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TURKEY INSIGHT

ARTICLE

Israeli gas export to Turkish market

Gina Cohen, well known natural gas expert in the Eastern Mediterranean region and lecturer at the Technion University, compiled her briefings and meetings in Turkey, for Enerji IQ.

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Gina Cohen

Mr. Aziz Camcı elected as the Chairman of PETFORM

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Uncertainties soaring for wind investments

Uncertainties for the new wind investments in Turkey rises as the pre-license applications, received by EMRA on April 2015 have not been concluded yet. EMRA is expected to receive new application between April 3-7, 2017, but the Competition Regulation has not come into force.

(Enerji IQ - 12 Jan. 2017) Wind investors in Turkey are highly concerned about the future of their investment plans as only two months left for the new applications, which had previously been shifted to April 2017 instead of October 2016 by EMRA. But the Ministry of Energy has not finalized the previous license applications, which were received by EMRA on April 2015. On the other hand, EMRA's new Competition Regulation, which was opened to public opinion in November 2016, has also not been finalized yet. The new Competition Regulation was prepared to set a model for the multi-connection applications at the same point of the transmission system.

Based on this suspension in new wind investments, a senior source from the Ministry of Energy told Enerji IQ that the ministry has decided to realize the new wind and solar plant investments via YEKA model and individual applications in April 2017 will most probably not be accepted by EMRA.

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BOTAŞ budgeted Ceyhan FSRU project

The investments to be made in the FSRU project to be established in Ceyhan on Med. Sea coast is included in BOTAŞ's 2017 budget. In 2017, BOTAŞ budgeted to spend a total of 1 billion 473 million TL (USD378 million).

(Enerji IQ – 25 Jan. 2017) BOTAŞ's budget for 2017, which was approved in the Turkish Parliament (TGNA), determined the details of the investments to be made in 2017. Accordingly, BOTAŞ budgeted the capacity increase project of Tuz Gölü (Salt lake) underground gas storage facility and the new FSRU, which will be connected to the grid in Ceyhan.

For Ceyhan FSRU project, BOTAŞ budgeted a total of 190 million TL, of which 16 million TL will be spend in 2017.

A total budget of 3.6 billion TL was allocated to the project of raising the send out capacity of the K. Marmara underground natural gas storage facility to 50 mcm/day and the injection capacity to 29 mcm/day.

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13.3% price cut and 1.9 bln USD compensation from Iran

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An official from General Directorate of Renewable Energy confirmed the cancellation of new wind license applications of April 2017 and said that the applications received in April 2015 will be finalized according to the new Competition Regulation. The same official said, "We can say for now that this process will not progress and new wind plant investments will be subjected to YEKA tender process."

Wind generation in 2016 increased to 15.4 TWh

The installed capacity of the licensed wind power plants in Turkey has reached 5,738.4 MW by 31 December 2016. This corresponds to 7.3% of the total installed capacity of 78,497 MW.

Wind power plants accounted for 11.543,059 MWh in 2015 and 4.4% of 259.6 TWh hours of electricity generated that year.

In 2016, wind power plants produced 15,411,215 MWh, corresponding to 5.7% of the 270.4 TWh electricity generated throughout the year.

YEKA model will be tested with solar plants in February 2017

The YEKA (Renewable Energy Resource Area) model, which was created with the aim of shortening and facilitating the realization period of investments and also the investment of domestic equipment and technology, will be tested with the 1 GW solar power plant tender to be held in Konya Karapınar in this February.

The bids for this tender will be submitted to the Ministry of Energy and Natural Resources (YEGM) by 14 February 2017 and the bids will be open on 21 February 2017 for bargaining.

EBRD invested €1.9 billion in Turkey

In 2016, EBRD invested €1.9 billion in Turkey. Turkish projects represented 20% of the EBRD's total €9.4 billion investment last year

(Enerji IQ – 23 Jan. 2017) In 2016, The European Bank for Reconstruction and Development (EBRD) invested €1.9 billion in Turkey which reconfirmed its position as the top destination for the Bank's funding. Turkish projects represented 20% of the EBRD's total €9.4 billion investment last year across some three dozen countries on three continents.

"In a most challenging year for Turkey, the EBRD has been able to further raise its investment in the country while at the same time encourage key reforms required for its long term prospects, notably more energy efficiency, deeper capital markets, broader Turkish lira financing and an inclusive economy and workforce," said Jean-Patrick Marquet, whose Istanbul-based country manager role has now been upgraded to managing director.

On a par with 2015, the Bank financed 43 projects in 2016, 13 of which involved Turkish lira, a priority for the EBRD in Turkey.

Nandita Parshad appointed head of EBRD Energy and Natural Resources group

Nandita Parshad has been appointed as the new Managing Director of the EBRD's Energy and Natural Resources business group, effective 1 January 2017.


Nandita Parshad

Ms Parshad was previously Director of the EBRD's Power and Energy team. The appointment comes after the EBRD's previous Managing Director for Energy and Natural Resources, Riccardo Puliti, moved to the World Bank Group to head up its energy and extractive resources global practice.

The Energy and Natural Resources group invests over €2 billion year with a current portfolio of over €10 billion.

13.3% price cut and 1.9 billion USD compensation from Iran

BOTAŞ's arbitration case against NIGC resulted in 13.3% natural gas price cut and 1.9 billion USD compensation for Turkey. BOTAŞ will compensate the 1.9 billion USD by not paying for the gas.


Berat Albayrak

(Enerji IQ – 24 Jan. 2017) Iranian Oil Minister Iraki stated that a 13.3% discount will be applied to the price of natural gas exported to Turkey as required by the International Court of Arbitration and that Tehran will pay Ankara $ 1.9 billion in compensation.

Thus, the purchase price of Iranian gas will decline to 2013 Q3 level. For Iranian natural gas, BOTAŞ paid NIGC a price of natural gas at a price of approximately USD 165 / 1,000 m^3 in the Q4 of last year. This unit price rose to USD 190-195 / 1,000 m^3 at the beginning of this year, as the increase in Brent oil prices affect Iranian contract more than the Russian contracts.

According to the information provided by Energy IQ, BOTAS is not paying for a redundant NIGC settlement disbursement for last two months.

Minister Albayrak: 1.9 billion USD will be compensated with gas deliveries

Berat Albayrak, Minister of Energy and Natural Resources, said that the acquisition of the International Arbitration Trial against Iran was a significant gain for Turkey and said that 1.9 billion USD of compensation would be taken as a gas from Iran in the coming period.

Minister Albayrak, who spoke with journalists in Madagascar, the last stop on the East African tour of President Recep Tayyip Erdogan, said the process of arbitration with Iran has been going on for four years.

13.3% DISCOUNT

Minister Albayrak said: "We have been informed that the decision stage of the arbitration in the last year will be finalized by the end of 2016 and that the decision of the parties will be decided as soon as possible. Although the announcement of this decision may be made at the end of the year, we have clarified our deduction at the point of improvement needed at the end of September, associating it with this issue. Last November, the arbitration was held in November to make sure that both parties were final and final decisions. The arbitrator said a 13.3% discount."

COST REDUCTION

"We will receive a sum over Iran's nearly $ 1.9 billion over the past years by offsetting the gas price in the coming period," he said, arguing that a figure on the backdated setoff occurred. I hope to provide more affordable gas supply to Turkey.

BOTAŞ budgeted Ceyhan FSRU project in 2017

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A total budget of 3.6 billion TL was allocated to the project of raising the send out capacity of the K. Marmara underground natural gas storage facility to 50 mcm/day and the injection capacity to 29 mcm/day.

BOTAŞ will spend a total of 222 million TL, including 112 million TL in credit and TL 100 million in equity in 2017.

In 2017, BOTAŞ allocated 291.8 million TL to the gas distribution network of rural districts to provide natural gas. While the year 2019 is set for the end of the project, it is stated that in the year 2017, 97.4 million TL will be spent for gas connection pipelines to the rural areas.

BOTAŞ plans to complete the project of increasing the send-out capacity of the LNG terminal of M.Ereğlisi by 2018. 90 million TL of the total budgeted 132 million TL is allocated in 2017.

On the other hand, state owned TPAO's expenditure for drilling in 2017 is 700 million TL.

BOTAŞ cut the balancing gas price

In January, BOTAŞ determined the price of the balancing gas (DGF) by more than 50% with an increase of more than 50%, has revised the DGF to 0.824990 TL, including the special consumption tax (SCT), in accordance with the Decision of EMRA approving the amendments of Network Code on January 19.

(Enerji IQ – 20 Jan. 2017) BOTAŞ lowered its January balancing gas price (DGF), which was largely reacted to by most of the shippers, by revising it as of January 21, 2017.

The DGF, which was determined as 0.84990 TL including the SCT, is above 8% of the house price. In the beginning of January, the DGF increased by 50% from the previous month level and caused the shippers to pay very high amounts for balancing gas especially for wholes sellers, in the period when supply restrictions were experienced.

EMRA changed the principles of BOTAŞ's Transmission Network Code (ŞİD) with its decision dated January 19, 2017 and granted BOTAS the right to revise the DGF for for January 2017.

Significant decline in 2017 transmission tariffs

In BOTAS's transmission tariffs applied to the shippers in 2017, there was a significant decrease when compared to the previous year. Thus, the transmission capacity values were close to the year 2015 for most entry points.

BOTAŞ's transmission tariffs were increased by about 40% in 2016 from its level in 2015.

This decrease in the BOTAS transmission tariffs also increased the expectation that new storage tariffs to be announced in this year including the newly constructed Salt Lake storage facility would be partially reflected in the transmission tariffs.

Entry Point & Exit Points	2015 Transmission Tariffs	2016 Transmission Tariffs	2017 Transmission Tariffs
	Transmission Capacity Fee (TL/m3/Day)	Transmission Capacity Fee (TL/m3/Day)	Transmission Capacity Fee (TL/m3/Day)
Entry Point 1 (Malkoçlar - Russia)	0,000261	0,000325	0,000263
Entry Point 2 (M.Ereğlisi LNG)	0,000226	0,000310	0,000253
Entry Point 3 (Durusu)	0,000282	0,000429	0,000262
Entry Point 4 (Iran-Gürbulak)	0,000331	0,000424	0,000310
Entry Point 5 (Azerbaijan- Türközü)	0,000340	0,000449	0,000388
Entry Point 6 (Egegaz)	0,000112	0,000155	0,000120
Entry Point 7 (Silivri u/g storage)	0,000076	0,000156	0,000120
Entry Point 8 (TPAO Akçokoca Production)	0,000302	0,000343	0,000300
Entry Point 9 (Temi - Produstion)	0,000422	0,000174	0,000300
Entry Point 10 (Etki)			0,000056
Entry Point 11 (Tuz Gölü u/g storage)			0,000120
Exit	0,010518	0,011894	0,011020
Export Exit Point	0,046973	0,064482	0,040387

	(TL/m3)	(TL/m3)	(TL/m3)
Transmission Service Fee	0,017690	0,021570	0,016944
	(TL/Year)	(TL/Year)	(TL/Year)
Standard Service Fee - Annual	7762,20	10171,24	6592,16
Standard Service Fee - Monthly	646,85	847,60	549,35

EMRA and BOTAŞ requested extension for Gas Law proposals

EMRA and BOTAŞ, which the Ministry of Energy has given time until January 20 for the proposal of amendment of the Law on the Natural Gas Market Law, requested an additional period from the Ministry.

(Enerji IQ – 25 Jan. 2017) The Ministry of Energy and Natural Resources is continuing to work on the amendment to the Natural Gas Market Law, which aims to enter into force in the first half of this year, if appropriate political conjuncture is achieved.

The Ministry requested proposals for amendments from the public institutions and organizations, especially EMRA and BOTAŞ, until 20th January 2017. However, both organizations requested additional time from the Ministry. The information obtained by the IQ from Ministry sources is that the proposal for amendment of the law will be submitted to the Parliament by the end of February.

Turkey fixed exchange rate on privatization payments

By the latest Decree Law, the investors who are paying USD prior to the privatization tenders are entitled to pay with a fix rate of 3.53 TL/USD during 2017.

(Enerji IQ – 25 Jan. 2017) Pursuant to Article 6 of the Decree Law No. 683 published in the Official Gazette on January 23, 2017, the state has undertaken the exchange rate risk of 2017 for all investors who have purchased assets over USD in privatization tender to date.

According to the regulation, if the investor requests and the privatization administration accepts, foreign currency denominated debt will be paied at the Turkish Central Bank's buying rate (3.53 TL / USD) on 2 January 2017.

If the exchange rate is less than 3.53 TL / USD, the investor will not be able to claim this right but will be able to make payment over USD.

The application of currency stabilization, which takes a breath away from the investors who receive electricity distribution and production privatizations, will be realized by the undertaking of the foreign exchange risk.

According to Enerji IQ data, the total of the highest offers for 8 electricity generation privatization realized between 2012 and 2015 was 8 billion 656 million 500 thousand USD.

Electricity distribution privatizations totaled USD 12.7 billion.

Power Plants	Tender Date	Installed Capacity (MW)	Highest Bid (USD)	Highest Bidder
Seyitömer Coal Fired Power Plant	28 Dec. 2012	600	2,248,000.000	Çelikler İnşaat
Kangal Coal Fired Power Plant	8 Feb. 2013	457	985,000,000	Konya Şeker - Siyah Kalem JV
Hamitabat Gas Fired Power Plants	7 March 2013	1,156	105,000,000	Limak
Kemerköy & Yeniköy Coal Fired Power Plants	18 April 2014	1,050	2,671,000,000	IC İçtaş (+ Limak)
Çatalağzı Coal Fired Power Plant	29 April 2014	300	350,000,000	Elsan Elektrik
Yatağan Coal Fired Power Plant	12 June 2014	630	1,091,000,000	Elsan Elektrik
Orhaneli & Tunçbilek Coal Fired Power Plants	17 Dec. 2014	210 + 365	521,000,000	Çelikler İnşaat
Soma B Coal Fired Power Plant	13 Jan. 2015	990	685,500,000	Konya Şeker

Turkey - Israel free trade agreement to be expanded

The Free Trade Agreement between Turkey and Israel will be expanded on the Turkish delegates trip to Israel, which will be held between 7-8 February 2017.

(Enerji IQ - 10 Jan.2017) After the normalization of the relations between Turkey and Israel and the reconstruction of diplomatic ties, commercial relations between the two countries entered into development.

The Turkish - Israeli Free Trade Agreement, which entered into force on May 1, 1997, will come on the agenda of Turkey 's trip to Israel, which will be attended by Ministers on 7-8 February 2017.

Mr. Aziz Camcı elected as the Chairman of PETFORM

Mr.Aziz Camcı is elected as the new Chairman of PETFORM by the Board of Directors of PETFORM, at the Annual General Meeting held in Ankara on 25 January 2017.


Aziz Camcı

(Enerji IQ – 25 Jan. 2017) The Annual Meeting of the Petroleum Platform Association (PETFORM) was held in Ankara on 25 January 2017, bringing together 59 members of the Petroleum Platform Association. After the activities of the year 2016 were abrogated by the members of the General Assembly by voting, the election of the members of the Board of Directors to serve in 2017 was started. Mr. Camcı, who served as Vice Chairman of the Board of Directors of PETFORM last year, was selected as the Chairman of the Board of Directors this year. Mr. Aziz Camcı, one of the experienced names of the energy market, has held senior posts in BOTAS and Turkish Regulator EMRA for many. Mr. Aytaç Eren, who was the chairman of PETFORM in the previous term, will serve as Vice President in the new administration.

In the general assembly of PETFORM, there were no changes in the Gas Group and the E&P Group leaders. Mr. Rıdvan Uçar will continue to lead Gas Group of PETFORMA and Mr. Ali Yıldızel will continue to lead the E&P Group.

According to the PETFORM's constitution, each member company in the elections votes for a total of 7 candidates. The first 7 candidates to receive the most votes are the principal board members, and the next 5 candidates are elected as alternate members.

The new management of PETFORM, which gathers gas & upstream oil sectors in Turkey is as follows:

BOARD OF DIRECTORS		
Representative	**Member Company**	**Title**
Aziz Camcı	EgeGaz	Chairman
Aytaç Eren	Güney Yıldızı Petrol	Vice Chairman
Ali Yıldızel	Genel Energy	E&P Group Leader
Rıdvan Uçar	Aygaz Doğal Gaz	Gas Group Leader
Altan Kolbay	Turcas Petrol	Accountant Member
Davut Bayram	Naturgaz	Principal Member
Gökhan Yardım	Angoragaz	
		Alternate Member
Dilek Özlem Altınyay	TOTAL	
İhsan Erbil Bayçöl	EnerjiSA	
Ekrem Kadıoğlu	Marsa Turkey B.V.	
Hasan Gazi Yay	Çalık	
Muharrem Türkarslan	TBS Petrol	

IFR award for Green Bond issue of TSKB

Turkey's first 'Green / Sustainable Bonds' exemption issued by TSKB received the 'Sustainable Bills of the Year Award' from the International Finance Review Magazine (IFR).

Suat İnce

(Enerji IQ – 25 Jan. 2017) The Industrial Development Bank of Turkey (TSKB), which supports the low carbon economy, has led another first in the field of sustainability.

TSKB, Turkey's first Green / Sustainable Bond issuer in 2016, received another new award. The International Finance Review Magazine (IFR), a Thomson Reuters publication, awarded TSKB the Sustainable Retailing Award of the Year for its 2016 awards.

While the IFR awards were held at the Grosvenor House ceremony in London on January 24, 2017, General Manager of TSKB Mr. Suat Ince received the award on behalf of TSKB.

Mr. Suat İnce, stated that they are the first banks to carry out "Green / Sustainable Bond" exports in Turkey; "We have set out to support the sustainable development of our country's first green bond issue. Our $ 300 million, 5-year Green / Sustainable Bond exports have achieved a very successful performance, receiving more than 13 times the amount planned for international markets. It is a source of pride for us to be awarded the "Sustainable Growth of the Year" award by IFR after Global Capital, and to know that this innovative step is appreciated internationally. I would like to extend my sincere thanks to all the TSKB team that carried this success to our bank."

TSKB was previously awarded the "Green / Sustainable Bond" by Global Capital for "Green / SRI Bond Deal of the Year" in Europe, the Middle East and Africa.

EMRA received license application for natural gas liquefaction plant

Ankara-based LNG Gas Production and Storage Inc. has applied to EMRA for storage licenses to sell LNG by liquefying natural gas to be supplied by pipelines in central Anatolian cities Afyonkarahisar and Konya.

(Enerji IQ - 19 Jan. 2017) Turkish regulator EMRA received two interesting license applications for constructing a gas liquefaction plant in the central Anatolian cities Afyonkarahisar and Konya.

Ankara-based LNG Gas Production Storage Company intends to sell LNG in these plants to wholesale licensees, which will transport LNG with cryogenic tanks on trucks to consumers.

The company is also expected to take part in the process of supplying natural gas to rural areas as LNG and CNG in the framework of EMRA's recent regulations.

The company, founded on May 23, 2016 with a capital of 50,000 TL in Ankara, has a single real person shareholder named M Cevat Evliyaoğlu, who have experience in renewable energy.

With the decision of the EMRA taken at the end of last year, the storage license fee in 2017 was determined as 300,000 TL. If the company is qualified to obtain a license this year, the minimum amount of capital required for each storage license is 27,047,116 TL.

LNG is only supplied from M. Ereğlisi Plant of BOTAŞ and Aliağa LNG Plant of EgeGaz via trucks to supply gas to consumers where gas is not available by pipelines. Hotels on Mediterranean coast, industrial plants in Eastern Anatolia and asphalt plants all

EMRA still evaluates FSRU license applications

Aygaz Natural Gas and Maks Project Development Inc.'s storage license applications to EMRA for FSRU is continuing. On the other hand, BOTAS is expected to make a license application for the FSRU project in Ceyhan district of Adana on the East Med. Coast of Turkey.

Investment incentives for energy sector plunged in 2016

A total of TL 4.5 billion of fixed investment amounting to 901 million TL was provided to the energy sector in December 2016 and a total of 25.5 billion TL incentive was given to the energy sector in 2016 which was 37.7 billion TL in 2015.

(Enerji IQ - 17 Jan. 2017) In December 2016, the Turkish Ministry of Economy issued 476 investment incentive certificates with fixed investments amounting to 4.5 billion TL. 476 investment incentive certificates held in December were awarded to 455 domestic companies and 21 foreign companies. While the total fixed investment amount foreseen in the incentive certificates given to the domestic firm is 4.2 billion TL, the total fixed investment amount envisaged in the incentive certificates given to foreign companies is recorded as 278 million TL.

The fixed investment amount of 4.5 billion TL given in December was 901 million TL for the energy sector, 1.4 billion TL for the services sector, 2.2 billion TL for the manufacturing sector and 18 million TL for the mining sector.

The investment incentive statistics for the energy sector in December of last three years are as follows:

Comparison of last three years:

Year (December)	No of Certificate			Investment (million TL)		
	Foreign Investors	Domestic Investors	Total	Foreign Investors	Domestic Investors	Total
2014	33	400	433	1.501	5.924	7.424
2015	21	606	627	1.069	10.330	11.399
2016	21	455	476	278	4.220	4.498

Year (December)	Energy	
	No of Certificate	Investment (million TL)
2014	40	539
2015	200	2.143
2016	139	901

ENGIE increased safety in natural gas lines with STOPPLE

ENGIE is making a debut in Turkey with STOPPLE its new product which is developed for safety. STOPPLE which is designed by ENGIE engineers is providing safety by cutting gas in instant flow changes in the connection lines of natural gas or other gas networks.

(Enerji IQ – 25 Jan. 2017) ENGIE foreign investor and natural gas distributor in Turkey energy market, is bringing STOPPLE into use which is developed to increase safety in natural gas lines.

STOPPLE which is developed as a result of R&D studies of ENGIE Engineers can be installed without digging to provide more safety in natural gas lines that do not have gas cut off valve.

Live implementation of the product was performed in IZGAZ training area after press conference which was hosted by Denis Lohest, ENGIE Turkey CEO. STOPPLE prevents uncontrolled gas exit that may occur in service line damages and it improves environment and safety conditions of service lines that are without gas cut off valve. Installed in the pipes without digging, without disturbing the environment and without affecting gas flow, STOPPLE technology is bringing the safety to the same level of the service lines that have already gas cut off valve (mandatory on any new service line opened after 2009).

ENGIE Turkey CEO Denis Lohest spoke in the press conference and stated that Engie breaks new ground with STOPPLE in terms of safety. Lohest also said that "new services that are presented by ENGIE have an important place in our Turkey strategy. This new technology that we put into service is increasing safety for our customers and providing environment friendly implementation. Since 2009, Gas cut off valve implementation is a technical obligation in new natural gas lines required by the regulation. Natural gas lines which were constructed before this regulation need also this safety implementation. In this point, STOPPLE which is designed by our R&D engineers is coming out as environment friendly, effective in terms of cost and a fast solution. We are increasing safety by installing the product into service line without digging for the first time in the World and disturbing traffic and environment in an economic way. We are trying to contribute in energy sector not only as an energy supplier also by designing new products."

Serving STOPPLE to natural gas distribution companies usage

ENGIE Turkey CEO Denis Lohest said that this product can be used in all the distribution companies in Turkey. He also stated that "We will bring STOPPLE to use of all the distribution companies. It can be placed not only in our lines but also in other lines to increase safety. One of the aims of our Company is the development of our sector that's why we want to contribute to safe and healthy development of Turkish energy sector."

'Safety will increase, it won't bring extra cost to the customers'

IZGAZ General Manager and ENGIE Turkey Head of Distribution Mehmet Gökalp Özkök stated that they distribute 2.3 billion cubic meter natural gas in a year to the customers in IZGAZ license area. He also stated that providing continuous and safe service is their priority and they are trying to use all of ENGIE's knowledge and experience in all their activities and STOPPLE technology is also an important example of this.

İzgaz and its contractors reached 1680 days without lost time accidents in 2016. Özkök also mentioned that "Kocaeli is a developing area and infrastructure investments are growing fast. Infrastructure safety is becoming even more important that's why they are working continuously to avoid line damages and undesirable losses that may occur as a result of these damages. Up to now, operation safety of 500 connection lines which belong to IZGAZ are strengthened with STOPPLE. This is in the scope of IZGAZ operation safety responsibility and the customers are not requested any fee for this application. Özkök also said that " within the scope of distribution activities ENGIE puts its capacity and skills into use of Industrial Customers and other distribution companies via ENGIE Corporate Services company which operates in this sector and they are developing their services with competence and experience of their Group."

BOTAŞ to expand capacity of Tuz Gölü gas storage facility

The environmental impact assessment (EIA) procedure to expand the capacity of BOTAŞ 's Tuz Gölü (Salt Lake) underground gas storage facility has strated. The final capacity will be 6 bcm.

(Energy IQ - 9 Jan. 2017) BOTAŞ is continuing the EIA project to increase the capacity of the Salt Lake underground natural gas storage facility to 6 billion Nm^3 capacity.

The first six depots in the Tuz Gölü underground natural gas storage facility, consisting of 12 storage caves, each of which has a construction volume of 630,000 Nm^3, will be commissioned in 2017 with a storage capacity of 500 million Nm^3. The second group of six depots will be completed in 2020, with a total storage capacity of 1 billion Nm^3.

In addition to the existing facilities consisting of 12 caverns and surface facilities with a storage capacity of 1 billion Nm^3, 48 caverns, 2 surface facilities and 2 natural gas branch lines are planned with a storage capacity of 5 billion Nm^3.

The auxiliary units include fresh water supply line, brine discharge line, connection lines between wells, pumping stations, water storage tanks and concrete plants. The EIA report noted that there may be an increase or decrease in the number of such auxiliary units depending on the needs of the installation and the changing conditions.

Main and auxiliary units to be established within the scope of the project are located in Aksaray, Sarıyahşi, Ağaçören, Ortaköy, Eskil and Merkez districts, Emirgazi district of Konya and Evren district of Ankara.

In the EIA report, the cost of the project was stated as approximately TL 9,562,998,272.

Kayserigaz reached 95% of the houses in Kayseri

Kayserigaz, subsidy of EWE Turkey Holding, connected 95% of the houses in the central Anatolian city Kayseri to local gas distribution grid.

(Enerji IQ - 17 Jan. 2017) General Manager of Kayserigaz Hasan Yasir Bora stated that the total pipeline length reached 3,750 kilometers as a result of the investments made so far after Develi and Bünyan districts. In 2016, Bora said that 495,000 BBS (Number o f Independent Units) has been reached as natural gas subscribers in Kayseri and 27,000 new subscribers were registered during last year. Bora continued: "As of the end of 2016, we are supplying gas to 423,964 of the 445,474 houses in Kayseri, which means that 95% of the houses are connected to the gas grid.

Bora stated that the consumption of natural gas in 2016 in Kayseri was 335 million cubic meters in total and 583 million cubic meters in total.


Hasan Yasir Bora

Capacity expansion in Çatalağzı coal fired power plant

The installed capacity of the domestic coal fired Çatalağzı power plant will be increased to 975 MW by implementing a 660 MW unit, which will be fired by imported coal.

(Enerji IQ - 16 Jan. 2017) The capacity expansion project of the domestic coal fired Çatalağzı thermal power plant, which was privatized in 2014, consists of two units with a total installed capacity of 314.68 MWe has started. The company applied for the environmental impact assessment (EIA) report for capacity expansion by constructing an additional unit to the plant, which will be fired by imported coal.

In the EIA report, the cost of the project was stated as 3,510,000,000 TL.

Bereket Energy, having assets in electricity distribution and power generation, is the owner of the plant.

GINA COHEN

Israeli gas export to Turkish market

Gina Cohen, well known natural gas expert in the Eastern Mediterranean region and lecturer at the Technion University, compiled her briefings and meetings in Turkey, for Enerji IQ.

(28th December 2016) It was Monday night 19th December, and seven of us were having pre-dinner drinks in the Ankara residence of the Israeli Ambassador to Turkey Eitan Na'eh. Maybe characteristic of so many semblances between Israelis and Turks, we had all ordered water, which I soon learnt was "su" in Turkish after the seventh person ordered the same beverage.

Within minutes however the embassy's phones started buzzing frantically. Just 800 meters from where we were sitting, the Russian Ambassador to Turkey Andrey Karlov had just been assassinated. Very calmly Na'eh gave instructions on how to handle the situation, and twenty minutes later whilst the whole of Ankara was in total pandemonium and fearful of the potential international repercussions of this latest incident involving the murder of this Russian representative by a Turkish policeman, I was sitting around this maybe round, maybe oblong table talking about Israeli and Turkish gas with the Israeli Ambassador, his two deputies, a senior manager in the Turkish Ministry of Energy and the President of Petform, the umbrella lobbying organization for all the domestic and foreign oil and gas companies in Turkey.

It all started when I received an email on the 26th October, from Shani Cooper Zubida, the Deputy Head of Mission at Israel's Embassy in Ankara: "I am in Ankara following closely what is happening on the energy and gas front… do you plan coming to Turkey any time soon".

"I have no imminent plans", was my quick response, having just returned from a one day whirlwind visit in Istanbul and Ankara and after having braved six airports in 24 hours.

A month later, however, Shani and I were once again exchanging emails. The new Israeli Ambassador to Turkey Eitan Na'eh had been appointed and the Israeli Embassy decided to organize talks on natural gas as the first officially organized event. The date for the lunch and the presentation was set for December 19th.

We decided that my talk would focus on the commercial opportunities that could be available to Turkish companies in the oil and gas supply chain, from a possible sale of Leviathan gas to Turkey. The presentation thus focused on 2 main topics: introduction to the Israeli gas sector including export and other options and the type of Turkish companies that could be involved. Mostly, these companies fell into three categories:

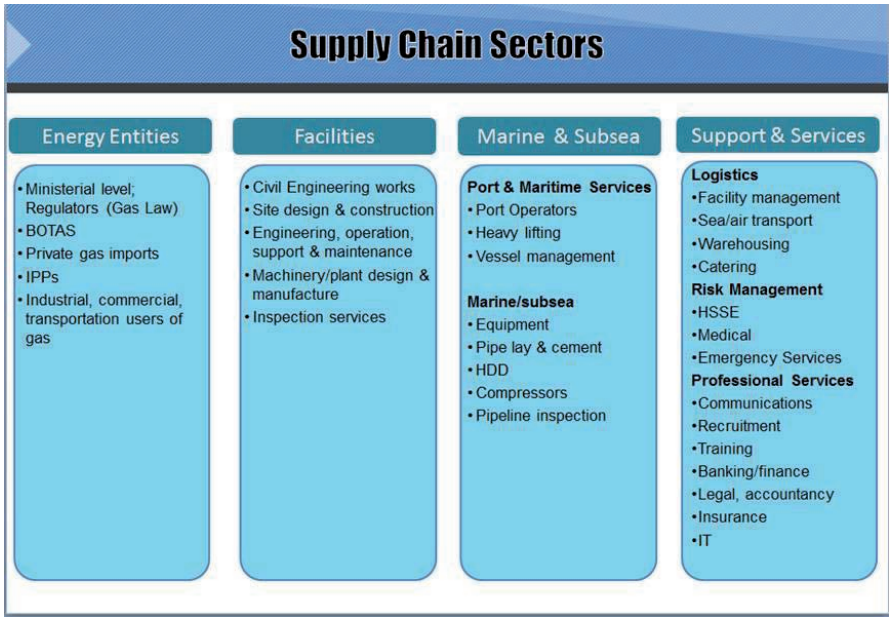
1. Companies that need no previous knowledge of the oil and gas sector, but which could provide important services, such as: onshore infrastructure, purpose built roads and ports, storage and warehousing, inventory management, catering, medical services, etc. To this group one could add professional service providers that do not necessarily need to have a deep understanding of the O&G industry but need a certain degree of awareness therein. This list includes: project management services, banking, finance, communication, recruitment, training, legal, insurance, IT, government relations, translations, media, etc.

2. Companies that have no previous knowledge of the oil and gas sector, but for which training is required. These services include: berthing for the tugs/boats, quayside load and discharge, harbour & jetty service, supplies with tugs & helicopters, diving, heavy lifting & transport of goods/equipment and people, support vessels, supply of fuel, etc.

3. Companies with previous knowledge of the oil and gas sector, to assist the specialized work undertaken by international companies such as: the erecting of pipelines, ongoing monitoring & maintenance, the provision of specialized offshore/onshore equipment, etc. To this list one can add the whole gamut of risk management, emergency

services, Health Safety Security and Environment (HSSE). For this category of companies it is fundamental that they start the prequalification procedure as this would make them imminently ready to bid for tenders in either the oil and gas sector, or in a host of other activities.

Some of the opportunities that will present themselves for Turkish companies will be either in Turkey (i.e. when a pipeline from Leviathan lands in Turkey) or opportunities for Turkish companies to do work on the Leviathan project itself (i.e. in Israel and in the next licensing round offshore Israel) or on the pipeline link between the two countries. There will be different implications for training, regulations, legal regimes, standards etc., depending on where such work may take place.



I stressed that it was important that the local companies follow developments so that they are aware when to pre-invest in a timely fashion but without taking any risks of making sunken investments before these were needed.

Two days before the event, the embassy received the final list of attendees and realized that besides the construction companies, the chamber of commerce, the legal firms and hospitals, there was also a long list of people from the energy sector. These included the top professional echelon from the Ministry of Energy, the Ministry of Foreign Affairs, oil and gas regulators, local or international oil and gas suppliers such as BP, Turcas Enerji, electricity generators, as well as gas experts, consultants and the local media.

I thus decided to enhance my talk with those issues that represented the very essence of what a possible gas deal between Israel and Turkey would entail.

Theoretically, Turkey has a lot of gas suppliers coming inter alia from Iran and Russia possibly the two main gas resource holders in the world, as well as from Azerbaijan, together with Liquefied Natural Gas (LNG) flowing in from Algeria and Nigeria and even two recent shipments from the US.

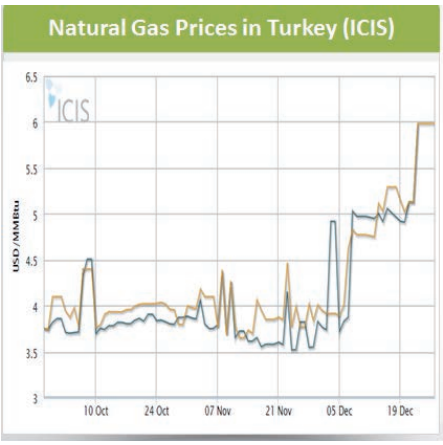
So, why would they need Israel?

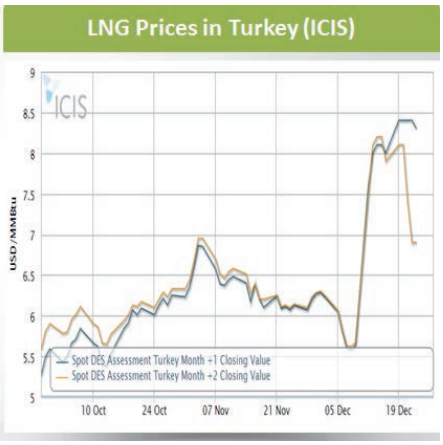
It is because although security of supply has become a buzz word, it is indeed far more complex than just stating that Russia and Iran provide 70% of Turkey's gas needs, which is an unhealthy dependence in its own right. Indeed, it goes far deeper than that. Natural gas supplies are based on complex often long term contracts (15-20 years), each of which includes a whole range of volumes of gas. Some of these volumes include quantities that the buyer either has to take whether he needs it or not (take or pay), as well as flexible volumes that enables him to offtake smaller or greater volumes than he has contracted for (minimum and maximum daily contract quantities – Min & Max-DCQ). It also includes volumes that the seller is able not to supply under certain terms such as shortfall gas that can reduce quantities temporarily or extreme events of force majeure that can reduce them for an extended period or even forever.

With multiple contracts, Turkey could manoeuver between its Min & Max-DCQ. I explained that buyers in the UK had been blessed in the past by having a swing that enabled them to purchase volumes that ranged between a minimum of 66% and a maximum of 130% of their contracted quantity and that this was the kind of model that Turkey should strive to emulate from its agglomeration of gas contracts, especially as contrary to the UK, Turkey was dependent on importing 99% of its gas supplies.

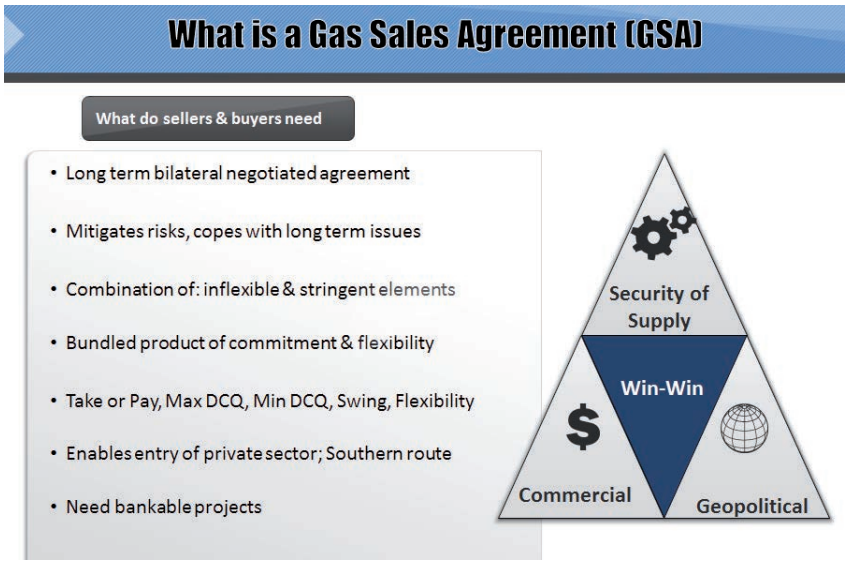
There was no benefit in having multiple suppliers if their annual contracts made it impossible for consumers in Turkey to have the flexibility to offtake the maximum volumes they needed on a daily and weekly basis to meet their needs.

After the talk, we all settled down to eat the first course of our lunch. The food on that day at the Swiss Hotel in Ankara was delicious, as indeed food is everywhere in Turkey. Before moving to the main course, we offered the audience a question and answers session, which they were keen to accept. The questions run the full gamut from gas prices in Turkey, to the cost of the infrastructure and even geopolitical. I left the politics aside. Regarding gas prices, indeed Russian and other gas prices in Turkey were currently relatively low, compared to the previous 10 years, but they needed to remember that just two years previously these had stood at $12-$14 per unit of energy (mmbtu). In addition, Turkey had just bought liquefied natural gas for supply in December 2016 and January 2017 at $7-$8.50 per mmbtu.





"Why do we need further security of supply", someone insisted, explaining that Turkey had coal, had just leased a Floating Storage and Regasification Unit (FSRU) for greater flexibility of gas supplies and that they felt secure in their ability to meet their energy needs. The response to this was that all of their current pipeline supplies were coming into the country either from the north or the east, and that an additional line from Israel from the south would help to balance the system pressure, would cut the cost and losses of transmitting the gas throughout the country, that it would enable them to finally move away from being reliant on only state players and would help to open the market to the private sector; that Israeli gas offered diversity on many different scales and that that is always the objective of gas importing countries.



We spoke about Turkey's ambition of becoming a gas hub and what would be required to achieve this goal.

Gina Cohen (left), Amb. Eitan Na'eh (center), Esra Dogan Grajover (Dep. Director General for Energy & Water, Turkish Ministry of Foreign Affairs)

It was somewhat eerie, that on the very same day of the event, Bloomberg published an article stating that "Russia is now using energy to expand its influence across the Middle East". Bloomberg went on to say that "we saw for example how the Russian giant Rosneft, secured a $5 billion investment by Qatar, following which Rosneft agreed to pay as much as $2.8 billion for a stake in the Egyptian Zohr gas field. Russia is really keen to increase leverage in the Middle East by every means".

Barely a couple of days later, on Wednesday 21st December, Turkey which had been exposed to extremely cold weather of -7° C for several days in a row, was unable to meet all of its gas needs. Indeed, contrary to Israel, but very similar to the situation in supplying countries such as Russia and Iran and other large consumers in Europe, gas demand in Turkey is rather seasonal as gas consumption generally tracks temperatures during the winter, with consumption peaking during this period due to demand for household and office heating. Until the mid-1990s' most homes in Turkey were heated with coal, but now that they have moved to space heating with gas, ensuring the availability of supplies under such extreme cold conditions could be a matter of survival for certain people. Thus seasonable flexibility or swing becomes very important for Turkey, especially as there is very little storage which is currently less than 5% of their annual consumption.

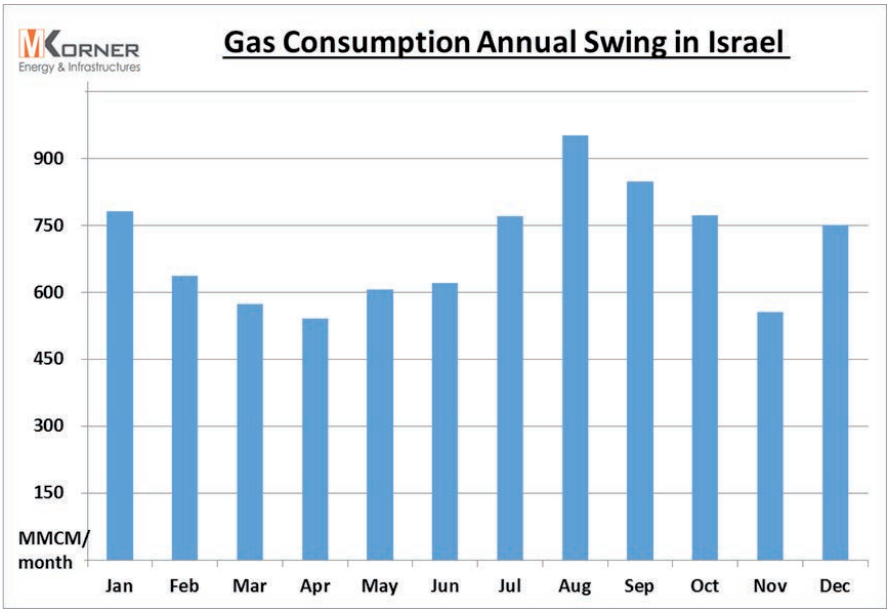
Although supplies from Russian and even Iranian volumes have some swing, Iran was forced to cut off some of its

supplies, and Turkey mostly has to rely on the LNG market to provide it with its needed flexibility. Hence, the sudden nearly doubling in the gas price in the matter of a few days. In the past, Turkey suffered several years of gas shortages during mid-winter peak demand periods in January and February, but this year it hit earlier than usual, with unseasonable cold weather.

As the state-owned oil and gas pipeline and trading company Botas' transmission grid became unable to meet demand, it cut gas supplies to major power plants in order to channel any gas available to households. Turkish electricity prices soared to near records on that Wednesday with the country facing one of its worst ever energy crises. One trader was quoted on the ICIS Pricing Website as stating that: "I have never seen anything like this since I started working in the electricity sector a few years ago…..We are on the verge of a nationwide blackout". By Thursday 22nd gas fired power plants had to reduce their gas consumption by 90%. By this time, residential natural gas demand represented 69% of the country's gas consumption.

An important issue to understand about the management of gas markets is that the system cannot be run short of gas and that it is necessary to always have a minimum pressure in the pipelines.

As one can see from graphs prepared by Israeli gas consultant Miki Korner, Israel has very little swing in its gas consumption profile (compared to Turkey) and peaks in consumption occur mostly in the summer and mainly for electricity (that can be produced by other sources like coal and oil distillates). Thus, supplies from Israel could provide another benefit in meeting this vital intra-week flexibility needed in Turkey. Even on a daily basis, demand for gas in Israel falls at night, whilst it increases during those cold hours in Turkey. Thus, another aspect to be considered is the economics of constructing extra capacity in the inter-state lines, to meet peak demand, compared to the negative impact of non-supply.



On Friday 23rd December, the first Floating Storage & Regasification Unit (FSRU) started its commissioning operations on the Aegean coast in Turkey. The facility has a capacity to supply 600,000 m³/hour with a maximum annual regasification capacity of 5 billion m³ (BCM). This facility, however, will depend on the availability of spot LNG supplies and accordingly spot prices.

Insofar as generation of coal is concerned for power generation, global coal prices have increased by an average of about 40% in the last few months peaking at times at more than 80%, mostly because of events in China. This combined with Turkey's natural gas operated power stations (CCGTs) running at an average efficiency of 55% compared to their coal stations running at below 38%, means that the profitability of their plants running on imported coal since November has been lower than their gas fired plants. All this leaves the Turkish power sector highly exposed to the vicissitudes of global coal and some potentially challenging gas suppliers.

Indeed, that very same day of the 23rd December, the Financial Times printed a headline: "What a difference a year makes", referring to how the energy sector fared in 2016 compared to 2015. "Energy stocks are on track to become this year's biggest winners as this month's rally in crude prices further extended the sector's gains".

Buyers and sellers alike should remember that prices are volatile and that the expectation is that gas prices will increase once again as billions of dollars of projects have been put on hold.

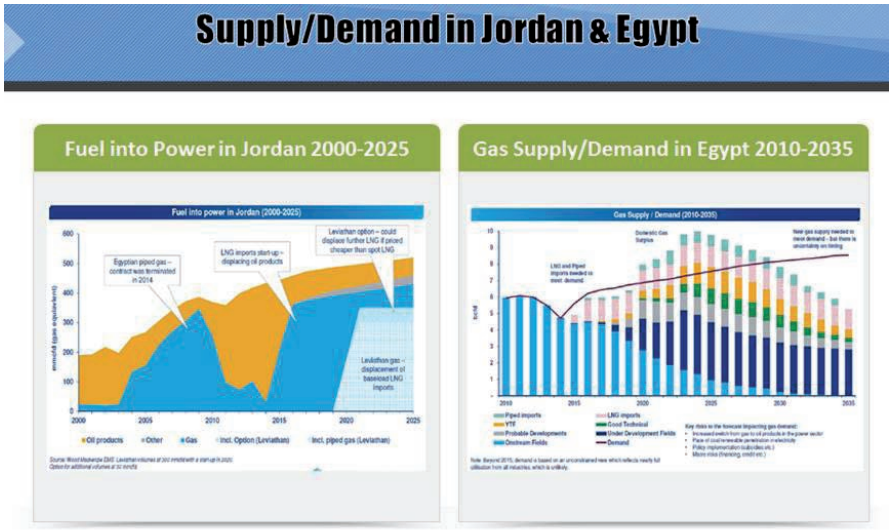
Where is Israel positioned in all of this?

Our message in Turkey was clear. Israel too has options. It has the option of selling its gas to Egypt and it has the option of growing its own market by converting its coal power stations to using natural gas.

On the Egyptian front, although there are those in Israel that happily gloat at what they perceive as any potential glitch as we saw last week when the Italian major energy conglomerate Eni was given permission to use the Damietta LNG facility to export some of the gas from its Zohr field, a level headed energy export in Egypt wrote to me that "I find the hyperventilation in the Israeli energy press pretty funny and I really do think the Israeli press needs to stop freaking out - there is no way Eni will be allowed to export so much gas that Damietta reaches full capacity and in any case Egypt's domestic gas needs are just too high".

On the local front, Israel was still generating about 40% of its electricity with coal and if it shuts down four coal units totaling 1,440 MWs by 2022, and reduces the use of the remaining six units, as planned by the Minister of Energy Dr.

Yuval Steinitz, this would increase the gas consumption by another 5-6 bcm a year, sufficiently to enable to develop the remaining gas fields in Israel, namely Leviathan, Tanin and Karish (together with exports of gas to Jordan, and to the local Israeli industrial sector). Converting a large proportion of the transportation sector to either run on gas or electricity would add another 2-3 bcm of gas a year and would save Israel billions in having to export dollars to import oil.



Cyprus Exclusive Economic Zone (EEZ)

And what about the often touted questions about a pipeline between Israel and Turkey having to pass via Cyprus' EEZ and how the lack of a solution to the Cyprus problem could possibly thwart the project before it even takes off.

For this, I deferred to Dr. Charles Ellinas, one of the top gas experts in the Eastern Mediterranean and former Director General of the Cypriot National Hydrocarbon Company. He explained on this front that "although politically it might be difficult, a pipeline through Cyprus EEZ is possible whether Cyprus agrees to it or not. The Law of the Sea (UNCLOS-1982) and the Energy Charter Treaty provide Cyprus with the right to question the pipeline route and environmental issues, but not to stop it. If Cyprus provides such objections, it must act reasonably. If the companies building the pipeline respond, then Cyprus cannot frustrate the construction forever by acting unreasonably. Of course", he added, "if the Cyprus problem is resolved it would be easier, especially since if a solution was found to the CyProb, then Cypriot gas could also be going to Turkey" (an option which would not be possible for Cyprus in the absence of such a solution).

Conclusion: Can a win-win be achieved for Turkey and Israel

On the 20th December, I gave a talk at the first private university in Ankara, the Bilkent University, arranged between the Israeli Embassy and lecturer Necdet Pamir. The Dean of this university of over 13,000 students greeted me by saying: "welcome home", and indeed, I felt very welcomed in Turkey.

Can a win-win situation be achieved? That all depends on whether there is a true desire by the two countries to promote this project and on how they define win-win. If the project is managed by entities on both sides who comprehend the importance of diversity and flexibility, the benefits of security of supply and demand through cooperation and inter-dependence rather than the fleeting notion of energy independence, if Turkey one day wants to become a gas corridor, or even a hub in the more distant future, if Israel wants to be connected with a bi-directional pipeline to Turkey as this vast country develops towards this goal, then yes, a project can be achieved.

For this, Turkey needs to demonstrate that it has enough demand to justify the project. To do this, it may need to cut other suppliers or grow the local demand for gas. The flexibility to do this is available to them by taking one coal power station out and by boosting their gas stations. If they do this, everyone will thank them for it!

The dinner at the Ambassador's home ended with a choice of fruit salad or chocolate soufflé. Five of us indulged in the high calorie mousse. The conversation ended on a mixed note, about the possible impact on Russian gas supplies to Turkey from this latest human tragedy and how Russia and Turkey would probably (as has indeed been proved so far) be able to bridge this, for the time being at least, and the positive aspect of how energy projects have the potential to help foster peace between nations, with clear reference to Israel and Turkey.

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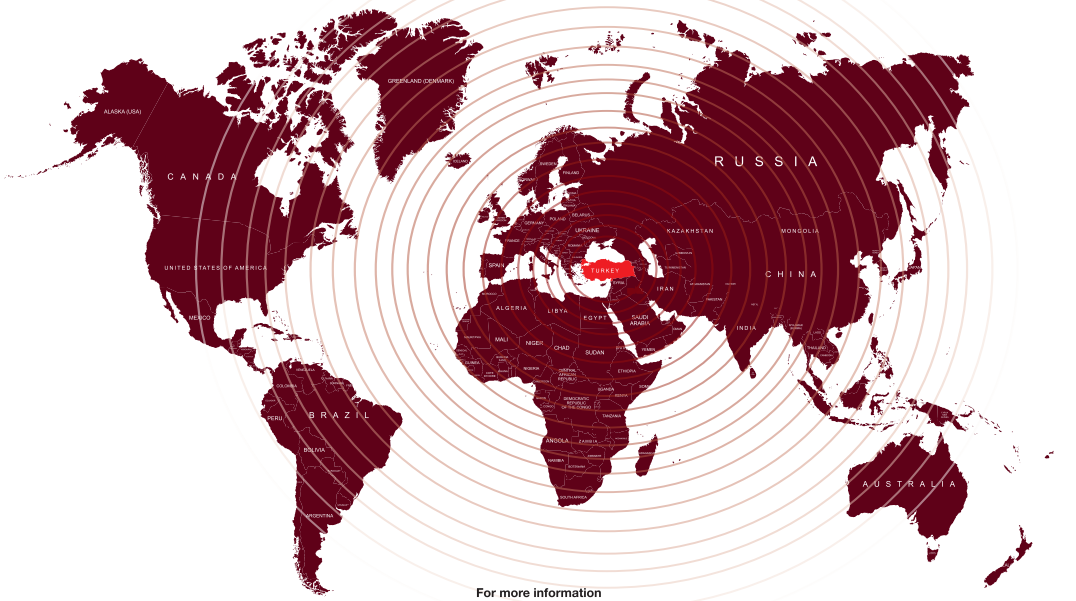

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