Exxon’s talks to tap Algeria shale gas falter due to unrest – sources

* Exxon, Sonatrach met in Houston to discuss Ahnet field

* Exxon opted to suspend process due to violence in Algeria

* Discussions part of tightening ties between companies

By Lamine Chikhi, Dmitry Zhdannikov and Ron Bousso

ALGIERS/LONDON, March 20 (Reuters) – Talks between Exxon Mobil and Algeria to develop a natural gas field in the North African country have stalled because of domestic unrest, industry sources said.

Irving, Texas-based Exxon entered talks with Algeria’s national oil company Sonatrach several months ago to develop a field in the southwestern Ahnet basin, the sources close to the discussions said.

The talks were part of a deepening of ties between the two

companies that followed Sonatrach’s acquisition last May of Exxon’s Augusta refinery in Sicily, Italy.

Last week, officials from the two sides held talks in Houston, Texas to hammer out details but Exxon opted to suspend the discussions, temporarily at least, due to the recent protests in Algeria over President Abdelaziz Bouteflika’s 20-year rule, the sources said.

Exxon and Sonatrach declined to comment.

The refinery acquisition and increased cooperation between the two companies were seen as key for Sonatrach’s efforts to modernise its business and reduce reliance on fuel imports under Chief Executive Abdelmoumen Ould Kaddour.

The collapse of the talks follows years of attempts by Sonatrach to attract foreign companies to develop its vast oil and natural gas resources.

Sonatrach hopes to tap foreign experience in fracking, a drilling technique that led to the rapid expansion of U.S. oil and gas production, to develop its own shale reserves, estimated at 22 trillion cubic metres, the world’s third largest.
The North African country is a leading gas supplier to Europe, but exports have suffered from delays to several projects and a steep rise in the use of subsidised gas at home as the population has grown. (Additional reporting by Florence Tan and Jennifer Hiller in Houston; Writing by Ron Bousso; Editing by Dale Hudson)

An open letter to U.S. Secretary of State Mike Pompeo

RE: Your Visit to Lebanon – Energy Diplomacy

Dear Mr. Secretary:

Your visit to Lebanon comes at a moment of both rare opportunity and significant peril for this part of the world. I note this not only as a citizen of Lebanon, but also as a resident of the long-troubled Euro-Mediterranean region, and my purpose is to avert a new round of instability for my country and its neighbors.

Multiple world-class hydrocarbon deposits have now been discovered beneath the Eastern Mediterranean Sea, offering a historic chance to upgrade the regional economy, reduce or eliminate poverty, calm regional tensions, improve security and increase international cooperation. Unfortunately, development of these resources is being delayed because so few states have agreed to maritime borders with their neighbors. Setting aside the fate of Palestine, there are 12 "Frontier" boundaries among the seven main coastal states – Greece, Turkey, Cyprus, Syria, Lebanon, Israel and Egypt – and only two (17 percent) have been settled by bilateral treaties meeting current Law of the Sea standards. In a region containing more than $1 trillion worth of oil and gas, therefore, 83 percent of the maritime borders remain unresolved, posing significant risks to development in several countries – including Lebanon.

With so much of the region facing severe economic problems, the need to expedite development and the ensuing revenues could not be more urgent. Luckily, however, modern mapping technologies now make it possible for LOS applications to settle all such offshore disputes peacefully, and to do so with both relative ease and near-absolute accuracy.

These solutions are exceedingly relevant to your visit. Your meetings here will deal with multiple topics and the linkages among them, but the most portentous is the perennial U.S.

project to foster agreement on maritime boundaries in the Eastern Med, in particular that between Lebanon's Exclusive Economic Zone and Israel's. This is the single area in which U.S. policy has the greatest capacity to effect positive changes – but also the greatest potential for unintended consequences.

Lebanon was one of 50 founding signatories to the United Nations Charter in 1945. Ever since, Lebanese foreign policy has been seated in the Charter's terms, chief among them the obligation to always seek peaceful resolutions of international disputes. That commitment remains very much intact, and this despite the difficult circumstances that Lebanon has long faced as a front-line state in the Arab-Israeli conflict.

Despite – and at least partly because of – their country's difficult location and flawed system of government, the Lebanese exhibit tremendous powers of resilience and an uncanny ability to reinvent themselves. Whatever the crisis, the people of this country are highly adept at making the necessary adjustments. But this cycle cannot continue indefinitely, especially when the national debt is equivalent to more than 150 percent of GDP. Indeed, at a recent aid conference in Paris, donor countries made it clear that their pledges will not materialize unless and until Lebanon implements sweeping reforms, serious anti-corruption measures, and other meaningful steps to get its financial house in order.

Notwithstanding these and other challenges, we may be on the cusp of a prosperous new era. I refer, of course, to the potentially large quantities of offshore hydrocarbons that Lebanon hopes to start tapping in the coming years. If and when production starts, the impacts will be nothing short of game-changing. Just producing natural gas for its own consumption would allow Lebanon's most important power stations to stop running on the fuel oil and gasoil that

increase operating costs, burn dirtier, and wear down generating equipment.

Based on what I've learned from 40-plus years in the energy business, that would just be the beginning because Lebanon also stands to become an energy exporter, opening up substantial new revenues. First, the state would be able to slash deficit spending, borrow at lower rates, and start retiring its debt stock. Next, the government would have the wherewithal to make unprecedented investments in roads, schools, hospitals, and other essential infrastructure. Coupled with the direct and indirect opportunities generated by the emerging energy sector, this would have an immediate and prolonged stimulus effect, leading to tens or even hundreds of thousands of well-paying jobs. It would also make the entire economy more competitive, provide our youth with the education they need to thrive in the 21st century, and give all Lebanese access to quality health care. If wisely managed, gas revenues also could eradicate the poverty and accompanying social inequalities that provide terrorist groups with such fertile recruiting grounds.

I have no doubt that we Lebanese can make our country work, but we need to make difficult choices and craft workable solutions on our own, not implement those demanded by a foreign power – ANY foreign power, no matter how well-intentioned. In fact, many of our current problems stem precisely from decisions that were made in haste, under outside pressure, and/or without sufficient domestic consensus. Nonetheless, many Lebanese are grateful for the US role in mediating the EEZ issue with Israel; on the other hand, many others suspect that Washington's purpose is not to facilitate a fair deal, but rather to impose a lopsided one that favors Israel. Any Lebanese government that signs such a deal will face a significant loss in perceived legitimacy, a significant rise in domestic opposition, multiple resignations by key Cabinet ministers, and possibly the end of its ability

to govern.

There are plenty of hydrocarbons in the Levant Basin for all rightful claimants to receive what is rightfully theirs, and no Lebanese is asking for special favors, just fair and equal treatment. The facts of Lebanon's EEZ case are immutable, starting with the correct location of the land border at Ras Naqoura, which was established under the 1949 Armistice Agreement and can now be precisely situated by precision mapping techniques. All else flows from that, and in any judicial proceedings, each scientific element is weighed against a common set of LOS rules, which derive primarily from three sources: 1) the 1982 U.N. Convention on the Law of the Sea (UNCLOS), a project originally conceived by then-U.S. President Truman and now adopted by 168 countries as the basis for the only global LOS rulebook; 2) the principles and procedures laid down in UNCLOS and subsequent amendments; and 3) the precedents established by UNCLOS' court, the International Tribunal for the Law of the Sea (ITLOS), and other relevant legal proceedings. By all objective observation, technological advances have reached the point where their effect is decisive. In fact, all 13 of the most recent court cases have been adjudicated primarily on the basis of precision mapping.

Based on the rules and the science, then, there can be little doubt about what a verdict in this case would mean: Lebanon would be awarded most of the 881 square kilometers in dispute. So should it be in any out-of-court settlement. We know this because whether delineation is determined inside or outside a courtroom, the same rules apply and the same science drives the outcome: the lines are drawn according to science in the form of the best available maps (which can now be ordered up and received within five business days at most) of the two states' coastal zones. In fact, by some reckonings, preparing an LOS case is now 80 percent scientific work and only 20 percent legal procedure. Crucially, too, Israel has accepted

the applicability of the LOS rules by having agreed to them as the basis for its 2010 EEZ treaty with Cyprus.

Of course, you know the complications: Israel is not a signatory to UNCLOS, so an ITLOS verdict is impossible, and Lebanon does not recognize Israel, so bilateral negotiations are out. Hence the need for outside mediation, and hence the constructive and perhaps indispensable role of the United States, depending on what role it decides to play. If America acts as an arbiter, the end-result cannot be in doubt because it will be based on science and the LOS rules. Such an exercise of fair play could give the entire region a chance to defuse tensions and change direction – and help achieve U.S. goals for the region in terms of security and cooperation. On the other hand, should the United States decide to act primarily as Israel's advocate, it will not be possible for the Lebanese government to accept any proposal that strays materially from the rules and the science.

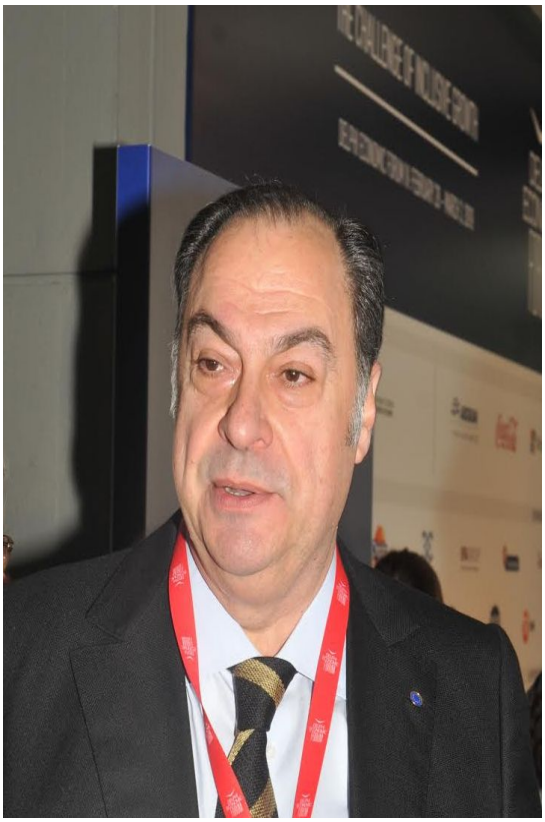
Mr. Secretary,

Since we already know the destination, and that it would benefit both parties, why not take the shortest and surest route? Advise the Israelis to accept a fair EEZ arrangement in a timely fashion, make sure they (and we) honor both the letter and the spirit of that arrangement, and convince them to stop threatening the Lebanese with war. Then watch a shared financial incentive for calm work its magic. The resulting drop in tensions would surely abet another U.S. goal by reducing the threat of trouble at the border, and the longer the Israelis refrained from provocations, the less incentive – and less support – any other actor would have to rock the boat. And were the United States to broker a balanced solution here, it would strengthen its ability to mediate among other nearby states – especially Cyprus, Greece, and Turkey – and therefore have a stabilizing effect on the entire region.

I, for one, hope that the United States, partly in concert

with other actors like the U.N., will continue to use its good offices to help resolve the EEZ matter as equitably as possible. I also hope that progress in this effort will open the way for meaningful internal dialogues, too, about far-reaching reforms on the political and economic levels. In short, Mr. Secretary, we Lebanese need to get real, and the United States can help us do that – but only if it means to help Lebanon, not just Israel, and all Lebanese, not just some of us.

Sincerely,



Roudi Baroudi

Energy Economist

رسالة مفتوحة إلى وزير الخارجية الأميركي: زيارتك إلى لبنان… ديبلوماسية الطاقة

السيد الوزير،

تأتي زيارتكم إلى لبنان وقت يقف هذا الجزء من العالم امام فرصة نادرة للتطور وخطر كبير للانفجار، ولست أشير إلى هذين الامرين المهمين كمواطن لبناني فحسب، وانما بصفتي شخصاً يقيم ويعمل في المنطقة الأورومتوسطية والشرق الأوسط المضطربة منذ مدة طويلة، وهدفي هو تجنب جولة جديدة من عدم الاستقرار في لبنان والدول المجاورة له.

كما تعلمون فقد تم اكتشاف رواسب هيدروكربونية متعددة المستوى تحت شرق البحر المتوسط، مما يوفر فرصة تاريخية لرفع مستوى الاقتصاد الإقليمي والحد من الفقر أو حتى القضاء عليه كما وتهدئة التوترات الإقليمية، ولكن لسوء الحظ، يتم التأخر من الاستفادة من هذه الموارد بسبب قلة عدد الدول التي رسمت حدودها البحرية مع جيرانها. وإذا ما وضعنا جانبا مصير حدود فلسطين، نجد ان هنالك 12 "حدوداً" بحرية بين الدول الساحلية السبع الرئيسية: اليونان وتركيا وقبرص وسوريا ولبنان وإسرائيل ومصر، قد تمت تسوية اثنين منها فقط، أي ما نسبته (17٪) من خلال تطبيق معايير المعاهدات الثنائية لقانون البحار. في منطقة تحتوي على مخزون نفطي يقدّر بأكثر من تريليون دولار من النفط والغاز، لا تزال 83٪ من الحدود البحرية من دون تحديد نهائي، مما يشكل مخاطر كبيرة على التنمية في العديد من بلدان المنطقة بما فيها لبنان.

إن الحاجة إلى الإسراع بالتنمية وضخ الإيرادات المالية الجديدة هي من الامور الملحّة والمستعجلة، خصوصا ان دول المنطقة تواجه الكثير من المشاكل الاقتصادية الحادة. من هنا ولحسن الحظ، فان تقنيات رسم الخرائط الحديثة بواسطة تطبيقات قانون البحار LOS تتيح تسوية جميع النزاعات البحرية بهدوء، والقيام بها بكل سهولة وانسيابية ودقة شبه مطلقة.

مما لا شك فيه ان اجتماعاتكم في لبنان ستتناول العديد من الامور والمواضيع المتشابكة، ولكن يبقى الموضوع الأكثر أهمية هو مشروع الولايات المتحدة الدائم لتعزيز الاتفاق على الحدود البحرية في الشرق الأوسط، ولا سيما بين المنطقة الاقتصادية الخالصة اللبنانية والمنطقة الإسرائيلية. هذا هو المجال الوحيد الذي تتمتع فيه السياسة الأميركية بأكبر مكانة لإحداث تغييرات إيجابية، وفي الوقت عينه أكبر خطر لإمكان حصول عواقب غير مقصودة.

يعتبر لبنان واحداً من بين 50 دولة وقّعت ميثاق الأمم المتحدة عام 1945. ومذذاك تمسكت السياسة الخارجية اللبنانية بشروط تطبيق هذا الميثاق، وعلى رأسها الالتزام بالسعي الدائم إلى حل سلمي للنزاعات الدولية، وهذا على الرغم من الظروف الصعبة التي واجهها لبنان منذ مدة طويلة كدولة على خط المواجهة في الصراع العربي – الإسرائيلي.

على الرغم من – وعلى الأقل جزئياً بسبب – موقع بلدهم الاستراتيجي والمعرّض للهزات السياسية والامنية ونظامه المعقّد، فإن اللبنانيين يتمتعون بمرونة هائلة وقدرة غريبة على الخروج من مشاكلهم المستعصية. وعلى مر التاريخ ومهما كانت الأزمة، فإن الشعب اللبناني بارع للغاية في التأقلم مع الازمات والخروج منها. لكن هذه الدورة لا يمكن أن تستمر إلى أجل غير مسمى، لا سيما عندما يكون الدّين العام في لبنان يعادل أكثر من 150٪ من الناتج المحلي الإجمالي. وقد أوضحت الدول المانحة في مؤتمر عُقد اخيراً في باريس لمساعدة لبنان اقتصاديا، أن تعهداتها لن تتحقق إلا إذا نفّذ لبنان إصلاحات شاملة وتدابير جادة لمكافحة الفساد وغير ذلك من الخطوات الهادفة إلى تنظيم وضعه المالي.

على الرغم من هذه التحديات وغيرها، قد يكون لبنان على أعتاب عصر جديد مزدهر وذلك نظراً إلى الكميات الكبيرة المحتملة من الهيدروكربونات البحرية التي يأمل لبنان في البدء باستغلالها في السنوات المقبلة، اذ فور بدء الإنتاج، فإن التأثيرات ستكون كبيرة وعلى كل الصعد. فمجرد إنتاج الغاز الطبيعي للاستهلاك المحلي سيسمح لمحطات الطاقة في لبنان بالتوقف عن استعمال المازوت والغاز اويل اللذين يزيدان تكاليف تشغيل المحطات، ويسببان تلوثاً كبيراً، كما ينهكان معامل التوليد في اوقات قياسية.

بناءً على خبرتي في مجال الطاقة والتي تمتد الى أكثر من 40 عامًا، سيكون هذا التحسن مجرد بداية لأن لبنان سيكون أيضا مصدرا للطاقة، مما يفتح امامه عائدات نقدية جديدة وكبيرة، ستمكن الدولة أولاً من خفض الإنفاق على العجز، والاقتراض بمعدلات أقل، والبدء بتسديد رصيد ديونها. بعد ذلك، ستحصل الحكومة على الاموال اللازمة للقيام باستثمارات غير مسبوقة في قطاعات مهمة كالطرق والمدارس والمستشفيات والبنية التحتية الأساسية الأخرى، اضافة الى الفرص المباشرة وغير المباشرة التي يولّدها قطاع الطاقة الناشئ، وهذا الامر سيكون له تأثير تحفيزي فوري وطويل الأمد، مما يؤدي إلى خلق عشرات أو حتى مئات الآلاف من فرص العمل التي تؤمن اجرا جيدا. كما أنه سيجعل الاقتصاد برمته أكثر قدرة على المنافسة، ويزوّد شبابنا

التعليم المفيد والحديث الذي يحتاجون إليه في القرن الحادي والعشرين، ويمنح جميع اللبنانيين الرعاية الصحية الجيدة والشاملة. وإذا تمت إدارة هذه الثروة بحكمة، فإن عائدات الغاز يمكن أن تقضي على الفقر وعلى الفروق الاجتماعية الحادة خصوصا في المناطق المحرومة التي توفر للجماعات الإرهابية الارض الخصبة لتجنيد افراد جدد.

لا أشك في أن اللبنانيين يمكنهم دفع وطنهم الى الامام، لكنهم في حاجة إلى اتخاذ خيارات صعبة وصياغة حلول قابلة للتطبيق، والابتعاد عن تنفيذ تلك التي تطالب بها القوى الاقليمية والاجنبية. في الواقع، فإن العديد من مشاكلنا الحالية تنبع على وجه التحديد من القرارات التي اتُخذت على عجل، تحت ضغط خارجي و/ أو دون إجماع محلي كاف. ومع ذلك، فإن العديد من اللبنانيين ممتنّون لدور الولايات المتحدة في التوسط لحل الخلاف مع اسرائيل المتعلق بالمنطقة الاقتصادية الخالصة. من جهة أخرى، يشك الكثير من اللبنانيين في أن هدف واشنطن لا يكمن في تسهيل التوصل إلى صفقة عادلة، بل فرض واقع غير متوازن لمصلحة إسرائيل. وفي حال رضوخ الحكومة اللبنانية لهذا الحل غير المتوازن ستعرف خسارة كبيرة في شرعيتها، اضافة الى معارضة محلية قوية، وسيصل الامر الى تقديم استقالات من جانب وزراء رئيسيين في الحكومة، وربما نهاية قدرتها على الحكم.

هناك الكثير من المواد الهيدروكربونية في حوض مشرق المتوسط، وهي تكفي جميع المطالبين بها وفقاً لحصصهم القانونية والشرعية، ولا يطلب أي لبناني الحصول على مزايا خاصة او على زيادة غير قانونية، وانما معاملة عادلة ومتساوية. ان قضية المنطقة الاقتصادية الخالصة في لبنان غير قابلة للتغيير او للتلاعب، بدءاً بالموقع الصحيح للحدود البرية في رأس الناقورة التي تم تحديدها بموجب اتفاقية الهدنة لعام 1949، والتي يمكن الآن تحديد موقعها باتقان متناهٍ بواسطة تقنيات رسم الخرائط الدقيقة. ويمكن الاتكاء على هذه النقطة لحل الامور العالقة الاخرى. في أي إجراءات قضائية، يتم مطابقة كل عنصر علمي بمجموعة قواعد قانون البحار، والتي تستمد أساسا من ثلاثة مصادر:

اتفاق الأمم المتحدة لقانون البحار لعام 1982 (UNCLOS)، وهو مشروع تم تصوره في الأصل من قبل الرئيس الأميركي ترومان واعتمدته الى الآن 168 دولة كأساس لكتاب قواعد لوس أنجلس العالمي وهو الكتاب الوحيد المعتمد.

المبادئ والإجراءات المنصوص عليها في اتفاق الأمم المتحدة لقانون البحار والتعديلات عليه.

السوابق التي أنشأتها محكمة اتفاقية الأمم المتحدة لقانون البحار والإجراءات القانونية (ITLOS) والمحكمة الدولية لقانون البحار الأخرى ذات الصلة.

ان التطورات التكنولوجية المتسارعة وصلت إلى النقطة التي يكون فيها تأثيرها حاسماً في حل النزاعات البحرية. في الواقع، تم الفصل في جميع القضايا الـ 13 المعروضة اخيرا امام المحاكم البحرية المختصة على أساس علمي. وهذا الامر ادى الى الدقة في رسم الخرائط البحرية.

من هنا فانه بناءً على القواعد المعتمدة والعلوم، لا يمكن أن يكون هناك أي شك حول نتائج الحكم في هذه الحالة: سيتم منح لبنان في حال تطبيق القواعد العلمية معظم مساحة الـ881 كيلومتراً مربعاً موضع النزاع البحري. سواء تم تحديد الترسيم داخل قاعة المحكمة أو خارجها. علميا يتم رسم الخطوط وفقا للخرائط المتاحة (والتي يمكن طلبها الآن وتسلّمها في غضون خمسة أيام عمل على الأكثر) من المناطق الساحلية للدولتين. في الواقع، في ايامنا هذه فإن إعداد قضية وفقا لقانون البحار يكون بنسبة 80٪ من الناحية العلمية ولا تشكل الاجراءات القانونية سوى 20٪ فقط. في العام 2010 قبلت إسرائيل قانون البحار من خلال موافقتها عليها كأساس (LOS) تطبيق قواعد لمعاهدة المنطقة الاقتصادية الخالصة الموقعة مع قبرص، وبالتالي فان اي محاولة لحل النزاع مع لبنان يفرض عليها تطبيق القواعد المذكورة.

بالطبع، أنتم تدركون الصعوبات التي يعرفها هذا الملف، فإسرائيل ليست من الدول الموقعة على اتفاقية الأمم المتحدة لقانون البحار، أمر مستحيل من ITLOS لذلك فإن حكم المحكمة الدولية لقانون البحار الناحية الاجرائية، ولبنان لا يعترف بإسرائيل، لذا فإن المفاوضات الثنائية لا مكان لها. لذلك كانت الحاجة إلى وساطة خارجية مقبول بها من الطرفين، ومن هنا يكمن الدور الذي لا غنى عنه والبنّاء للولايات المتحدة، وهو يتوقف على طريقة تعاطي دولتكم مع هذا الموضوع. إذا كانت أميركا تتصرف كحَكم عادل، فإن النتيجة النهائية لا يمكن أن تكون موضع شك لأنها ستستند إلى العلم وقواعد قانون البحار المرعية الاجراء. وفي هذه الحالة يمكن أن تمنح المنطقة بأسرها فرصة لنزع فتيل التوترات. من جهة أخرى، إذا قررت

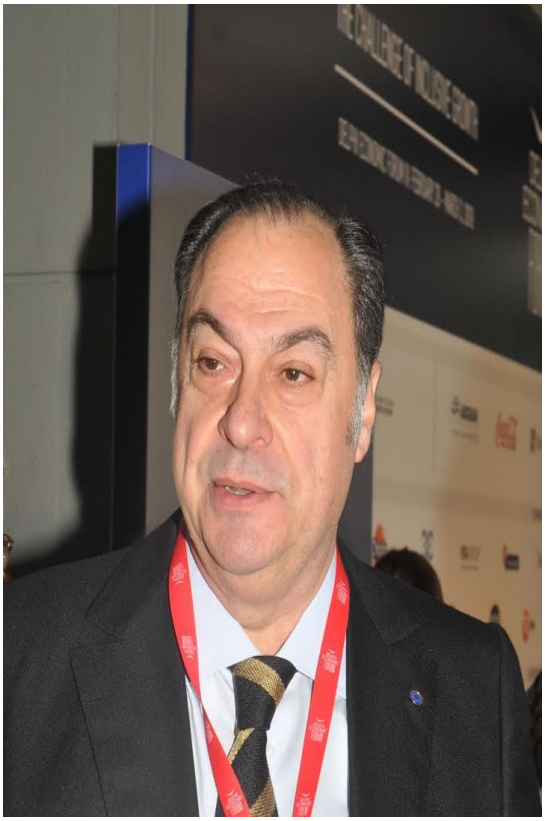
الولايات المتحدة التصرف بشكل أساسي كحليفة لإسرائيل، فلن يكون ممكناً أن تقبل الحكومة اللبنانية بأي اقتراح يبتعد عن القواعد القانونية والعلم الحديث.

السيد الوزير،

نظراً الى أننا نعرف التوجه العملي الذي سيفيد طرفي النزاع، فلماذا لا تأخذ أقصر الطرق وأكثرها ثقة؟ وتكمن بتقديم المشورة الى الإسرائيليين لقبول ترتيب عادل للمنطقة الاقتصادية الخالصة، والتأكد من أنهم (كما نحن) سيحترمون نص هذا الترتيب وروحه، وبالتالي إقناعهم بالتوقف عن تهديد اللبنانيين بالحرب. واذا كانت الولايات المتحدة تتوسط لحل متوازن في هذا النزاع، فستعزز قدرتها على التوسط بين الدول المجاورة الأخرى – وخصوصا قبرص واليونان وتركيا – وبالتالي يكون لها تأثير على استقرار المنطقة بأسرها.

من هنا آمل أن تستمر الولايات المتحدة، بالتنسيق مع جهات فاعلة أخرى مثل الأمم المتحدة، في استخدام مساعيها الحميدة للمساعدة في حل مسألة المنطقة الاقتصادية الخالصة. كما آمل أيضا أن يفتح التقدم في هذا الملف الطريق لإجراء حوارات داخلية ذات مغزى حول الإصلاحات البعيدة المدى على المستويين السياسي والاقتصادي، والتي يحتاج اليها لبنان.

باختصار، السيد الوزير، نحن اللبنانيين في حاجة إلى أن نكون واقعيين، ويمكن الولايات المتحدة أن تساعدنا ولكن شرط ان يكون ذلك عبر مساعدة لبنان، وليس فقط إسرائيل، وجميع اللبنانيين، وليس بعضهم.



خبير طا قوي

رودي بارودي

The world is not on a sustainable path, BP chief exec says

The world is moving in the wrong direction in its fight against climate change, and BP Chief Executive Bob Dudley said that energy companies must step up and play their part to dramatically reduce greenhouse gas emissions.

The reality is the world isn’t even close to on track to meet the recent Paris climate accord goal of keeping a global temperature rise below 2-degrees Celsius by 2100. On the current track, global energy demand will spike by about one-third by 2040, including growing demand for crude oil and other liquid fuels before eventually plateauing, according to BP’s analysis that Dudley highlighted Tuesday at the CERAWeek conference in Houston.

“As bright as our future may seem, we are operating in a world that is not on a sustainable path,” Dudley said. “Greenhouse gases are expected to rise by about 10 percent over the next two decades, when they need to be falling dramatically.”

Dudley cited possible solutions, like federal regulators pushing the coal industry out of the power sector, and governments worldwide adopting more carbon prices, or taxes,

on energy companies.

“We have to move from being pure-play oil and gas companies into broader energy businesses,” Dudley said. “Our focus has to be on developing an energy system that is cleaner, better and kinder to the planet.”

BP remains the top producer in the Gulf of Mexico with more growth on the way and, in October, BP paid $10.5 billion to buy the onshore Texas shale assets of Australia’s BHP Billiton, including sizable positions in the booming Permian Basin and South Texas’ Eagle Ford shale.

Last year, BP said it would hold greenhouse gas emissions from its operations at or below its 2015 levels in the years ahead.

While natural gas burns cleaner than oil, the challenge is ensuring that methane doesn’t leak during the drilling and production of gas. Those emissions are viewed as the Achilles’ heel of natural gas. So BP is setting a target of keeping its methane emissions down to 0.2 percent of the gas produced.

Dudley said the British energy giant must be “progressive for society and pragmatic for investors,” and nimble enough to shift as the market changes. At the beginning of this century, BP invested heavily in renewable energy, perhaps before it was economically viable.

The company lost money then. Now, it’s strategically investing again on a smaller scale.

“We continue to invest in low carbon – to the tune of around half-a-billion dollars a year – but in smaller, smarter, very focused and disciplined ways,” Dudley said.

Earlier Tuesday, Gretchen Watkins, president of Shell’s U.S. subsidiary, Shell Oil of Houston, called on the White House to tighten the rules on methane leaks from oil and gas production, rather than roll them back as proposed by the

Trump administration.

“We need to do more,” Watkins said.

But some environmental groups, including Greenpeace, are calling BP hypocritical for lobbying the White House to roll back some methane emissions regulations.

BP responded that it doesn’t oppose methane regulations per se. Rather, it prefers one set of rules, instead of having to follow the different ones put in place by different agencies, in this case the Environmental Protection Agency and the Interior Department.

This article first appeared on the Houston Chronicle – an Energy Voice content partner. For more from the Houston Chronicle click here.

AI can help fight climate change by optimizing energy efficiency

Man-made climate change is an undeniable fact, and the need to mitigate its damage is all too real. We need to make drastic changes in the next 12 yearsto prevent climate disasters and reach our goal of restricting an increase in global temperature to 1.5 degrees Celsius. Time is of the essence, and that's where AI comes in.

"AI can make it much cheaper and much faster to analyze consumption data to find patterns that you can use to lower and make your energy use more efficient," Henrik Brink told TNW at North Star AI in Estonia.

That's why Brink founded Ento Labs, which helps companies and homes achieve better energy efficiency using AI – saving money and the environment.

"Energy efficiency is the only really direct way of lowering emissions," says Brink. "And according to our initial research, there's a huge opportunity for lowering emissions. There's so many low hanging fruits of companies and industries that can be optimized a lot."

Brink points out that the need for energy worldwide will skyrocket, if we continue on our path of electrifying more parts of our energy usage. Electrifying allows us to cut down

direct emissions which is extremely important, but we need to couple that with energy efficiency to keep the indirect emissions of electricity production low. Basically, we need to optimize energy efficiency, which is AI's forte.

Brink and his team created 'Ento AI' to help companies forecast their consumption and plan accordingly. The tool recommends specific energy efficiency initiatives – some in real-time – based on environmental impact and return on investment. Cynics could point out this is the 'money-making way' to save the climate, but realistically speaking, it could be the best way to get major businesses and industries to rethink their emissions.

Optimizing energy efficiency with AI can be an incredibly complex matter, but one of its simpler examples is choosing *when* to use energy. A big part of future energy grids is batteries, which can be used to store excess energy, and mitigate the variable output of renewables such as solar and wind. AI is essential in making these systems work, as it's fast enough to observe a myriad of variables, and make real-time adjustments to ensure the least polluting energy source is always chosen.

Getting data to go green

Using AI to increase energy efficiency and reduce emissions is an incredibly promising approach, but it hinges on the availability of data – the lifeblood of AI.

"The key is *good* data, because if you just have data, you have to spend a lot of time cleaning it. That's usually what you have to do for a company, as many have old databases scattered around in various places," explains Brink. "You can't just take it and use it."

This problem also exists in our larger grids. Smart meters are becoming more common, giving infinitely better insights than

manually checking them a couple of times a year. However, in most cases, this data is locked up or not gathered centrally, making AI optimization much harder.

“Centralized data hubs really allow us to build these models with one format. That’s what makes it scalable, and if it’s not scalable, it won’t have a meaningful impact,” says Brink.

Companies like Google are already using AI-based energy solutions for their servers, but if we’re to apply AI solutions on a bigger scale, we’ll need better data to support innovation by AI startups and companies.

A handful of countries in Europe – like Denmark, where Ento Labs is based – provide companies and researchers with the opportunity to access energy consumption data to benefit the environment and consumers. More countries need to catch up on the fact that changing the way they handle data could be a step towards achieving emission goals – allowing AI to find solutions we haven’t already.

Brink believes that this is only the beginning of AI’s role in cutting down emissions and finding more sustainable ways for energy consumption.

“AI will help plan future rates and future energy production, so that it will become cleaner. And the only way it can do that is if you understand the consumption in a very detailed way,” Brink explains.

With current climate models, we need to have net zero carbon dioxide (CO2) emissions by 2050, and *almost* net zero a whole lot earlier. We can achieve that by eating less meat, using renewable energy, and cuting down on plastic and single-use products – as well as running initiatives for proper data curation. It’s our shared responsibility to use all the tools at our disposal to mitigate climate change, and AI is one of them.

ENERGY: Cyprus close to resolving revenue sharing dispute for Aphrodite gas

Differences between Nicosia and the Noble-Shell-Delek consortium over a revenue sharing agreement for the exploitation of the "Aphrodite" field in Cyprus EEZ are soon to be overcome.

According to sources quoted by Politis newspaper, the two sides are closer to an agreement after a meeting held on 7 March, where the last remaining – mainly legal – obstacles where discussed.

Nicosia appears to be particularly optimistic as, according to Politis, Energy Minister George Lakkotrypis informed MPs during a closed meeting of the House's Energy Committee that the deal would be sealed within 2-3 weeks.

According to Politis, Noble is expected to submit to the

government negotiating team a revised text of the proposed revenue sharing contract. If there are no serious objections from Nicosia, which would call for a new round of consultation, then the agreement will be signed.

The revised agreement involves the reduction in the anticipated revenues of the Republic of Cyprus and an increase for the consortium in the event that the price of crude oil is close to 60 dollars per barrel (a condition set by the consortium), if oil prices go up, then the Republic's revenue will increase accordingly.

Responding to MPs' questions in parliament, Lakkotrypis denied estimates of renowned expert Charles Ellinas that the new contract will see the Republic's revenues from Aphrodite limited to around €100 mln per year for the 15-year exploitation period of the gas field.

In addition, provisions have been incorporated into the contract, which according to government sources, better ensure the implementation of the land development program within specific timeframes.

From the reaction of MPs, it is clear that only AKEL does not support revision of the contract. AKEL continues to argue that the government should focus on building a land-based liquefaction plant in Vassiliko, by including findings in the Aphrodite gas field (with an average estimate of 4 trillion cubic feet).

Governmental officials, including Lakkotrypis, have stated, that the construction of a terminal remains a strategic goal, but it is not related to Aphrodite, as this reserve is now ripe for exploitation and the only tangible option for selling the gas is Egypt.

Other parties seem to favour the deal which is to see gas transferred to an LNG plant in Egypt for economic as well as geopolitical reasons.

Once the new contract between the Republic of Cyprus and the companies is finalised and signed, the Noble-Shell-Delek consortium, along with representatives from the State Hydrocarbon Company are to restart negotiations with the operators of the terminal at Egypt's Idku this year for the sale and liquification of the reserves in the Aphrodite gas field.

It is estimated that it will then take 2-3 years to complete the studies for the Final Investment Decision and 3 more years for the construction of the mining infrastructure and a pipeline to transport the gas to the Egyptian coast.

FOR ITALY'S RULING NATIONALISTS, ENERGY SECURITY MORE IMPORTANT THAN PUTIN'S FRIENDSHIP [GGP]

New natural gas discoveries in the Eastern Mediterranean might be a boon for the European Union's efforts to move away from dependence on Russian energy supplies. In the current complex energy game between Europe and Russia, Italy could play an important role as an entry point for gas deliveries from Egypt, Israel and Cyprus, despite the current Italian

government’s largely sympathetic stance toward the Kremlin.

On February 28, the United States energy giant ExxonMobil announced it discovered natural gas off the southwestern coast of Cyprus. The new find adds to other giant offshore gas fields discovered in the region such as Aphrodite and Calypso in Cypriot waters, Israel’s Leviathan and Tamar, and Egypt’s Zohr.

By the end of the year, the governments of Italy, Greece, Cyprus and Israel are expected to sign a multilateral agreement to build the EastMed pipeline, which promises to bring a natural gas bonanza to Europe. Russia is currently the largest single provider of gas to the EU, and supplies from the Eastern Mediterranean basin are seen as a viable alternative to state-owned Russian gas monopoly Gazprom. Currently, Russia accounts for around 40 percent of the European bloc’s natural gas imports.

The planned EastMed gas corridor is projected to cost $7 billion and is backed by the European Commission. It is designed to initially transport 10 billion cubic meters (bcm) of gas per year from offshore reserves in Cyprus and Israel to Greece and, thanks to its connection with the planned Poseidon pipeline, onward to southern Italy.

Yet, critics say the project is too expensive and faces serious technical challenges. Furthermore, EastMed is opposed by Turkey, which has territorial disputes with the internationally-recognized Cypriot government in Nicosia, including competing claims to waters around the island.

For their part, the Egyptians emphasize that the EastMed initiative is still in the feasibility study stage—a process that will take a couple of years to be completed—and note that Egypt could re-export the region’s natural gas to Europe now by using underutilized Egyptian gas liquefaction plants, more quickly and at a lower cost.

Indeed, Egypt is already moving in that direction. A new conduit will deliver natural gas from Cyprus' Aphrodite field to Egyptian territory. Some experts argue the Cyprus–Egypt pipeline puts the EastMed corridor at risk because the latter needs all Cypriot gas to be commercially feasible.

Interestingly, Italian Deputy Prime Minister Matteo Salvini, the kingmaker in Italy's fractured coalition government led by the anti-establishment Five Star Movement and the nationalist League party, is a supporter of the EastMed gas pipeline. Salvini's Russia-friendly League is also endorsing the completion of the Trans-Adriatic Pipeline (TAP), which the Five Star Movement has tried to block by raising environmental concerns (see EDM, November 5, 2018). TAP is the westernmost section of the EU-supported Southern Gas Corridor (SGC), a planned system of conduits to carry natural gas from the Azerbaijani Shah Deniz gas field to Italy, via Georgia, Turkey, Greece and Albania. TAP is designed to pipe 10 bcm of Azerbaijani gas to Europe by 2020, with the target of doubling supplies in the following years.

The EU aims to diversify gas imports away from Russia with the help of EastMed and TAP, in addition to other energy transit projects. In this respect, Italy's support for the two gas pipelines could be a source of friction between Salvini and the Kremlin, whose relations are reportedly close. A recent journalistic investigation claims that an aide to Salvini negotiated with the Kremlin to secure Russian funding for the League's European Parliament election campaign.

But other issues risk damaging the relationship between the Italian leader and Moscow. Salvini has so far done nothing to cancel or ease economic and financial sanctions that the EU leveled against Russia in response to its annexation of Ukraine's Crimea in 2014 and armed intrusion into Donbas. Salvini promised to do so last spring, after his rise to power.

The Italian deputy prime minister is also trying to build a political axis in the European Parliament with right-winger Jarosław Kaczyński, the leader of Poland's ruling Law and Justice party, who is a staunch critic of Putin's Russia. Moreover, in sync with the United States, Salvini has expressed support for the interim government of self-declared President Juan Guaidò in Venezuela, who is challenging embattled de facto President Nicolás Maduro, an ally of Russia in Latin America.

Moscow has been publicly silent on Salvini's recent moves and declarations, especially as far as natural gas exploitation in the Eastern Mediterranean is concerned. Russian leaders continue to say that their gas is cheaper for European consumers than other sources, and Europe may need new imports by 2030 because of falling production at home (RT, February 28, 2019; TASS, August 2, 2018). Nevertheless, Italy wants to diversify gas suppliers and become a gas hub in southern Europe, be it through the EastMed pipeline or Egypt's shipments of liquefied natural gas (LNG).

Italian state-owned oil and gas producer ENI, the leading company in the exploitation of the Zohr supergiant gas field, has already advanced the idea of turning Egypt into a hub to pipe local, Israeli and Cypriot gas to Europe (see EDM, April 10, 2018). The Kremlin has had to walk a fine line with regard to ENI's strategies in the region, given that Russia's Rosneft has a 30 percent stake in the Shorouk concession, where the Zohr gas field is located.

As Italy seeks to raise its energy profile, it is also aligned with the US and some countries in Central Eastern Europe against Nord Stream Two, the pipeline project designed to double the preexisting natural gas conduit that runs under the Baltic Sea and links Russia to Germany (see EDM, November 5, 2018). The capacity of Nord Stream One stands at 55 bcm, and Russia's state-run gas monopoly Gazprom wants to complete the parallel Nord Stream Two by the end of 2019.

Salvini has built his political brand on the promise to protect Italy's national interest. If this collides with Putin's geopolitical plans, the leader of the League will not hesitate to go against his Russian "friend."

Emanuele Scimia

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Things Are About to Change: Oil and Gas Have Been Found in the Eastern Mediterranean

Large quantities of oil and natural gas have been discovered

in the East Med and the race to extract them has begun. These hydrocarbon finds hold the potential to build regional stability and to bolster the economies of important US allies and partners, all of which is in the interest of the United States. But these discoveries could just as easily stoke further instability and conflict if nations default to historic resentments and if regional powers jockey to monopolize on or block access to this strategic treasure.

Extending from Israel and Egypt in the East and South to Turkey, Greece and Italy in the North and West, the Eastern Mediterranean has long been an economically dynamic and politically important region for the United States and its NATO allies. It is about to become even more important.

Large quantities of oil and natural gas have been discovered in the East Med and the race to extract them has begun. These hydrocarbon finds hold the potential to build regional stability and to bolster the economies of important U.S. allies and partners, all of which is in the interest of the United States. But these discoveries could just as easily stoke further instability and conflict if nations default to historic resentments and if regional powers jockey to monopolize on or block access to this strategic treasure.

There are some early signs of cooperation, and these should be welcomed. States which acutely stand to benefit from the finds—Greece, Cyprus, Israel, and Egypt—have begun working toward a solution and have discussed various export options. The first-everregional gas forum was held Jan 14, 2019, in Cairo, with these Eastern Mediterranean Gas (EMG) pipeline participating countries, along with Jordan, Italy and the Palestinian Authority. The meeting discussed the future of the EMG pipeline and the potential of Egypt as a regional gas export hub. Egypt owns robust domestic energy infrastructural facilities in the Nile Delta—including two LNG plants (sitting idle) and pipeline infrastructure for easy connection to the newly discovered hydrocarbons in the East Med for turnkey

distribution to LNG markets in Africa, Israel and the Middle East.

The European Union, too, thinks the new gas and potential oil discoveries in the East Med could strengthen regional energy cooperation, aid overall regional political stability, and spur economic growth in important European economies such as Italy and Greece. A proposed EMG pipeline costing $7 billion and opening in the mid-2020s is a beacon of hope for the European Union to increase energy diversification, bring billions of dollars of lifetime revenues to southern Europe and curtailing Russia's dominance over the European energy market.

Yet even with this early cooperation, the role of U.S. and NATO naval forces as a diplomatic and economic actor in U.S. foreign policy and execution has never been more important in the Eastern Med. The discovery of hydrocarbons in the East Med has initiated historical interest and possible shifts in the global balance of power in a region already full of ongoing tensions.

I have completed multiple tours in the region, with my last being as a Sixth Fleet Air Operation Officer, where I navigated firsthand the multiple lines of conflict. These conflicts, some fought in the open and others simmering beneath the surface, include disputes between Turkey and Israel, between Egypt and Turkey, between Turkey and Greece over territory and the Cyprus issue, and among Israel and its Arab neighbors, just to name a few. From my experience it is difficult to imagine an easy way forward as these conflicts continue to plague the region and make exploitation of the East Med natural resources a geopolitical issue.

Enter the United States. "The role of the U.S. Navy as a diplomatic and economic actor in US foreign policy and execution is as strong as ever and likely to remain so for the next several decades," said the Chief of Naval Operations,

Admiral John Richardson, in February. Nowhere else do these words ring truer than in the Eastern Med, where stability and economic prosperity are at the cusp. Nowhere do risks to United States, NATO and its allies have more facets and come from more directions than in the Mediterranean region. Well-positioned naval forces have the flexibility to respond to any crisis that may arise in the region quickly and authoritatively all while creating stability through consistent presence.

It makes economic sense for the United States and NATO to deploy naval forces to the Eastern Med where four of the five major threats, to the United States and its allies, mentioned in the National Defense Strategy can be confronted while at the same time effecting a top economic and geopolitical priority. The security and prosperity of the European Union, specifically among its southern nations, depend on anticipating, containing, and reducing risks in the Mediterranean region by consistent presence. The United States and NATO must get ahead of adversaries in the region and have them react to Western moves rather than the West continue to react to the actions of its adversaries.

Diplomatic and economic functions of naval forces while conducting exercises with allies in the region should be the primary instruments in this effort, but hard power also has its role, especially when risks turn to threats and threats turn to violence. After all, there is still something to gunship diplomacy.

Even with U.S. presence, however, there must be a concerted effort. Egypt has established cooperation agreements with Israel, Cyprus and Greece. The four nations have made efforts that seek to enhance civil and military activities, including joint military drills to bolster interoperability and cooperation, and ultimately stability in the nations' energy sectors. U.S. and NATO forces must look for opportunities to join in these joint exercises.
Yet the discovery of these sizeable amounts of hydrocarbons

has not only attracted the attention of the West, but also that of other nations worried about the potential effects on the region's current power balance. Turkey, Russia, Iran and even China are attempting to gain geopolitical influence in this critical and distinct region.

The Eastern Med bustles with age-old local disputes that are territorial, ethnic and religious in origin. Turkey has opposed extraction activities off the coast of Cyprus and has threatened to blacklist major firms that take part in the extraction and exploration operations. Turkey not only challenged Greece and Cyprus over the ownership of the natural resources discovered in the region, but also has begun seismic and drilling activities in Cyprus' UN recognized, exclusive economic zone. Furthermore, Turkey has enhanced cooperation with Iran —the two nations have established a comprehensive pipeline network to bring gas to the European markets. Both countries have been negotiating additional projects in the region, and now worry that an EMG pipeline will disrupt their efforts. Iran is trying to establish a foothold in Syria to ensure a post-conflict land bridge to the Eastern Med, further increasing its relevance in energy geopolitics and threat to Israel. Russia increasingly wants to be viewed as a respected global power in the region. It has established bases in Syria and has increased its military presence in the Eastern Med. Now it looks to have a say in the East Med and maintain its dominant stand in the global gas market. Finally, China is investing heavily in the East Med, as it views the East Med region as the western end of its Belt and Road Initiative and entry point to the European Market.
In the end, the exploitation of the East Med resources will require a stable region bolstered by U.S. and NATO alliance support that includes naval forces for diplomacy, open economic sea lanes and poised hard power.

Commander Tony Chavez is a navy federal executive fellow at the Chicago Council on Global Affairs. A decorated navy aviator, Commander Chavez has served in every U.S. Navy fleet throughout the globe.

US’ ExxonMobil plans more drilling in the Eastern Mediterranean after recent gas discovery

Two weeks after announcing it had made the world’s third largest natural gas discovery in the last two years off the coast of Cyprus island, U.S. energy giant ExxonMobil is now working on projects to commercialize its gas reserves and also planning to drill more exploration wells around the island, according to Stephen Greenlee, the president of ExxonMobil exploration company and vice president of the ExxonMobil corporation.

Greenlee’s comments came at CERAWeek by IHS Markit, the world’s largest energy conference bringing together industry leaders in Houston.

“We have obviously just announced the discovery and we are currently working on the size of it, trying to understand the most commercial vehicle to commercialize the reserves,” Greenlee told the Daily Sabah on the sidelines of the event.

Greenlee also confirmed that the company will be looking into more drilling opportunities in the region while also being engaged in projects to monetize the Glaucus-1 reserves in the most lucrative way.

The ExxonMobil discovery, announced by the Greek Cypriot administration’s Energy Minister Georgios Lakkotrypis, was made in the second well of the company, Glaucus-1, located in the putative Block 10 in the exclusive economic zone unilaterally declared by the Greek side. The Glaucus-1 is estimated to contain 5-8 trillion cubic feets of gas (142 to 227 billion cubic meters).

Greenlee previously said the gas discovery was an encouraging result in a frontier exploration area. “The potential for this newly discovered resource to serve as an energy source for regional and global markets will be evaluated further.”

Last year, Italy’s ENI and France’s Total said they had found a promising prospect of natural gas in a nearby concession, Calypso, located on Block 6 of the Greek administration’s unilaterally declared Exclusive Economic Zone (EEZ).

The consortium of ExxonMobil and Qatar Petroleum started drilling in Block 10 in November 2018.

The Greek Cypriot government has not yet commercialized any gas discovery with a huge political problem waiting to be resolved in the island as well as a lack of infrastructure to process and utilize the gas. It has one gas field, Aphrodite, which contains an estimated 4 trillion cubic feets of gas discovered to the south of the island in 2011.

In response to the infrastructure problem, the Greek Cypriot

government launched a tender for a liquefied natural gas (LNG) facility to be constructed by November 2020. The facility will be capable of unloading LNG from LNG carriers ranging in size from 120,000 cubic meters to 217,000 cubic meters.

Greenlee refrained from commenting on the political conundrum in the island which has been an impediment to the equitable share of resources between the Turkish and Greek communities on the island. “It is an issue between the governments to resolve,” he said and did not comment on any future interaction between the two sides.

ExxonMobil’s Greenlee also suggested that ExxonMobil is open to joint drilling with other countries in the region, including Turkey, if the data allows and the opportunity rises.

Turkey has also accelerated its seismic survey and drilling activities in the Eastern Mediterranean in the last five years. The country’s seismic vessel Barbaros Hayreddin has been conducting surveys in the region since 2013 after an agreement with the Turkish Cypriot government was signed in 2011, which gives Turkey exploration rights for 30 years. Its first drillship Fatih also started operations with deepwater well-drilling in October 2018 off Alanya, a district in the Mediterranean province of Antalya.

The island of Cyprus has been divided since 1974, when a Greek Cypriot coup took place after decades of violence against the island’s Turkish community and Ankara’s intervention as a guarantor power. The status of the island remains unresolved in spite of years-long negotiations.

Flexible renewable power: Spain to triple solar thermal capacity by 2030

Spain's NECP has been approved by the **Spanish Council of Ministers** and submitted to the **European Commission**. ESTELA, the representative association of the **European Solar Thermal Electricity sector** (also known as concentrated solar power), highlights that the plan includes a proposed **increase in installed capacity of solar thermal electricity from 2,300 MW to 7,303 MW by 2030**.

This development in Spain is a strong signal that the value of solar thermal electricity is now recognised when forecasting the future energy generation mix. The additional 5 GW of latest-spec solar thermal power plants, **with much larger storage volumes**, will capture, store and subsequently generate electricity, mostly in a complementary way to photovoltaic and/or wind generation, contributing to the stability of the grid.

With 2.3 GW installed capacity currently, Spain is the global leader in STE technology. However, with threefold growth over the next 10 years, the European STE/CSP industry could

substantially strengthen that leadership, reaching into world markets whilst maintaining its excellence in research and innovation activities.

More STE/CSP in Europe means the technology could (already today) provide a substantial contribution to the required flexibility for a further increase of solar PV and wind generation towards decarbonisation – without waiting for industrial maturity of other technologies that are currently unable to deliver bulk amounts of CO2-free dispatchable energy.

As with other green technologies, STE/CSP offers deep and long-lasting benefits to the future economy and job markets as part of a Just Transition. The deployment of solar thermal power plants should have an immediate, positive macroeconomic effect on GDP and stimulate employment for all European countries involved along the STE/CSP value chain following investment in related equipment, components, and services.

Granting solar thermal power plants a more significant role over the next decade will ease the necessary phasing-out of coal and nuclear power plants. **The proven competitiveness of solar thermal power plants against fossil backup technologies** and the ability of this technology to provide the basic services of conventional power plants will lead to a zero-emission generation fleet – combined with the other already established intermittent renewables, especially in sunny European countries.

Rolling out STE across Southern Europe for the benefit of the whole EU electricity system

STE provides the possibility of moving towards an efficient share of flexible and non-flexible renewable generation across

Europe but requires a clear endorsement by the European Commission coupled with practical help.

The justifications are clear

- Leaving the completion of the 2020 and 2030 objectives to a purely market-driven process will lead to a further increase of non-flexible RES in Europe (essentially wind and PV);
- At the horizon **2030 and beyond**, a more balanced share between flexible and non-flexible RES will be vital to ensure the reliability in a decarbonised European power system which is required to address the foreseen lack of flexible power generation overall;
- Expensive backup capacity from conventional power plants can be avoided if flexible RES (STE/CSP) is properly and adequately implemented from now on where **fossil back up capacities should be considered part of the costs of non-flexible RES**;
- Support for this program should be the product of a well-coordinated (at EC level) combination of sources: Directives, strategic energy security investments, cohesion funds, development and cooperation (including outside EU);

These issues were already identified in the 2014 IEA Technology Roadmap – Solar Thermal Electricity report that foresees **4% of the whole installed capacity by 2050 for Europe coming from STE/CSP**. That would mean that an additional 1 GW/year capacity in STE would need to be installed in total in Europe between 2015 and 2030.

ESTELA President Dr. Luis Crespo calls for EU institutions and, most importantly, other EU Member States getting behind their 2020 RES objectives, to take this example from Spain as an opportunity to consider again the role of STE/CSP in their strategies. This, he points out, would be in keeping with the RES Directive (recast to 2030) entering into force in 2021

which calls for proactive cooperation between Member States for the development of cross-border projects.