs. Let me remind you that churn ratio is a ratio of total trades including paper trading conducted at a hub to trades that imply physical delivery. In order to produce sustainable price signals, the churn ratio must be at least 15. In Europe, only the NBP meets this condition. Continental markets do not pass this test. Some analysts say that low churn ratios on the Continent are a reflection of the transition phase, and that, as hub markets mature, churn ratios will grow. I am pessimistic with respect to the further virtualization of the hub trades. It is not because there is a lack of appetite on behalf of European financial institutions to play with the forward curve. Simply put, it is extremely hard to predict what the price on a balancing market will be in two or three years because these prices are not about supply and demand but rather about arbitrage opportunities. There are too many moving parts in the balancing market that must be taken into consideration. To establish a rational forecast for a period of time extending more than 9 months appears to be a "Mission Impossible".

On the Continent the available financial instruments usually offer hedging opportunities that are limited in duration to only six to nine months. It is no simple coincidence that the maturity of forward instruments equates to a base period in the long-term supply contract formulas. Prices of long-term contracts for oil-indexed formulas are usually quite predictable.

Churn ratios for Continental hubs are low and do not look likely to increase, as shown in the chart on Slide 6.



The existing market structure on the Continent is, at a minimum, satisfactory in that it offers win-win options for both buyers and sellers. However, the balancing nature of the Continental market has to be taken into consideration by major players, including regulators.

We fully understand our clients who tell us that do not care about theoretical pricing models but prefer spot-priced gas because it is cheaper. However, when we tell them to buy more from hubs to lower the average price of their portfolio, they say that they cannot fully rely on hubs as their source of supply and would still prefer to get gas from us but at a gas-indexed price.

But we cannot support market reforms that are conducted without a full comprehension of their consequences. Reformists should be careful when giving competitive advantages to one group of market participants at the expense of another. They should clearly understand that what they are reforming is a unique market which is in fact a balancing market. It is a "different beast" than the U.S. market and therefore must be treated in a way that allows long-term oil-indexed contracts and spot gas to complement each other. It is not a dilemma - oil-indexed gas or spot. It should be both.

So far, competition enhancement policy has only divided European gas market participants. A broad group of market players emerged that have no import contracts, bring no gas to Europe under long-term arrangements, and are not responsible for gas storage and deliveries structuring. Advantages without responsibilities for this group of players results in unfair competition. If market reformists are not pursuing an implicit aim of pushing importers out of the business, what they must do is to protect these holders of long-term upstream contracts from unfair rules of the game. Participants of end-user supply tenders should meet strict qualification standards including a requirement to have import contracts. That qualification is also important for security of supply purposes as many discount suppliers without import contracts have already gone out of business (like TelDaFax in Germany) because they were not able to keep their promise to deliver cheap gas when hub prices start to converge with contract prices.

To conclude, unjustified demands of gas importers that producers should be fully responsible for price risks in long-term contracts alter the fragile balance of interests between buyer and seller. Pushing these demands will lead to nothing but the demolition of long term supply contracts. Indeed, if markets are liquid enough as the importers argue when pushing for hub-indexed pricing, there is no need for long-term supply contracts.

Transitioning to the American model, that of hub pricing without long-term contracts and direct sales by natural gas producers, is not a suitable option for Europe. As a matter of fact, Europe is increasingly import-dependent and there are oligopolistic structures on both sides of the market that will end up opening a Pandora's Box of endless conflicts.

With oil-indexation in place, consumers of gas in Europe are protected from any form of price manipulation by the dominant suppliers because none of these suppliers is able to influence the price of oil. It is not Gazprom but European companies are fighting a 'losing battle' to adopt an American-style hub model that will undermine the security of supply.

THANK YOU FOR YOUR ATTENTION!