**APX Energy Trading Symposium**
**Building Market Liquidity - Session Eight**

Stephen Asplin - Managing Director, Energy Trade & Wholesale, NV Nuon

## What are the essential requirements for the successful development of active wholesale forward markets in gas and power?

### No forward market: not a healthy market

Should you decide to place an offer on today's Dutch TTF forward 2010/11 gas market, you might as well decide to go off on a mini-break, since it might take a while before anything happens. Despite the active development of the market since 2003, the liquidity on the TTF forward markets is still disappointingly low **(see Figure 1 below)**. Shipper activity on the forward market is a good indication of confidence in the "market" in question and at least some vision of how this market could develop. European power has developed forward market(s), albeit not always with the liquidity one may wish for. So why is that not the case for the Dutch gas market, and why is it a problem?

Let us start with the latter: does the absence of a liquid forward gas market in the Netherlands constitute a problem? Well, for the security of the daily supply of gas to end-customers? **NO**. For the stability of prices over a year? **NO**. For the profitability of Dutch utilities' business today and tomorrow? **NOT REALLY**. For the longer term assurance of all three of the above: **CERTAINLY**.

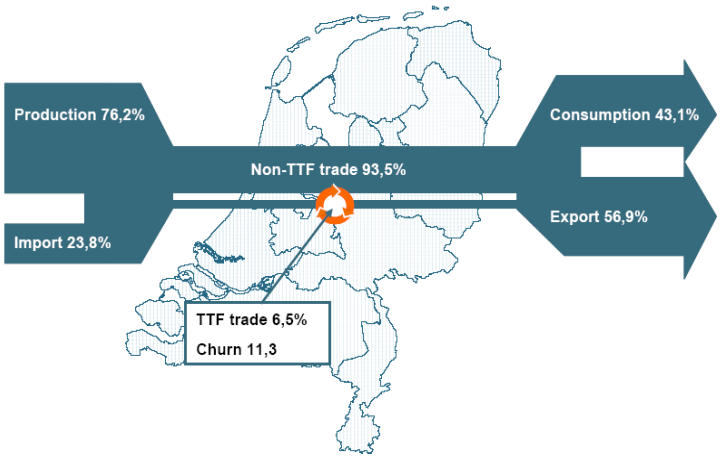
The absence of a liquid forward market reflects the fact that no-one today has a clear idea as to how or when market conditions are going to develop and therefore are unwilling to place risk or offload risk further down the curve. The result of such uncertainty is that parties are extra cautious when committing to: long term sales, purchases and investments. You could decide to buy gas today under an oil-indexed contract for 10 or 20 years, but which formula should you buy it against when you operate in a market where oil-indexation and a gas-to-gas market have co-existed for more than 5 years?

### Fundamental difference between power and gas

What was again the fundamental difference between gas and power? Power is used the moment it is produced, gas has been in the ground for millions of years and could stay there for a few more. It can come out, stay in, be re-injected, the possibilities are endless. Yet it needs to be valued at all points of the chain: when it stays in the field, when it comes off the grid and into

individual boilers and when it is pumped back into storage. Next to that, the gas customer is not that reliable. The annual gas consumption of e.g. the Dutch households can vary with +/- 20% over a year, the hourly consumption however can easily vary with a factor 20. We have yet to observe such significant differences on the power market.

**Figure 1: TTF trade and churn in the Netherlands in 2006**




Source: DTe

The key feature of gas is that it must be there whenever we need it, including on those very cold days that might occur only once every 50 years. At that critical moment, it does not matter where the gas is; somewhere in the pipeline, in a storage, on an LNG ship or in the field: it needs to get to the customer. And somebody has to pay for it.

Historically, gas is priced based on an oil-index, and is therefore not designed to respond to supply/demand price signals. With liberalization looming over Europe for more than 15 years, the Dutch gas “market” saw the introduction of the ingenious concept of flexibility tariffs. Flexibility tariffs are meant to reflect the value for providing swing and/or peak services, i.e. for seasonal differences, differences in temperature during the day and throughout the years. It is the “option” to take and consume gas. This has worked in a market dominated by a few oil majors that had taken up gas as their second business. No competition, regulated prices and nothing to contest those flexibility tariffs. But, then came third party access in all forms and tastes. Next came commercial pipelines and the regulator’s involvement in cross-border flows.

**So, how long can a two price system co-exist?**

In today's world, pricing islands that were single Member States are increasingly interconnected and liberalization symptoms (e.g. NBP) become increasingly contagious. The Netherlands has been chosen for the role as the gas roundabout of Europe. Given its strategic location (interconnectivity, sea front) and flexible Groningen field, this makes great sense.

Yet, the Dutch gas market has been in transition for 5 years and we do not foresee that it will emerge from this transition for another 5 years. Regulators have invested time and effort in developing a working TTF, but the TTF has is now close to reaching its maximum under the current market circumstances. The physical volumes passing TTF shows limited seasonality. Industrial companies and power plants increasingly source from TTF, although temperature sensitive customers hardly do so. The risks involved in sourcing physical gas on cold days from an immature market are difficult to quantify and are discouraging. This is due to the fact that the only supplier with sufficient amounts of flexible low cal gas does not structurally deliver on TTF and policy-makers seem to be satisfied with this situation.

Instead transition plans are written, organizing for "cautious trials". The Dutch Minister for Economic Affairs recently proudly presented its "gas plan" (*Gas Market in the Netherlands: Modernization of the Rules*, 18 February 2008). While recent reports of the Dutch regulator rightly concluded that only household gas delivery would unlock the Dutch gas market, it proposes to offer a choice between "in house deliveries" (literal translation was "*deliveries at the customer's doorstep*") and deliveries on TTF. Let us all think hard and guess which the supplier(s) will opt for? Do we all really think this is a buyer's market?

Sourcing flexible gas elsewhere would imply that entry/exit points function efficiently. We do not think that this is the case. Market-coupling, pentalateral initiatives, etc… fantastic. Day-ahead auction via APX for unused capacity? Also good. But, what we need is real-time information on entry and exit points all over Europe to give market players robust information as regards to the true short term supply / demand picture. The harmonization of rules governing the exploitation of secondary entry and interconnection capacity is key to unlocking flexibility and ensuring competition. We would propose a review into long-term import/export contracts of the incumbents and the structural use of interconnectors linked to those contracts. Then perhaps we might we be able to talk of a functioning cross-border system. The Dutch Ministry has been

generous to offer to "*investigate whether a portion of the import capacity can be reserved for short-term contracts*".

**Conclusion**

A NBP trader is used to handling expensive gas on a cold day and cheaper gas in the summer. On the continent oil-indexed gas has a yearly rent paid for having the right to use gas in the winter and less gas in the summer. The co-existence of a market with oil-indexed price signals and a flexibility tariff is not a sustainable recipe. Long term commitments into the gas chain are highly prone to (regulatory) risk and are liable to suffer from arbitrary decisions with binary outcomes and hence liquidity in the forward curve suffers as a consequence. It is deadly for investment and makes the Dutch market virtually impenetrable for competition.

Transition delays gas-to-gas competition and delays earn the Dutch government money, confidence and votes. The Dutch gas threat has traditionally been: "your boiler will go out!". Because the Dutch government is a shareholder of both the transport system and GasTerra and directly responsible for security of supply today, it has defined for itself the mission to avoid at all costs, market pricing signals that could lead to "unacceptable" price peaks. But there is a price for this: inefficiency, structurally high prices for gas and flexibility, and the lack of confidence amongst market parties in the development of the Dutch gas market.