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Globalizing gas markets and European energy security. Three sobering thoughts

Over the past years, European policy makers and industry executives had to jealously watch a 'shale gas revolution' unfold on the other side of the pond. There, thanks to new drilling techniques, US gas production skyrocketed to some 680 billion cubic meters per year, now ahead of Russia's 590 bcm, making the US the globe's number one gas producer and spot markets see record lows of 3 USD per MMBTU. The US Energy Information Administration has recently estimated Europe's recoverable unconventional gas reserves to be on par with America's, fueling hopes of replicating the US success story on the old continent. What's more, with lots of more gas coming on-stream, gas markets are said to see an end of the decade-old regional gas model, where three different markets co-exist aside each other. North America, Eurasia and the Asia-Pacific, the hopes are, will soon merge into a global gas market; liquefied gas will be shipped easily where needed; and prices will consequently come under pressure because of gas-on-gas competition unfolding on an international level. For many European leaders, this scenario appears as a silver bullet to their energy woes – high import dependency on Russia, the increasingly difficult Eastern neighbor; energy prices currently three times as high as in the US and spelling disaster for Europe's chemical and steel industries; and an urgently needed and secure fuel 'bridging' Europe's path into a low carbon future without pushing the continent's energy system to the verge of collapse. Yet, Europeans may need to rethink on three fronts.

1. European domestic production won't make the difference.

For one, as stressed by several observers, Europe will need to get its frameworks right for the shale game. Regulation remains inappropriate in most European countries, service industry is lacking, and so is infrastructure. Given their 150 year history in oil and gas extraction, the US enjoys a competitive lead that will be hard to make up for even if the Europeans tried hard. Yet they actually don't. French, Bulgarian and German citizens fundamentally oppose unconventional gas drilling on environmental grounds, mainly for fears of groundwater contamination and the use of chemicals in the fracking process, besides issues of methane leakage and wastewater management. Governments in Paris, Sofia and Berlin therefore tied their hands, and effectively locked the Paris Basin, the Carpathian Basin and the North German Plains off for exploration for years to come, if not for good. Poland has just demonstrated how not to get regulation right, and scared off foreign companies urgently needed to bring capital and technology. Exxon, Talisman and Marathon have pulled the plug; others might follow. And the UK, self-proclaimed leader in unconventional gas, has become home to a veritable 'fracking war' over the contested technology. Evidently, the Tory government's plans to put in place the 'most generous tax breaks in the world' for unconventional gas extraction has not even convinced its own constituencies, usually unequivocally fond of less taxes, smaller state and lower regulation. The cruel truth, however, is: even if holes were drilled and tight rock beds were fracked where ever technically feasible in Europe, it would not make a difference on the import dependence front. In the best of all worlds, shale gas production might then stabilize domestic European gas production, and not reduce import dependency. The latter will still grow to some 74 percent of total consumption within the next two decades, as the International Energy Agency estimates. In short, indigenous European production will not be decisive for future European energy supply.

2. Europeans don't get to decide on the new gas pricing model.

In fact, the main energy security question Europe is facing is not where their gas will come from in the next decades, but at what pricing model it will be sold on domestic markets. The incumbent model – Long Term Contracts (LTCs) that typically peg the price of gas to the price of oil – is clearly

eroding. Since 2008, excess Liquefied Natural Gas (LNG) cargos hit European spot markets and started to put oil-indexed piped gas out of the money. Security pundits welcomed these developments, as they forced key producer countries such as Russia and Norway to grant concessions, and weakened Moscow's position on European gas markets. Yet the not so good news is that it is unclear what the future pricing model will look like. Worse, the Europeans probably won't have much of a say in designing it. By contrast, much will depend on future gas cargos leaving the US, where excess capacity currently depresses prices below production cost, making energy companies look for export markets elsewhere. In fact, if realized, currently approved or planned LNG export facilities in the US would add up to some stunning 40 percent of world LNG trade and make the US a key force in global gas markets. While free markets rule the US in theory, gas exports have therefore become subject to a fierce political debate in Washington DC. An interesting coalition of industry leaders, energy security wonks and environmentalists point to cheap feedstock and the opportunity to 'reindustrialize America', and argue 'American gas must stay home'. In the still not so unlikely event that at least some gas exports take place, much of it – as the world's excess supply more generally – will likely be soaked up by Asian markets, notably China. Japan will be looking for cargos, too, forced to at least partially replace nuclear in its post-Fukushima energy mix, and will be eager to lower prices for LNG imports, which are currently among the world's highest. US companies willing to export will have a good reason to do so before Qatar and Australia plug the holes in emerging Asian economies. By exporting their gas, US companies will however also export their pricing model: Henry Hub, which will be serving as the base reference for any cargos destined to other world regions. In the end it will therefore be US domestic politics that will determine which way international gas markets go, and whether European gas markets get linked up with North America and Asian ones. All the Europeans can do is follow the UK model and further liberalize their gas sectors, in the hope to make others come and play on an attractive import market and fully aware that the rules of the new gas pricing game will still be decided on elsewhere.

3. Globalizing gas markets don't mean lower prices. And they are no easy ride either.

Indeed, a sizeable import market for international natural gas cargos, Europe has no reason to shy away from pricing gas on actual market fundamentals. This will make domestic and foreign gas producers fight for market shares through spot and futures based pricing mechanisms, and Russian pipeline gas compete against LNG cargos from, say, Qatar. A slowly developing European unconventional gas sector could feed additional volumes into the market, fostering its liquidity and competitiveness. But the Europeans should make no mistake, either: globalizing gas markets by no means imply lower prices. What's for sure is that they at least mean high price volatility. A quick look at German border prices – a fairly good proxy for oil-indexed and LTC based Russian gas imported into Europe – reveals by far smoother price developments over the past years than the UK National Balance Point, which works on a spot basis. And not much time has passed since the US Henry Hub saw prices as high as 13 USD – 4 times today's levels. Such volatility means adjustment costs for households and industry, particularly for energy intensive ones such as the steel and chemicals sector. So while internationalizing gas markets and gas-on-gas competition may strengthen the supply security side for European consumers, they may come with strains on their pockets. What's more, transitions never are an easy ride, and particularly not in energy markets. They are bound by uncertainty, for all market participants. For 'traditional' European suppliers such as Russia, a new gas pricing model will come with uncertainty on long term demand and margins in their most important consumer market. They may therefore rethink future upstream investment, until they have a better picture of where things are going. The same holds true for European utilities which no longer dispose of long term planning security in the end user market, thus possibly taking a more cautious approach towards contracted volumes and time horizons. Uncertainty on price levels and investment decisions in the gas market will certainly spill over to the renewable energy sector, too, a direct competitor in power generation and heating. In short, if natural gas is meant to bridge Europe's way into a low carbon future, then European policy makers better have a plan on how to manage some of the unintended side effects coming with gas going global.

Are these reasons to stop incentivizing domestic natural gas production, integrating the European gas sector and embracing internationalizing markets? They are not. But for Europeans it will be important to be clear what they will get, and what they won't. The new gas world will probably allow recalibrating Eurasian market asymmetries a bit. Clearly on the upside therefore, Russia – while still important – will be assigned the role of one among many competing gas suppliers, assumably to the liking of many Central Eastern Europeans. But the European economy will probably not see much of a relief on the pricing front, at least not in the short run. What's for sure is that neither shale gas production nor new pricing models are a silver bullet to Europe's energy challenges. As a strategic good, energy will always require the special attention of governments, markets designed to account for its nature as a private commodity, but also tailored policies catering its public goods characteristics. Markets alone can't make up for this, nor fix policy shortcomings – neither with regards to import dependency, nor with regards to prices and the desired transition to a low carbon future.