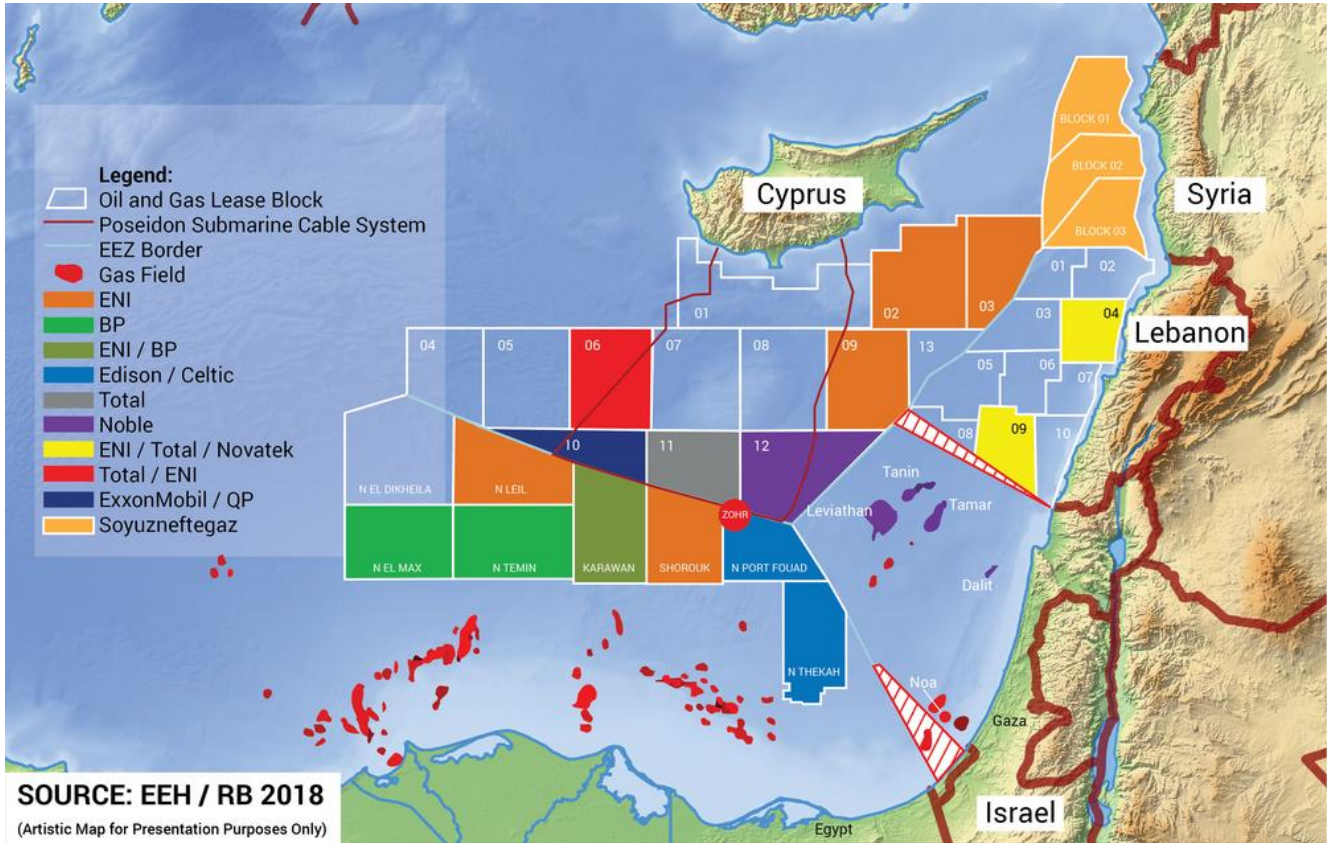


رودي بارودي: اتفاق تفاوضي جيد من خلال وساطة أو تحكيم طرف ثالث قد يعني نصرا اكبر بكثير للبنان



شدد الخبير النفطي الدولي رودي بارودي على أن التوصل الى اتفاق تفاوضي جيد من خلال وساطة أو تحكيم طرف ثالث ، قد يعني نصراً اكبر بكثير للبنان بدل إسرائيل في النزاع الحاصل حول النفط والغاز في البحر.

واكد بارودي الذي شارك في مؤتمرات دولية عدة آخرها في قبرص ، أن هناك عوامل أخرى تبشر بالخير بالنسبة إلى الآفاق القانونية اللبنانية القصيرة والطويلة المدى، بما في ذلك حقيقة أن الجزء من البلوك 9 الذي تهتم به توتال وآني ونوفاتيك ، يكمن بوضوح في المياه اللبنانية ، وهذا يترك مجالاً واسعاً لحل وسط وقصير الاجل، على الأقل يسمح بالاستكشاف في المناطق غير الخاضعة للنزاع مع ترك أسئلة اكثر صعوبة في وقت لاحق.

ولفت بارودي الى أن نوعية المعلومات التي قدّمها لبنان إلى الأمم المتحدة والأطراف الأخرى المهمة تعطي اهمية كبيرة لموقفها وبأكثر من طريقة وأضاف بارودي إن الجانب اللبناني استخدم الرسوم البيانية للهندسة البحرية البريطانية الأصلية كنقطة انطلاق للحدود الجنوبية لمنطقتها الاقتصادية الخالصة، ما يضفي صدقيّةً اكبر على معارضتها .

واوضح الخبير النفطي أن لبنان وقع وصادق على الاتفاقية الدولية الاساسية في شأن ترسيم الحدود البحرية عام 82 ، إلا أن إسرائيل لم تفعل ذلك ، وبناء على ذلك فإنه لا توجد آلية ملزمة يمكن بموجبها لأي من لبنان وإسرائيل ان تحيل الحدود البحرية إليها من أجل حلّها ، من دون موافقة صريحة من الجانب الآخر.

ولفت بارودي إلى انه بما ان اسرائيل وقعت اتفاقية منطقة اقتصادية حصرية مع قبرص فإن لدى لبنان خيارات على هذا المستوى. وتحدث بارودي عن الجهود الدبلوماسية المعقدة بسبب العديد من العوامل التي تعيق طرق حل النزاع، خصوصاً أن لا علاقات دبلوماسية بين لبنان وإسرائيل.

وشرح الخبير النفطي الدولي أن تحفظات لبنان في ما يتعلق بتعيين محكمة العدل الدولية أو أي طرف ثالث لحل النزاع الحدودي البحري ذات شقين:

أولاً: المخاوف من أن تسعى إسرائيل لتشريع أي اتفاق لإحالة النزاع البحري الى محكمة العدل الدولية او أي محكمة اخرى بعد موافقة

لبنان على إخضاع كل القضايا الحدودية لحل هذه الهيئة.
ثانياً: القلق من أن أي اتفاق مباشر مع إسرائيل على طلب مشاركة طرف ثالث على النزاع ، يمكن اعتباره اعترافاً بحكم الواقع وبحكم القانون لإسرائيل.

وأضاف بارودي: إن هناك عناصر معينة تجعل النزاع اللبناني الإسرائيلي مزيداً من بعض النواحي ، لكن الظروف العامة في هذه الحالة ليست عادية ، وشرح أن كل ولاية ساحلية على كوكب الأرض لديها منطقة بحرية واحدة على الأقل تتداخل مع منطقة أخرى ، ولا يزال العديد من هذه النزاعات من دون حل.

وأشار إلى أن العديد من المعاهدات البحرية الثنائية التي تم التوصل إليها ، تعارضها البلدان المجاورة ذات المناطق المتداخلة ، كما هو الحال مع معارضة لبنان للاتفاق الاسرائيلي-القبرصي.

التنقيب عن النفط برّاً : احتمالات واعدة بكلفة أقل



بحر لبنان وبرّه بانتظار الإفراج عنها.. مع ذلك يحضر الملف النفطي بصمت أحياناً وبصخب أحياناً أخرى، وفي كلتا الحالتين يبقى عالقاً... في الدهايز السياسية

قبل إعلان رئيس مجلس الوزراء سعد الحريري استقالته، كانت الحكومة على أبواب إقرار أول عقد تلزيم في البلوكين 4 و 9 وذلك بعد إقفال

دورة التراخيص الأولى في 12 تشرين الأول على عرضين مقدمين من ائتلاف يضمّ ثلاث شركات إيني ونوفاتك وتوتال(. وكان من المفترض أن يبتّ مجلس الوزراء هذا الملف ويعطي وزارة الطاقة موافقته لتتمكن من التفاوض مع الشركات. علماً أنّ المفاوضات مع تحالف الشركات المشاركة في دورة التراخيص الأولى للتنقيب عن النفط في المياه الإقليمية اللبنانية، تبدأ من بعد غد الإثنين.

غير أنّ وزير الطاقة لم ينتظر تكليف الحكومة فوقّع دعوة الشركات المشاركة في دورة التراخيص الأولى معلناً ذلك بخطورة التبعات لتي تنجم من عدم المضيّ قدماً في مسار الآلية المقرّرة لاستكشاف الثروة النفطية. رغم خطوة الوزير، التي يراها كثيرون خطوة متسرّعة، يبدو أنّ تحقيق حلم لبنان النفطي قد أرجئ في الوقت الراهن. صحيح أنّ الحريري قد تريّث في ما خصّ الاستقالة، إلّا أنّ الأوضاع لا تنبئ بانعقاد جلسة لمجلس الوزراء قريباً لحسم الملفات الكبيرة وعقد الاتفاقات المصيرية.

في ظلّ هذا الوضع هل يُعاد إلى الواجهة التنقيب عن النفط برّاً؟! أبدى لبنان جاهزية تامة لبتّ موضوع استخراج النفط في البرّ، وذلك من خال المسح الذي جرى على امتداد 6000 كيلومتر مربع منذ أكثر من ثلاثة أعوام. المعلومات الجيولوجية التي أصدرتها شركة «نيوس» تسمح بتقييم مخزون النفط والغاز في البرّ اللبناني بشكل مفصّل. وقد أتاح المسح الثلاثي الأبعاد الحصول على مجموعة بيانات جيوفيزيائية لباطن الأرض التي يمكن للشركات لعالمية أن تحلّلها بغية تحديد أماكن وجود النفط والغاز وتطويرهما واستخراجهما. ومع ذلك لم تبتعد المناكفات السياسية من هذا ملف، فيما يستمرّ خوف الخبراء من تكرار تجربة المماثلة المتمادية التي رافقت إقرار المرسومين المتعلقين باستخراج النفط في البحر وما رتّب به ذلك من ضмор في هذا الملف وانكفاء لعدد كبير من الشركات الدولية التي لم تعد مهتمة بالغوص في الأعماق اللبنانية، وما تبعه من تسرع لناحية إجراء دورة تراخيص واحدة (فيما أجرت قبرص ثلاث دورات تراخيص ولم تحسم هذا الموضوع الدقيق اقتصادياً وسياسياً).

التنقيب البرّي أقل كلفة

بحسب الخبير النفطي والاقتصادي رودي بارودي، «فإنّ تحاليل البيانات قد أظهرت تكاملاً في النظام البترولي من الناحية الجيولوجية فلماذا لا يباشر لبنان بإجراءات التنقيب البرّي؟ عمليات حفر الآبار النفطية التي حصلت في أربعينيات القرن الماضي ثبتت وجود مكان نفطية، إضافة إلى الاستكشافات التي تمت في سوريا

وفلسطين والتي يشكل لبنان استمراراً لها، كلها دلائل تؤكد وجود مكان نفطية. إلى ذلك، كلفة التنقيب والتطوير في البرّ، أقلّ من خمس (5/1) الكلفة بحراً، ما يشكل عنصر جذب لشركات متوسطة الحجم. من هنا لا بدّ من عدم المماثلة في هذا الملف الحيوي لتجنب تكرار تجربة البحر. فالاهتمام بالبرّي يؤدي إلى زيادة التنافس بين الشركات، ما يُعطي الدولة قدرة تفاوضية أعلى تؤدي إلى تعظيم المنفعة، فضلاً عن سهولة مشاركتها في الأنشطة البترولية برّاً بسبب «الكلفة المتدنية مقارنة مع البحر».

تاريخ التنقيب البرّي

ليس التنقيب عن البرّ في لبنان أمراً مستجداً. بل إنّ التوقعات عن احتمال وجوده تعود إلى منتصف الأربعينيات، وقد بدأت حينها محاولات حفر بئر تجريبية في المنحدر الغربي في جبل تربل شمال مدينة طرابلس. آنذاك اكتشفت الشركة المنقّبة موادّ بترولية ثم طمرت البئر من دون أن تُعرف الأسباب. بين الأعوام 1948 و 1966 تم حفر سبع آبار غالبيتها في منطقة البقاع قبل أن يقفل هذا الملف بسبب الأوضاع السياسية من جهة، وعدم توفر إمكانيات لإجراء الدراسات اللازمة. ولكن، رغم الاكتشافات، والإثباتات لا يزال لبنان غائباً عن الساحة النفطية، فيما يُفترض أن يكون معنياً بكل ما يحصل من حوله.

عن الإطار القانوني، تقول المحامية والمتخصصة في قطاع النفط والغاز كرستينا أبي حيدر: «هنالك مشروع قانون للتنقيب البري وهو موجود لدى اللجان المختصة لكن إن لم يُقرّ في وقت قريب فلماذا لا تُعتمد القوانين المرعية الإجراء التي، بالرغم من قدمها، من الممكن أن تسد الفراغ إن أجريت التعديلات اللازمة. القانون الجديد ينبغي أن يحتوي على نقاط قانونية هامة إذا ما أردنا مواكبة التطور الاقتصادي والاجتماعي لا سيما في ما يتعلق بتنظيم عمل الشركات، ومسألة الإشغال الموقت للعقارات أثناء عملية الاستكشاف البرّي، من ثم الاستملاك إذا تم اكتشاف حقل نفطي. كل هذه الأمور تحتاج إلى مقاربة استباقية وسريعة. فالملكية الفردية مصنونة في الدستور اللبناني فإمكان نزعها إلا بموجب مرسوم منفعة عامة ولقاء تعويض عادل. إلى ذلك، قد تظهر عقبات إضافية هي المحافظة على الآثار وعلى المواقع الطبيعية والمياه الجوفية والثروات الطبيعية الأخرى، كل هذه التحديات قد تعوق عمليات التنقيب أو تدمّر التراث الوطني لذا يجب سنّ قوانين وقائية وردعية». وتتابع أبي حيدر «من غير الممكن الحديث عن النفط البرّي دون ذكر دور

البلديات كسلطة محلية منتخبة وعلى تماسٍ مباشر مع المشاكل اليومية، لذلك من المفترض إيجاد منظومة تشريعية ترعاها لكونها المعني مباشرة بإدارة الثروات الطبيعية. ومن الضروري أن توضع القوانين الواضحة قبل البدء بأيّ عملية تنقيب، مع دراسة التجارب السلبية والإيجابية في الدول الأخرى لنعرف كيف نستفيد منها ولن أخذ مثلاً الأثر البيئي الذي تؤدي في تطبيقه البلديات دوراً أساسياً. للأسف، حتى الساعة لم يُفتح النقاش في لبنان على نحو واسع وعميق حول دور البلديات، سواء على صعيد الآثار البيئية أو الاقتصادية أو الاجتماعية أو حتى إيجاد فرص عمل جديدة، و إيجاد مدخول جديد للبلديات ولاتحادات البلديات. »

وتضيف « أن التجارب العالمية تشجع الشركات الصغرى والمتوسطة في عملية التنقيب البرّي، ومن المفترض أن يحذو لبنان حذو الدول الأخرى التي تمتاز بخبرات عالية في إدارة مجال النفط والغاز البرّي، و ألا يسمح للشركات الكبرى بأن تنفرد بهذا القطاع وتبتلعه، ولا يمكن لذلك أن يتم إلا من خلال مراقبة علمية ودقيقة لعمل الشركات المنقّبة». منذ أكثر من أربعة أعوام يزعم المسؤولون عن هذا القطاع أن عملية التنقيب عن النفط البرّي يمكن أن تبدأ في وقت قريب، بما أن العوائق التي تؤخر العمل بحراً غير موجودة. لكن يبدو أن هذا الوقت القريب لن يحين حتى من أجل وضع منهجية واضحة لطريقة العمل. فهل كل العراقيل المفتعلة « أحياناً الظروف المستجدة أحياناً أخرى إشارة إلى أفضلية أن تبقى هذه الثروة مدفونة لئلا تتسبب في إغراقنا في المزيد من الفساد والمحاصصة؟

Gas and the Gulf crisis: How Qatar could gain the upper hand



Asian markets, military allies and a crucial pipeline all offer Doha leverage against its adversaries amid the current crisis

The blockade of Qatar, led by Saudi Arabia and the United Arab Emirates, has already had an economic impact.

Qatar, the world's second largest producer of helium, has stopped production at its two plants as it cannot export gas by land. Qatar Airways can no longer fly to 18 destinations. Qatari banks are feeling the pinch, particularly the Qatar National Bank (QNB), the region's largest by assets, and Doha Bank: both have extensive networks across countries which are members of the Gulf Cooperation Council (GCC).

Ratings agency Standard & Poor's (S&P) downgraded Qatar's credit rating from AA to A- on 8 June. It could put it on credit watch negative, a sign that the crisis could impact investment and economic growth. Moody's followed suit, placing Qatar's AA long-term foreign and local currency Issuer Default

Ratings (IDRs) on rating watch negative.

Doha is unlikely to buckle soon. It has plenty of financial muscle, not least in its sovereign wealth fund, the Qatar Investment Authority (QIA), which holds an estimated \$213.7 billion, according to the Institute of International Finance. The seed capital for that fund comes from Qatar's oil and gas exports.

Energy receipts account for half of Qatar's GDP, 85 percent of its export earnings and 70 percent of its government revenue. The crisis may affect the emirate's medium- to long-term energy contracts, as buyers diversify their imports to be less reliant on Qatari gas.

Roudi Baroudi is CEO of Energy & Environment Holding (EEH), an independent consultancy (the principal holder in EEH is Sheikh Jabor bin Yusef bin Jassim al-Thani, director general of the General Secretariat for Development Planning). He says that when it comes to oil, the advantage is with the Riyadh-led group: Saudi Arabia recently overtook Russia as the world's biggest producer; the UAE is also in the top 10.

"When it comes to gas, however, Qatar holds more and better cards," Baroudi adds.

Doha can use energy as a diplomatic tool to its advantage: how it does this will be crucial as to its attempts to ride out the current storm.

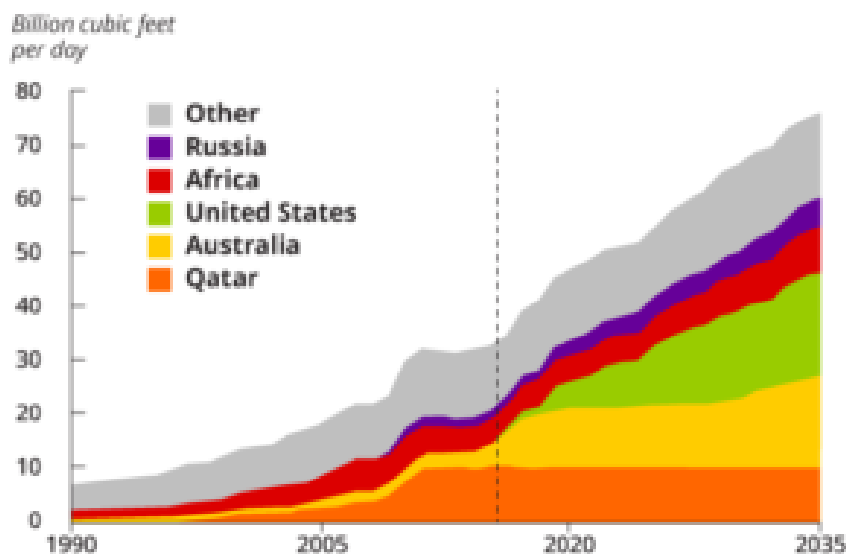
How will Qatar ship its exports?

Qatar is the world's largest liquefied natural gas (LNG) exporter, accounting for nearly one-third of global trade, at 77.8 million tonnes (MT) in 2016, according to the International Gas Union. So far there have been no interruptions to Qatari extraction or exports via the 60-plus LNG carriers that belong to the Qatar Gas Transport Company (Nakilat in Arabic).

But as a result of the crisis, state-owned firms Nakilat, Qatar Petroleum and Industries Qatar have all been downgraded.

Much of Qatar's liquefied natural gas is shipped by tanker. While there have been no reports of oil shipments being interrupted, there is concern about Qatari routes to Asia, the key buyer for the bulk of its oil as well as much of the Gulf's exports.

Liquid natural gas: Top suppliers 1990 -2035



Source: BP 2017 Energy Outlook

M&E

middleeasteye.net

Historically, Asian buyers demand a mixture of crude oil from the Gulf: usually the tanker would depart the emirate with Qatari oil, then stop to refuel and add Saudi, Emirati and Omani grade crude, usually at UAE ports.

Karim Nassif, associate director at Standard & Poor's in Dubai, says: "If they are not allowed to stop and refuel as some reports suggest, then this could affect the buyers who may be anticipating a variety of crude grades."

The Daily Telegraph reported that two LNG ships bound for the UK were re-routed due to the crisis, but Baroudi says this is not an issue. "If the reports are true, it's just a by-product of how international companies are coping with the Saudi-led

embargo by playing it safe.

“Say Company A was planning to deliver LNG from Qatar to the UAE, but the latter now bans Qatari ships from docking and unloading. Company A’s response may well be to send an LNG carrier based in a third country to make the delivery instead, then reroute one or more others to make sure all customers are supplied.”

Naser Tamimi, an independent Qatari energy expert, says that the same scenario applies to the possibility of Egypt stopping Qatari tankers using the Suez Canal; or raising fees for Qatari vessels. “The Qataris could get around it through tankers registered elsewhere, like the Marshall Islands,” says Baroudi, “or divert some of their cargo going to Europe via South Africa.”

He says that such moves could add about half a dollar to the cost of each British Thermal Unit (BTU) – but that the Qataris could cope with that, even if they had to absorb the cost instead of the consumer.

Around 70 percent of Qatar’s LNG exports are under long-term contracts – typically of around 15 years – so production and payments are secure. The remaining exports are on short-term or spot prices that are dictated by the international markets.

Sources within the shipping industry speculate that some deals may have been called off or delayed: there have been reports from insurance and petrochemical companies that 17 LNG vessels are now moored off Qatar’s Ras Laffan LNG port – a much higher number than the usual six or seven vessels.

Will Asian markets look elsewhere?

The bulk of Qatar’s LNG is destined for east Asia – and analysts say that that is unlikely to end soon.

Theodore Karasik, senior adviser at Washington-based

consultancy Gulf State Analytics, says: "Qatari LNG is not affected by the sanctions and blockades, simply because GCC states require good relations with east Asian partners."

He said that if Saudi Arabia and UAE were to interrupt LNG exports to Asia, then those customers may not want to invest in the programmes intended to transform the economies of the UAE or Saudi Arabia, such as the 2030 Visions strategies.

His opinion is echoed by Baroudi. "The Asian markets aren't going anywhere. Asian countries need – and know they need – long-term relations with stable producers, and by this measure Qatar is in a class by itself. The same applies for consumer nations elsewhere, so even if the crisis were to escalate, and right now it appears to be settling down, then any interruption would be a short-term phenomenon.

"Qatari LNG simply cannot be replaced. Australia [LNG] will begin to have an impact on international markets by the end of the decade, but that just means an added degree of market competition, not replacement."

But Tamimi thinks the crisis could prompt Asian buyers to diversify their energy portfolios and lessen their dependency on Qatari gas. "They are under pressure now, and in a global context with an LNG glut," he says.

"All Qatar customers are asking for better deals, and Qatar's market share is decreasing compared to 2013 because of competition from Australia, Indonesia and also Malaysia. The crisis is a reminder to everyone in Asia that the Middle East is not stable, that everything could change within days."

Will Qatar shut down a key pipeline?

One scenario that would deepen the crisis still further is a lockdown of the Dolphin gas pipeline, which runs between Qatar and some of its fiercest critics.

While two-thirds of Qatari LNG is bound for Asia and Europe, around 10 percent is destined for the Middle East. Two export markets, Kuwait and Turkey, are secure due to better political relations.

But the other two – Egypt and the UAE – are among those nations currently blockading Qatar. If Riyadh and the UAE raise the ante, then it might raise questions about the pipeline's future.

Egypt gets two-thirds of its gas needs, some 4.4 MT in 2016, from Qatar on short-term and spot prices. Cairo is firmly in the Saudi camp – but has not halted gas shipments.

Baroudi says: "Since the crisis erupted, Egypt has continued to accept shipments of Qatari gas on vessels flying other flags. The 300,000 Egyptians who live and work in Qatar have carried on as before.

"Neither country wants to burn its bridges for no good reason," he says, "especially Egypt, which only recently staved off bankruptcy because of Qatari financial largesse," a reference to the \$6 billion Qatar provided in the wake of the 2011 Egyptian uprising.

But it is the Dolphin pipeline, which carries Qatari gas to the UAE and Oman, that is the most contentious issue. The UAE imports 17.7 billion cubic metres (BCM) of natural gas from Qatar, according to the BP Statistical Review 2016, equivalent to more than a quarter of the UAE's gas supply.

Nassif says: "The Qataris have indicated that the supply of gas through Dolphin to the UAE and Oman will continue. We have no concerns at present of any armageddon scenario of Qatar changing its stance on this."

Either side would lose significantly if the gas was stopped, especially during the summer when power generation is at its peak to keep the air conditioning on. Halting supply would be

the Gulf equivalent of Russia turning off the gas to Ukraine in January 2009.

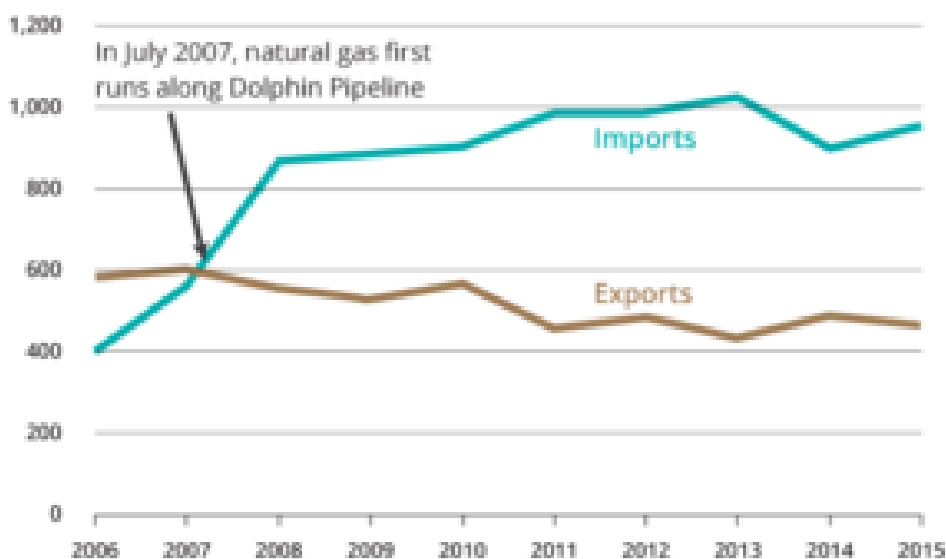
“The UAE would immediately face extensive blackouts without it,” says Baroudi. “They would be shooting themselves in the foot if they were to interfere with gas shipments, and Qatar views the pipeline as a permanent fixture, not something to be manipulated for the sake of short-term political gain.

“As a result, neither side has any interest in changing the status quo – and neither has communicated any consideration of such a step.”

Analysts say that both sides have contingency plans should the Dolphin pipeline shut down – but, says Tamimi, the UAE will find it hard to compensate for the loss of Qatari gas.

United Arab Emirates natural gas imports and exports

Billion cubic feet



Source: OPEC Annual Statistics Bulletin 2016

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“They’ll have to import LNG as no one can send it by pipeline. That will cost three times the price they’re getting from the Qataris. There is no official price but it is estimated at \$1.6 to \$1.7 per BTU, so around \$1.1 billion [in total].

“If the UAE wants to stop the Qatari imports, they’d have to pay three times that amount at the current price as LNG is linked to the price of oil.”

A stoppage on either side would also violate bilateral agreements. “If the UAE violates it, the Qataris can sue them and vice versa. If the Qataris do it, it would also send a bad message to their customers, to use gas for political reasons.”

Such a move by Qatar would also undermine its strategy of saying it has been unfairly treated by the GCC and is abiding commercial contracts – unlike the UAE and Saudi Arabia, as Qatar Airways CEO Akbar Al-Baker told the press.

Will there be a land grab by Saudi?

Analysts have not ruled out further sanctions by the UAE and Saudi amid the current crisis. Any move on blocking energy exports, including the Dolphin pipeline, would be viewed as a serious escalation by Doha as it would cripple its economy.

One hypothetical scenario being actively debated at a political level, according to analysts, is an all-encompassing blockade of Qatar as part of Riyadh’s and the UAE’s plans to re-organise the Gulf Cooperation Council – and, unless there is a change of regime in Doha, kick out Qatar (let’s call it a “Qatexit”).

An extension of this scenario is an outright land grab by Saudi Arabia of Qatar’s energy assets. These would then fund Deputy Crown Prince Mohammed bin Salman’s Vision 2030 strategy to diversify the kingdom’s economy.

Karasik says: “Arguably the national transformation plan and Vision 2030 may not be going so well. In addition the (\$2 trillion) Saudi Aramco IPO may not achieve its fully stated value. If this is the case, then Saudi is going to need an injection of wealth and will have to do it fast.

“In other words, Riyadh may look for a piggy bank to rob.”

Such a move by Riyadh would be armageddon for the Qatari royal family. The emir of Qatar would be forced to stand down – as Emirati real estate mogul and media pundit Khalaf al-Habtoor has suggested – or Riyadh could take control of the kingdom.

Baroudi believes that the crisis is settling down and will soon be resolved. Other analysts have pointed to the recent \$12 billion US fighter jet deal with Qatar, indicating that Riyadh and the UAE will not get their way. The Al-Udeid US air base, which is the headquarters of Central Command, covers 20 countries in the region.

Turkish troops, who arrived in Qatar for training exercises this week, could also help turn the heat down, now that the two countries have signed a defence pact. Ankara has the region's largest standing army, with its presence near the Saudi border (Qatar's only land border) considered a deterrent.

But other analysts see no sign of tension ebbing soon. They flag how the descendants of Ibn Abd al-Wahhab – the founding father of Wahhabism, both Saudi and Qatar's dominant theology – have distanced themselves from the emirate's ruling family, undermining its legitimacy. The rhetoric against Qatar from Riyadh and the UAE continues unabated. Last week, the UAE called on the US to move the Al Udeid air base out of Qatar.

“There are no more black swans in our world,” says Karasik. “This idea [of a land grab] is something people are starting to talk about.”

The views expressed in this article belong to the author and do not necessarily reflect the editorial policy of Middle East Eye.

Paul Cochrane

Tuesday 20 June 2017 07:49 UTC

Energy and Environmental Economist, Roudi Baroudi joins Power House Energy Advisory Panel



PowerHouse Energy Group Plc (AIM: PHE), the company focused on ultra high temperature gasification waste to energy systems, and the creation of Distributed Modular Gasification© (“DMG”), are delighted to announce the appointment of Roudi Baroudi to its recently established Advisory Panel.

Roudi is a global energy expert with over 37 years experience of international public and private companies across oil & gas, petrochemicals, power, energy-sector reform, energy security, carbon trading mechanisms and infrastructure. In addition, he is currently a member of the United Nations Economic Commission for Europe’s Group of Experts of Gas –

this is a body established to facilitate dialogue on promoting safe, clean and sustainable solutions for natural gas production.

With a wealth of international experience he has worked on project and program development with the World Bank, the IMF, the European Commission USAID and the Arab Fund for Economic and Social Development. Mr Baroudi is a regular lecturer on global energy affairs and is also the author and co-author of a number of books, article studies and research reports on political, economic and climate change as well as other energy associated matters.

It should be noted that none of the Advisory Panelists are Directors of the Company, and while management, and the Board, will seek their counsel on particular matters pertaining to their individual expertise, the governance and decision making authority for the Company rests solely with the Board of Directors.

Keith Allaun, Executive Chairman of PowerHouse, said: "I believe it is a very strong validation of PowerHouse's potential that we are able to attract someone of the calibre of Roudi to assist the Company.

"The tremendous advantages afforded the Company by such an experienced Advisory Panel cannot be overstated and we are very pleased to welcome Roudi to the team. The members of this panel, investing their time and commitment to our success, will help the Company achieve its commercial goals in segments of the market, and geographies, in which we are well suited to operate.

"I am honoured that each of these industry luminaries has agreed to serve our objective of ubiquitous DMG. With their assistance, we believe PowerHouse and DMG have a very bright future."

Further information on Roudi Baroudi

Roudi Baroudi has more than 37 years of international public- and private-sector experience in the fields of oil and gas, petrochemicals, power, energy-sector reform, energy security, environment, carbon-trading mechanisms, privatization and infrastructure.

Mr. Baroudi's transactional practice began when he joined an energy firm in Pittsburgh, Pennsylvania, U.S.A., in 1978. His practice relates principally to the energy, high technology, renewable and green electricity, and life sciences sectors of the economy, and involves contract and legal negotiations and investment vehicles, business combinations, divestitures and operations, as well as various forms of corporate and government finance.

His international experience includes project and program development with the World Bank, the IMF, the European Commission, state-to-state protocols, USAID, the Arab Fund for Economic and Social Development, and Italian Bilateral Protocols, as well as multilateral agency financing in the United States, the Middle East, Central Asia, Japan and Europe, many of which have involved negotiations between and among private and publicly owned concerns and national governments or state enterprises.

Mr. Baroudi has helped to formulate energy and environment policies in the Euro Mediterranean and North Africa region and for the Middle East area. He participated in the preparations of the Euro-Med Energy Free Trade Zone, and in the Euro-Med Regional and Euro-Med Government negotiations. He also has had a role in energy and transportation policies, advising both the European Commission and its Mediterranean partners between the Barcelona and Trieste Declarations of 1995-1996 and 2004. In addition, Mr. Baroudi was a founding member of the Rome Euro-

Mediterranean Energy Platform (REMEP).

In particular, his work and research on integration have focused on energy and transportation networks and related projects, including natural gas and electricity rings affecting both EU and non-EU member states bordering the Mediterranean. His expertise is regularly sought by the United Nations Economic

Commission for Europe (UNECE), which invites him to participate in the expert working party on topics such as gas savings, underground gas storage, and sustainable energy development.

Mr. Baroudi has done extensive work in energy, security and economic development, industrial programs which have helped bring about energy and economic advances related to private sector power development, electricity market unbundling, gas market reform, political reform and deregulation. He also has done extensive work on international oil and gas ventures, including petroleum development and exploration, as well as government legislation.

Mr. Baroudi has held a variety of influential positions. In 1999, he was elected secretary general of the World Energy Council – Lebanon Member Committee, a position he held until January 2013. He is also a member of the Association Française des Techniciens et Professionnels du Pétrole (French Association of Petroleum Professionals and Technical Experts).

Mr. Baroudi is a former senior adviser to the Arab Electricity Regulatory Forum (AREF), a member of the Energy Institute, (UK), and a member of the International Association for Energy Economics (IAEE) in the U.S.A. Mr. Baroudi also serves on several boards of directors of different companies and international joint ventures.

Mr. Baroudi is the author or co-author of numerous books,

articles studies, and research reports on political, economic, climate change and other matters associated with energy. His insights on these and related issues are frequently sought by local and international companies, governments, media and television outlets. He is also a regular lecturer on global energy and transportation affairs.

In addition to the foregoing, Mr. Baroudi is currently a member of the United Nations Economic Commission for Europe's Group of Experts of Gas, a body established to facilitate multi-stakeholder dialogue on promoting safe, clean, and sustainable solutions for the production, distribution and consumption of natural gas in the world's single-largest energy market.

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About PowerHouse Energy

PowerHouse is the holding company of the G3-UHt Ultra High Temperature Gasification Waste-to-Energy system, and the creator of Distributed Modular Gasification© ("DMG")

The Company is focused on technologies to enable energy

recovery from municipal waste streams that would otherwise be directed to landfills and incinerators; or from renewable and alternative fuels such as biomass, tyres, and plastics to create syngas for power generation, high-quality hydrogen, or potentially reformed into liquid fuels for transportation. DMG allows for easy, economical, deployment and scaling of an environmentally sound solution to the growing challenges of waste elimination, electricity demand, and distributed hydrogen production.

PowerHouse is quoted on the London Stock Exchange's AIM Market. The Company is incorporated in the United Kingdom.

For more information see www.powerhouseenergy.net

**Roudi Baroudi Remarks at the
8th Mediterranean Oil and Gas
Forum 2017 in Nicosia,
Cyprus.**



These are truly historic times for the Eastern Mediterranean. The region still has more than its share of problems, but we could be on the verge of a new era – and the energy industry is well-positioned to show the way.

Energy is the lifeblood of modern economies, and all of the science points to massive reserves of oil and (especially) natural gas off the coasts of several Eastern Med countries, including Cyprus, Egypt, Israel, and Lebanon. If responsibly managed, this resource will contribute both directly and indirectly to significant GDP growth, giving these countries the capacity to make long-overdue investments in education, healthcare, infrastructure, transport, and other sectors. In turn, these investments will improve overall competitiveness, raise standards of living, reduce poverty, and set the stage for self-sustaining growth over the long term.

For our region, though, “responsibly managed” means more than just following international business, governance, environmental, and safety standards: it also means finding a way to build and maintain economic and political trust, both between nation-states and within individual societies. Whether we like it or not, we are all partners in this endeavor, so we share an interest in achieving the kind of stability that encourages private investment, reduces trade barriers, and accelerates economic activity across the board. If long-time rivals provide sufficient political and/or diplomatic space for our emerging energy industry to take root, the resulting economic benefits will flow to all concerned, alleviating many of the symptoms – and even some of the causes – of the region’s various problems.

No discussion of this topic is complete without emphasizing the central role to be played by Cyprus. Although every country involved will retain some of its gas production for domestic use, for most of us the real game-changer will be a massive boost in export revenues. There are two ways to get gas to markets in Europe and elsewhere – pipelines and liquid natural gas (LNG) carriers – and Cyprus is clearly the best gateway for both.

Its geographical location, ample coastline, and unique geostrategic position make it: 1) the perfect collection and

distribution point for the output of neighbors like Lebanon and Israel; 2) an ideal terminus for one or more pipelines to Turkey and the European mainland; 3) the only viable location for a regional LNG plant; and 4) a natural middleman between regional governments whose relationships are troubled or non-existent. Because of these and other qualities, including its membership in the European Union, Cyprus should be the cornerstone on which the entire edifice of regional energy growth is built.

What is more, the Republic of Cyprus (ROC), has taken serious steps to make the most of these circumstances by establishing a presence at several steps along the region's energy value chain. It has moved quickly and effectively to make the island an indispensable regional energy hub by passing suitable legislation, setting up a national energy company, and drawing up a world-class regulatory regime. It also has **already signed EEZ delimitation agreements with Egypt, Lebanon and Israel**, attracted oilfield support, communications, and other service firms, and has now held three successful licensing rounds for exploration and production rights, securing the participation of major IOCs from around the globe.

The only significant **hurdle** still standing is the decades-old division of the island, where the internationally recognized ROC controls only the southern two-thirds, while the rest is under the **Turkish control through the "Turkish Republic of Northern Cyprus" ("TRNC")**. Here too, however, both sides have demonstrated strong commitment to a negotiated reunification, and while the latest round of talks has been delayed by an uptick in tensions, there is **still reason** to expect a **resumption**.

Among these reasons is the fact that the new US Secretary of State, Rex Tillerson – whose previous career as head of ExxonMobil makes him singularly well-equipped to understand the importance of Cyprus – has already taken a direct interest in the peace process. We can only hope that the US, the UN,

and the EU will exert even more positive pressure to help the talks succeed, including the powerful inducement of having at least some of the region's gas exports pass through Turkey, which is already one of the world's most important energy corridors.

TRNC. The governments of Greece and the United Kingdom also have critical parts to play in helping the Cypriot people to achieve reconciliation and start reaping the rewards thereof.

The other question mark in the Eastern Med is my homeland, Lebanon, and while a lot of time has been wasted in the past few years, efforts to get its house in order are finally back on track.

Until recently, political infighting had blocked Parliament's election of a new president for more than two years, the Parliament extended its own mandate for nearly three years, and the prime minister and Cabinet were basically caretakers because of widespread perceptions that they lacked legitimacy. Even before this multi-sided impasse, rival political camps were so mutually suspicious that cooperation was impossible.

Despite these headwinds, some crucial preparatory steps were taken. The Lebanese Petroleum Administration was created in 2012, and while political squabbles delayed its work, the LPA still found a way to lay the foundation for the country's nascent energy sector: all the necessary mechanisms are in place or ready to be rolled out, including tender procedures and draft terms for the fiscal regime.

It is my pleasure to report that other pieces are now falling into place as well. The former commander of the Lebanese Armed Forces, General Michel Aoun, has been elected president, and he enjoys more broadly based support than any of his recent predecessors. He also has made a welcome habit of insisting that Lebanon can only regain its former glory by ensuring and enforcing the rule of law, something that will be essential if

the Lebanese are to keep the proceeds of gas exports from being squandered by incompetence or pilfered by malfeasance.

There is a new prime minister too, and he and his Cabinet likewise enjoy relatively strong acceptance. Last but not least, most political factions have gotten serious about holding new parliamentary elections. The usual debate over constituency size and other rules may cause a delay, but most signs point in the right direction.

As many had hoped, the LPA has moved quickly to take advantage of improving political conditions. Most tellingly, it has initiated the country's first licensing round, inviting bids for offshore exploration in five of the 10 blocks it has delineated in Lebanon's Exclusive Economic Zone (EEZ). At least two of the five blocks are pretty straightforward: Block 4 lies entirely within Lebanon's EEZ, directly off the coast, while Block 1 lies in the northwest corner, where demarcation has already been agreed with Cyprus. **(As far as I know there is no delimitation agreement between Lebanon and Syria. Actually there is a maritime dispute stemming from the tabling by Lebanon of coordinates for its northern EEZ boundary to the UN to which Syria objected in writing).**

Blocks 8, 9, and 10 are more complicated because all three are in the south, where Lebanon's maritime claims overlap with Israel's. The area in question is less than 5% of Lebanon's EEZ and an even smaller slice of Israel's **claimed EEZ**, which would have been negotiated away under normal circumstances, but the two countries have technically been at war for almost 70 years, punctuated by repeated outbreaks of actual hostilities and even more numerous threats thereof.

The situation is difficult but not impossible. The **US and the UN, as well as Cyprus have rendered their good offices in order to find ways to solve the dispute** by holding separate talks with Israeli and Lebanese officials, and whatever their other disputes, both sides now have a shared interest in

avoiding anything that might hinder energy development. With so much at stake in terms of attracting foreign investment, securing export revenues, and accelerating GDP growth, the cost of another shooting war would simply be too high.

Conversely, the benefits – not just for Lebanon and Israel, but also for their neighbors and their would-be customers – of getting down to business are too attractive to pass up. Reliable supplies of cheap, clean natural gas from the Eastern Med would improve energy security for Turkey, the EU, and other consumer nations. Europe in particular would benefit from lower energy costs, reducing a major burden on households and restoring economic competitiveness. Perhaps most importantly, an East Mediterranean gas boom touched off by diplomacy would set an inspiring example for other regions haunted by longstanding disputes.

Beirut is not out of the woods yet. It still needs to settle several issues, including the establishment of a transparent and accountable Sovereign Wealth Fund to make sure that the benefits of future energy revenues flow to the general population rather than to small groups of economic and political elites. But at least the guiding principles are clear: steer clear of unnecessary frictions with Israel, follow international best practice, and protect the ensuing revenues. Other obstacles may well emerge, but none will be insurmountable if these three rules are followed. REB remarks for Nicosia 2 March 2017

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