Although the preparation work for the commissioning of the LNG terminal by the island of Krk has been ongoing for more than a decade, during the course of which there have been several modifications, the prospect of the project’s realisation is questionable. The preliminary results of the binding open season this spring, talk about very low level (four percentage) of binding capacity reservation. This is not enough to take a final investment decision despite the 30% non-refundable EU grant from the Connecting Europe Facility. It seems that the market did not have interest and/or could not take advantage of the opportunity under the offered conditions. The article considers past year’s events that led to the current status of the project, the main obstacles detected, and the lessons learned. It seems that the momentum for the project to fly has been missed.

The project has faced mixed opinions from the beginning; some strongly advocate the investment, emphasising positive spill over effects, and others question its financial viability.

To be certain, by introducing an alternative to Russian gas and connecting the already operating and soon to be commissioned Baltic and LNG terminals in Adriatic sea, the project brings several benefits not only for Croatia but the broader region including Hungary. It would represent a concrete step forward for the north-south gas corridor, boosting competitiveness and security of supply considerably in the region. For these reasons, the project was selected as a Project of Common Interest by the European Commission.

Plans for the terminal drafted before the financial crisis by reputable European energy companies (among others E.ON, RWE, OMV and Total) envisaged an 800 million EUR investment for a 10 bcm/year regasification capacity and set of evacuation gas pipelines in north and east directions. Following a series of delays and changes in ownership, the regasification capacity has been gradually revised down. After 2014, a 6 bcm/year land-based terminal scheduled for completion in 2019 at a cost of 630 Mio EUR was

1 The authors are thankful for the valuable comments of colleagues in REKK: Dr. Péter Kaderják, Péter Kotek, András Vékony, for the comments of Mr. Franc Zlachtic and for the thought provoking discussions with other regulators, ministry officials, traders, TSOs of the region during conferences and workshops.
considered. However, these plans were mothballed indefinitely for financial reasons. The project has been revived in recent years through with a different technology and a considerably lower technical capacity by the Croatian-owned company LNG Hrvatska, which is seeking institutional and financial support. This revival could be due to a combination of several factors. For one, substantial EU support is being made available (in 2014, the project received 4.5 Mn EUR for preparatory studies), while there have also been advances in FSRU (Floating Storage Regasification Unit) technology that would reduce total investment costs. The technology has another distinctive advantage: when market circumstances change, the unit can be easily relocated to another country offering higher profitability. The current vision aims to invest in an FSRU of 2 bcm/year capacity in the first phase, which could enter commercial operation by the end of 2019, at a cost of 363 Mn EUR. A land-based terminal with the originally planned higher capacity be constructed would only be realized in the second phase.

**OBSTACLES**

Another push for the realisation of the terminal might have been the first US LNG cargo arriving to Europe in 2017. Following this event, a number of positive developments took place. The Croatian government has made both stages of the project a strategic priority to help the commissioning with faster and easier permitting procedure. Moreover, the United States considers the project strategically important and the European Union has granted financial support along with its PCI status. Last December, the Connecting Europe Facility provided 101.4 Mn EUR non-refundable support for the investment, which accounts for roughly 30% of the total project cost and is available for 2 years, alongside a 25% commitment by the Croatian government. The remaining uncovered costs may still prove to be too much to overcome for the realisation of the project.

A compulsory Open Season procedure could fill this financial gap, organised by the project company LNG Hrvatska, which was set up for constructing and operating the terminal. Traders will have the opportunity to book capacity from 19 March, and a final investment decision will be made based on market interest. However, it is expected that market players will show limited interest for capacity bookings. For long-term contract holders this is understandable, since new shipments via the terminal would put downward pressure on the market price and reduce profits. It is also possible that the improved bargaining position of long-term contract holders may be leveraged during the renegotiation process with Russia. Still, the overall effect is quite uncertain and difficult to quantify, so the reluctance to book capacities is understandable at the end of the day. Some traders could also be under the impression that LNG arriving in the Croatian terminal will not be competitive with the other pipeline (primarily Russian) sources. Security of supply benefits related to the terminal are also less pronounced since the project has by now lost its first mover advantage. The Balkan countries, which historically have been supplied primarily with Russian gas, are within an arm’s reach from alternative sources; by 2019 gas from Azerbaijan via the TAP pipeline and by 2020 Romanian offshore gas could reach the region. Uncertainty over capacity bookings is further underlined by the fact that currently the Hungarian-Croatian interconnector can only transmit gas from Hungary to Croatia. It is also true that this issue can easily be remedied by the commissioning of the LNG terminal after the memorandum of understanding on the permanent bidirectional gas connection has been signed by representative of the two countries – according to this, Hungary may procure gas from Croatia by Q1 2019.

Uncertainty over the rules of the Open Season procedure is also detrimental to bidding. Since tariffs set for the use of the terminal are highly dependent on the total volume of booked capacities on the Open Season, market players may be reluctant to bid if they expect that other players will not book or book low capacities.

**EXPECTED BENEFITS OF THE PROJECT**

The recent modelling conducted by REKK suggests that utilisation of the Croatian LNG terminal is high in all market circumstances and the net social benefits were always positive on a regional level - operating under the assumption of a low regasification tariff and moderate cross-border tariffs. This means that the fall in price triggered by the new source not only provides more benefits to the consumers than the losses of long-term contract holders and - possibly due to the remapping of shipments on existing infrastructure - in some cases losses of TSOs, but this net welfare gain also covers the investment needs. Positive net social benefits indicate that the project is worthwhile from a societal point of view. Although the providence and reluctance of traders is quite understandable.

From Hungary’s perspective, market prices will likely fall and add to consumer welfare. Nevertheless, higher consumer welfare means lower profits for owners of long-term contracts. Where the balance shift is affected by several external factors outside of the preferences of investors and potential users of the terminal will influence the project as well.

If Turkish Stream is expanded by another (second) string, it will supply the whole Balkans with Russian gas and leave Croatian LNG without a primary market. Still, the scenarios must consider the likelihood that Bulgaria and Serbia will invest in a pipeline system that shifts the transit of Russian gas from Ukraine to Turkey but does nothing to address Russian import dependency. Experts assign a low probability to the second string of the Turkish Stream and the connecting pipeline infrastructure; in the long term it is heavily dependent on the Ukrainian-Russian relationship and the future of the more advanced Nord Stream 2.

Nord Stream 2 might also influence the financial returns of the Croatian LNG terminal. Nord Stream 2 is a very controversial pipeline, not only in Eastern Europe. It is the only European pipeline project specified in the Countering America’s Adversaries Through Sanctions Act (CAATSA) of
the US. If Nord Stream 2 is commissioned, Russian transits to Europe may bypass Ukraine, resulting in unused capacity in the West-to-East pipeline infrastructure, crowding out gas volumes which force Russia to compete and defend market positions in Eastern Europe. In this case, an alternative source of supply and route could be valuable for Hungary. If we consider actual situation and development of the projects the Nord Stream 2 is more likely to be constructed than Turkish Stream 2.

The welfare change attributed to the Croatian LNG terminal is clearly positive if Hungarian and/or regional gas demand grows. The last two years offer some hope, primarily due to the steep drop in gas prices, which helped the profitability of gas-fired plants. So if gas-fired power generation is expected to increase gas demand, the Croatian terminal has a reason to be built. Unfortunately, the probability of such an event is difficult to predict because other factors (like the diffusion of renewables, commissioning of Paks 2 (NPP or CO2 prices) must be considered.

In a global context, Australian and US liquefaction capacities have led to an oversupplied market which is beneficial for the Croatian LNG terminal. The probability of the LNG oversupply rapidly turning into a scarce LNG situation is minimal. The Croatian LNG terminal practically opens a gate to an infinite supply and competitive upstream market for any of the regional alternatives (not even Romanian offshore fields).

Another important factor supporting the project is that it forces the dominant incumbent supplier into competitive pricing. This behaviour could be observed after the commissioning of the Lithuanian LNG terminal with respect to the pricing of Baltic countries. Lower Hungarian gas prices were more pronounced than the fall in oil prices would have suggested, meaning the network investments (especially the Slovakian-Hungarian interconnector) may supported Hungary’s negotiations (REKK Policy Brief 2016/06). Thus, a desire to strengthen and maintain negotiating power might also propel Croatian LNG.

With Russia hoping to keep its dominant position in Europe, it is not surprising that it takes pre-emptive steps to prevent the entry of competing sources to the market. Alexey Miller, CEO of Gazprom visited the Balkans in Autumn 2017 just before the start of Open Season procedure for Croatian LNG terminal. During the bilateral talks, he negotiated about the Russian gas pipeline projects and the extension of long-term contracts with Serbia, Slovenia and Austria. It is remarkable that actual contracting took place only with Croatia: 1 bcm/yr from 2018-2028 – enough to cover Croatia’s entire demand and obviating Croatian LNG terminal. The Russian counterparty must have made a very favourable offer to Croatia, again demonstrating that Russia will only price gas competitively if there is competition, and yet Kirk is a prerequisite for competition. Based on these factors it can be reasoned that realisation of the project is beneficial from the point of social welfare, but it also bears a heavy financial risk. The question is what factors may alleviate these risks and enhance the likelihood of the project’s commissioning.

POSSIBLE SOLUTIONS

In our view in any further development of the Croatian LNG terminal the following circumstances must be taken in account:

1. Method for alleviating financial risks should encourage the countries realising welfare gains to take part in the investment costs. The deep analysis of the regional gas market and Cross Border Cost Allocation (CBCA) based on Regulation 347/2013 is essential for social benefits estimation in regional gas markets as well as for estimation of costs. The full cost of necessary gas infrastructures in the region that is needed to evacuate gas from Croatian LNG terminal has to be taken into account. Considering the fact that the Croatian LNG terminal is a regional project, both welfare and costs must be analysed in a regional framework: for the EU member states as well as for the Energy Community Contracting Parties. Assuming that the evacuation pipelines are in place, the expected net social benefits accrue mostly outside Croatia, in which case a CBCA spreading investment costs among the neighbouring countries would be reasonable. Yet these negotiations turned out to be unsuccessful. One of the factors keeping parties from agreement could be that most of the benefits are located in non-EU countries (Bosnia, Serbia, Ukraine), meaning an agreement is not enforceable. Furthermore, these countries have not signalled that they would participate in a CBCA on a voluntary basis. This could result in less countries covering the costs and more realising gains, placing a higher burden on the EU-member states. Consequently, this fact could significantly impact the LNG terminal concept and capacities.

2. Since the final investment decision is primarily based on the success of the Open Season procedure, realisation of the project could be most easily affected by incentivizing participation. The most straightforward way to accomplish this is by setting moderate and predictable tariffs, which condition was not met by the current call. The uncertainty over future fees for winning bidders still looms over the procedure. The current method, which sets

2 The Energy Community is an international organisation which brings together the European Union and its neighbours to create an integrated pan-European energy market. The key objective of the Energy Community is to extend the EU internal energy market rules and principles to countries in South East Europe, the Black Sea region and beyond on the basis of a legally binding framework. Contracting Parties are: Albania, Bosnia and Herzegovina, Kosovo*, Former Yugoslav Republic of Macedonia, Georgia, Moldova, Montenegro, Serbia and Ukraine.

3 Infrastructure regulation 347/2013 EU sets out the details of cross-border cost allocation, which was already performed for a Polish-Lithuanian gas interconnector.
tariffs according to the total quantity demanded by market participants, makes forward planning difficult for market participants since it is not possible to assess the tariff level absent perfect knowledge of other players’ actions. Concerted action of bidders – contrary to economic logic – may be welfare enhancing: once a market player is aware of the other’s capacity bid, it will book capacities with more ease hoping for a lower tariff. We see no risk from competitive laws that such negotiations would risk the realisation of the investment or cause lower bookings. Instead, it would possibly help distribute price risks over the countries involved. Thus encouraging negotiations at decision maker’s level in the countries involved and diminishing regulatory risks may help marketing capacities. Besides importers, shippers should also be incentivized to book capacities.

3. Reliability and guaranteed supply is important for all consumers. For Ukraine to book capacities that cover missing Russian supplies, it needs to be sure that capacities are not only interruptible but available for physical transport of gas. Absent this reassurance no obligation on the Open Season procedure should be expected from Ukraine. If there is no constructive cooperation between the countries involved within a reasonable time, this project might be easily jeopardized. Construction should primarily be tied to financial reliability and guarantees of physical deliveries.

REKK FOUNDATION

The goal of the REKK Foundation is to contribute to the formation of sustainable energy systems in Central Europe, both from a business and environmental perspective. Its mission statement is to provide a platform for open-ended, European-wide dialogue between government and business actors, infrastructure operators, energy producers and traders, regulators and consumers, professional journalists and other interested private entities. The REKK Foundation develops policy briefs and issue papers with forward-looking proposals concerning challenges posed by energy and infrastructure systems and organizes regional forums allowing stakeholders to become familiar with the latest technological and regulatory developments within the industry.

Further information: www.rekk.org

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The REKK Foundation is considered an organisation supported from abroad according to the law LXXVI/2017.