

# Top oil exporter Saudi Arabia targets net zero emissions by 2060

RIYADH, Oct 23 (Reuters) – Saudi Arabia’s crown prince said on Saturday that the world’s top oil exporter aims to reach “net zero” emissions of greenhouse gases, mostly produced by burning fossil fuels, by 2060 – 10 years later than the United States.

He also said it would double the emissions cuts it plans to achieve by 2030.

Crown Prince Mohammed bin Salman and his energy minister said Saudi Arabia would tackle climate change, but also stressed the continued importance of hydrocarbons and said it would continue to ensure oil market stability.

They were speaking at the Saudi Green Initiative (SGI) ahead of COP26, the United Nations climate conference in Glasgow at the end of the month, which hopes to agree deeper global emissions cuts to tackle global warming.

The United States, the world’s second-biggest emitter, is committed to achieving net zero, meaning that it emits no more greenhouse gases than it can capture or absorb, by 2050. But China and India, the world’s biggest and third-biggest emitters, have not committed to this timeline.

Amin Nasser, chief executive of the state oil giant Saudi Aramco, said it was counterproductive to “demonise” hydrocarbons. He said Aramco aimed to expand its oil and gas production capacity while also achieving net zero emissions from its own operations by 2050.

Prince Mohammed said in recorded remarks that the kingdom aimed to reach net zero by 2060 under its circular carbon economy programme, “while maintaining its leading role in strengthening security and stability of global oil markets”.

He said Saudi Arabia would join a global initiative on slashing emissions of methane by 30% from 2020 levels by 2030, which both the United States and the EU have been pressing.

U.N. Secretary General Antonio Guterres, in a phone call with Saudi King Salman bin Abdulaziz, welcomed the kingdom's initiatives to reduce emissions, state media said. L1N2RJ0FB

#### 'HYDROCARBONS STILL NEEDED'

The SGI aims to eliminate 278 million tonnes of carbon dioxide emissions per year by 2030, up from a previous target of 130 million tonnes. The crown prince said the SGI initiative would involve investments of over 700 billion riyals (\$190 billion) in that time period.

Saudi Arabia's economy remains heavily reliant on oil, although the crown prince is trying to promote diversification.

Energy minister Prince Abdulaziz bin Salman said the world needed fossil fuels as well as renewables.

"It has to be a comprehensive solution," he said. "We need to be inclusive, and inclusivity requires being open to accept others' efforts as long as they are going to reduce emissions."

He said the kingdom's younger generation "will not wait for us to change their future".

He said net zero might be achieved before 2060 but the kingdom needed time to do things "properly".

The non-profit Climate Action Tracker consortium gives Saudi Arabia its lowest possible ranking, "Critically insufficient". Saudi Arabia's first renewable energy plant opened in April and its first wind farm began generating in August.

It does, however, have plans to build a \$5 billion plant to produce hydrogen, a clean fuel, and state-linked entities are pivoting to green fundraising.

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## الوسيط الأميركي يلتقي مسؤولين لبنانيين ويبحث ملفي الطاقة وترسيم الحدود



التقى الوسيط الأميركي الجديد في عملية التفاوض غير المباشر بشأن ترسيم الحدود البحرية الجنوبية بين لبنان وفلسطين المحتلة أموس هوكستين، اليوم الأربعاء، بعدد من المسؤولين اللبنانيين الكبار وبحث معهم ملفي الطاقة وترسيم الحدود. والتقى هوكستين برئيس الجمهورية ميشال عون ورئيس الوزراء نجيب ميقاتي ورئيس البرلمان نبيه بري. واستقبل عون، قبل ظهر اليوم، هوكستين، الذي يعد أيضاً كبير مستشاري وزارة الخارجية الأميركية لأمن الطاقة، بحضور السفارة

الأميركية دوروثي شيا، وعرض معه مسار عملية التفاوض بشأن ترسيم الحدود البحرية مع الاحتلال الاسرائيلي والتوجهات المقبلة في هذا الملف، بحسب ما أفاد بيان الرئاسة اللبنانية.

البيان الصحفي الصادر عن الرئاسة اللبنانية في 20 تشرين الثاني/نوفمبر 2021  
pic.twitter.com/kvsapSwwUg

Lebanese Presidency (@LBpresidency) October 20, 2021 –

وقال المستشار الإعلامي في رئاسة الجمهورية رفيق شللا، لـ"العربي الجديد"، إن "الجانبين بحثا مسار المفاوضات والتوجهات في المرحلة المقبلة على صعيد ملف ترسيم الحدود البحرية"، مشيرًا إلى أن الرئيس عون أكد على ضرورة استئناف التفاوض غير المباشر وتعويله على دور الوسيط الأميركي الذي أكد أنه سيبدل جهده ويواصل اتصالاته بغية تكوين المعطيات الكاملة.

وعلى صعيد التغييرات التي ستطرأ على الوفد اللبناني المفاوضات بعد إحالة رئيسه العميد الركن الطيار بسام ياسين إلى التقاعد، أكد شللا أن "لا شيء رسميا بعد بخصوص هذا الموضوع".

من جهته، أشار رئيس مجلس النواب نبيه بري إلى أن لبنان أمام فرصة جديدة لاستئناف المفاوضات في الناقورة (جنوب لبنان)، مع المساعي الأميركية الجديدة التي تبذل في هذا الإطار.

وبحسب بيان المكتب الإعلامي لرئيس البرلمان، فإن بري أكد خلال لقائه الوسط الأميركي أهمية استثناء لبنان من ضوابط "قانون قيصر" في موضوعي استرجار الغاز المصري والكهرباء من الأردن، مشيرًا إلى أن هوكستين عكس للرئيس بري أجواء تفاؤلية بالتقدم إيجاباً حول هذين العنوانين، كما جرى التأكيد على اتفاق الإطار الذي أعلن في أكتوبر/تشرين الأول من العام الماضي.

وفي سياق آخر، وقع بري، اليوم، القانون الرامي إلى تعديل قانون انتخاب أعضاء مجلس النواب وأحاله إلى رئاسة مجلس الوزراء مع التأكيد على ضرورة استعجال إصداره، كما دعا إلى عقد اجتماع لهيئة مكتب مجلس النواب يوم الإثنين المقبل تمهيداً لعقد جلسة تشريعية.

وعلم "العربي الجديد" من مصدر عسكري مطلع على الملف، أن "الوفد اللبناني المفاوضات دخل في إجازة منذ فترة"، مشيرًا إلى أن "الملف وعلى الرغم من أهميته والمكاسب الاقتصادية للبنان منه، إلا أنه ليس

على رأس أولوية الاهتمامات عند المسؤولين السياسيين، وهو ما ينعكس سلباً على البلاد، ولا سيما أن العدو لا يضيع وقتاً أو فرصة لاستغلال الوضع المتوتر على الساحة اللبنانية الداخلية والصراعات المستمرة والمتجددة بينما هو يعتدي على حقوق لبنان النفطية وعلى مرأى من الجميع".

وكان الاحتلال الإسرائيلي قد منح أخيراً شركة "هالبرتون" الأميركية عقداً للتنقيب عن النفط في منطقة تقع على الحدود البحرية المتنازع عليها، ما دفع لبنان إلى الطلب من مجلس الأمن "التأكد من أن أعمال تقييم التنقيب لا تقع في منطقة متنازع عليها بين لبنان والاحتلال، بغية تجنب أي اعتداء على حقوق وسيادة لبنان، إضافة إلى منع أي أعمال تنقيب مستقبلية في المناطق المتنازع عليها تجنباً لخطوات قد تشكل تهديداً للسلم والأمن الدوليين".

ويقول الخبير في شؤون الطاقة الدولية رودي بارودي، لـ"العربي الجديد"، إن "أي بحث عبر الوسيط الأميركي في أي فكرة اقتصادية أو تجارية غير وارد قبل ترسيم الحدود بشكل محترف ورسمي، لكن في المقابل، يمكن الاتفاق مع شركة خاصة مستقلة لتنفيذ أعمال التنقيب في حال التثبت من وجود نפט أو غاز، وذلك كما حصل في حقل الخفجي المشترك بين الكويت والسعودية، على أن يأخذ كل طرف حصته". ويرى بارودي أنه "من المبكر الحديث عن أي خطوة طالما أن ترسيم الحدود البحرية لم ينجز"، مشيراً إلى أن "هناك حقوقاً للبنان يجب أن يحصل عليها"، مؤكداً أن "المطلوب اليوم تأمين الدعم الكامل للجيش اللبناني عند استئناف المفاوضات التي يجب أن تحكمها فقط الاتفاقيات الدولية واتفاقية الأمم المتحدة لقانون البحار والتي تصبّ في صالح لبنان وتعطيه حقه الكامل والعادل".

ويؤكد بارودي أن "الاجتهادات الدولية تعطي لبنان حقه، خصوصاً أن القرارات لا تقيم وزناً للجزر الصغيرة، ولا تعتبر قادرة على دفع أو إزاحة أي خط بحري واحد مقابل الخط الآخر، وبالتالي فإن الصخور والجزر الصغيرة لا تؤخذ بعين الاعتبار عند ترسيم الحدود، وهو ما يعطي لبنان مساحة هي من حقه ومعترف بها دولياً".

ويلفت الخبير الدولي إلى أن "لبنان عام 2010 اعتمد من أجل البدء بالترسيم 61 متراً في البحر بدءاً من رأس الناقورة جنوباً، أما العدو الإسرائيلي فقد اعتمد في العام الذي يليه 37 متراً في البحر"، مشيراً إلى أن الطرفين "أخطأ في البدء بالترسيم من خط بحري (أوف شور)، وعليهما اعتماد خط الناقورة البري الفاصل، وبالتالي فإن الطرفين مجبران على ترسيم الحدود وتحديد خطوط جديدة"، فيما أكد أن "الموقف الأميركي لا يمكنه إلا اقتراح خط عادل

ومنصف وتبعاً لقانون الأمم المتحدة للبحار، إذ لا يمكنه الالتفاف حوله".

ويرى بارودي أن "موقف لبنان قوي بحقوقه التي تحفظها له القوانين والاتفاقيات الدولية، بيد أنه ضعيف على مستوى الداخل نتيجة الصراع والمناكفات السياسية التي تحرم اللبنانيين من فرص كثيرة وثروات هي حق لهم، وهو ما حرّمهم سابقاً من خط الغاز العربي الذي كان من شأنه أن يحلّ أزمة الكهرباء".

ويشير إلى أن "المس" بالوفد اللبناني العسكري أو تغيير أعضائه سيكون بمثابة ضربة قوية تترد سلباً على موقف لبنان في المفاوضات وتلحق به خسائر جمّة بالنظر إلى أهمية ترسيم الحدود اقتصادياً". وما زال الرئيس اللبناني يرفض منذ إبريل/نيسان الماضي التوقيع على تعديل المرسوم الذي يصحح حدود لبنان البحرية ومن شأنه أن يعطي البلاد الحق بالتفاوض على نسبة من حقوقه من حقل كاريش الذي يستثمره الاحتلال الإسرائيلي.

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## Natural gas answer to energy crunch, transition, says GECF secretary-general



Gas Exporting Countries Forum (GECF) secretary-general Yury Sentyurin said the current energy crunch around the world and the intensifying climate change debate serve to highlight the serious need to embed natural gas as part of a long-term solution to energy market stability and transition.

He was addressing a session at the Russian Energy Week (REW) held in Moscow from October 13 to 15.

Joining the panel on 'International Energy Organisation Dialogue: Predicting the Development of Energy and Global Markets', Sentyurin stressed that "gas was, is, and will remain the most realistic option to attain the energy transition, spur economic growth and social progress." He said, "The long-term solution provided by natural gas is available in the GECF's flagship publication of Global Gas Outlook (GGO) 2050, which foresees natural gas becoming the primary energy mix of the world by 2050 and increasing its present share from 24% to 27%."

The GGO, featuring multiple contexts on gas' growth and role in the energy mix, is now underpinned by very strong analytical effort on new scenarios, such as the Energy Transition Scenario, and Hydrogen Scenario, to name a few. The latest findings will be launched in the 6th edition of the GECF Global Gas Outlook 2050 in February 2022.

"We are championing gas for post-Covid-19 recovery and achieving the UN Sustainable Development Goals. The gas industry is of course also looking at innovation to transform

this natural resource into a sustainable fuel, using such methods as green LNG, carbon capture, hydrogen, ammonia, and methane emissions reduction.”

“One of the most sensible, economically-viable way to achieve sustained energy market stability, inclusive economic growth and Sustainable Development Goals is to consider natural gas as a destination fuel,” Sentyurin told the panel. “Natural gas remains one of the global enablers for reducing emissions quickly, cost-effectively and steadfastly by replacing carbon-intensive fuels as well as backing up intermittent renewables” Addressing the panel, Mohamed Sanusi Barkindo, secretary-general, Opec, elaborated on Opec’s latest World Oil Outlook (WOO), whose 15th edition was unveiled two weeks ago.

“The projections show that nearly all sources of energy will grow over the next quarter of a century...Oil and gas together will provide nearly 53% of the world’s energy needs in 2045 – a little over 28% for oil and 24% for gas,” he said in his remarks.

“As an African, I know very well that we need to harness all the energy resources at our disposal, from the sun over our heads to the abundant fuels that lie beneath our feet, if we are to ease energy poverty and develop our continent’s economies.”

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## **La Cop26 di Glasgow: le linee guida per i Paesi del Mediterraneo**





Il noto esperto a livello internazionale in campo energetico Roudi Baroudi, pone in evidenza una riflessione in concomitanza con l'imminente arrivo della conferenza sul cambiamento climatico delle Nazioni Unite (COP26) che si terrà quest'anno a Glasgow.

Baroudi definisce questo appuntamento memorabile e storico in particolare per i paesi del bacino del Mar Mediterraneo, Italia compresa. Fa osservare che l'aumento delle temperature e la crisi climatica globale è in atto e gli eventi dell'estate 2021 ne sono la testimonianza reale.

Il fenomeno degli incendi, per esempio, si manifesta con dimensioni e intensità insolite rispetto al passato ed anche nel caso di attività dolosa l'aridità circostante e le alte temperature hanno favorito la propagazione violenta nelle aree colpite generando numerose morti, danni alle proprietà e distruzioni dei terreni agricoli coltivati. In casi come quello della Turchia seguiti da forti inondazioni dovute a piogge torrenziali dopo pochi giorni.

Questi fenomeni non sono più eventi sporadici localizzati in determinate aree, ma costituiscono una vera e propria

testimonianza della catastrofe climatica in atto.

Questo ci impone di moltiplicare gli sforzi e sperare di poter invertire la tendenza prima che raggiunga un punto di non ritorno. Se non andremo in questa direzione, continua Baroudi:” la nostra specie dovrà affrontare un futuro sempre più complesso con più incendi, innalzamento del livello del mare, accelerazione dell’acidificazione degli oceani, calo degli stock ittici, tempeste più violente, siccità più lunghe e intense, raccolti compromessi, milioni di rifugiati climatici e fame di massa”.

Svariati paesi del Mediterraneo, specialmente appartenenti ad Asia ed Africa hanno già situazioni complesse dal punto di vista territoriale per via della posizione geografica (Sud Italia incluso), inoltre i paesi con meno disponibilità economica fanno ancora molta fatica nella conversione ad impianti con minor impatto ambientale.

Nonostante questo scenario apocalittico, incalza Baroudi, non tutto è perduto. L’Unione europea ha compiuto progressi importanti rispetto alla maggior parte del resto del mondo e sta adottando delle politiche più stringenti sulle emissioni.

Anche gli Stati Uniti stanno intensificando i propri sforzi dopo quattro anni di cambio rotta sotto l’amministrazione Trump. In tutto il mondo, finalmente, si sta avendo maggiore consapevolezza del problema in maniera più trasversale dal pubblico al privato.

Alla COP26, i leader ed i referenti politici dei paesi partecipanti dovrebbero lavorare costruttivamente ed ascoltare scienziati ed attivisti che chiedono un’azione più rapida ed efficace, inclusa una maggiore assistenza finanziaria per aiutare i paesi meno fortunati a unirsi seriamente alla lotta per il cambiamento climatico.

I programmi che i paesi del Mediterraneo porteranno a Glasgow saranno cruciali perché, nonostante la situazione in atto, la maggior parte di questi stati ha un vantaggio territoriale:

ampi spazi e condizioni quasi ideali per le turbine eoliche offshore. Uno studio recente, che utilizza una varietà di tecnologie per elaborare dati previsionali, stima il potenziale combinato di energia eolica di tutti i 23 paesi euro mediterranei (in modo alquanto prudente) a quasi 1,5 milioni di megawatt. Si consideri che l'intera industria nucleare mondiale ha una capacità di circa 400.000 MW, ovvero meno di un terzo di quella che il Mediterraneo potrebbe produrre solamente con impianti eolici. Senza calcolare l'impiego di altre tecnologie: l'idrocinetica sia fluviale che marina (onde e maree), geotermica (on e offshore) e solare (200.000-300.000 MW).

Questa strategia darebbe una propulsione allo sviluppo di molti paesi che oggi hanno uno scarso accesso all'energia elettrica a prezzi accessibili, inoltre l'indotto relativo alle costruzioni degli impianti darebbe nuovi posti di lavoro oltre a molteplici benefici: la possibilità di sostituire i vecchi impianti di produzione più inquinanti, ridurre gradualmente l'importazione di carburanti fossile, rivendere nella rete l'eccesso di produzione energetica ed investire il ricavato in infrastrutture, politiche sociali o ulteriori impianti green.

Uno sviluppo omogeneo delle rinnovabili favorirebbe la transizione progressiva dai combustibili fossili, riducendo le emissioni di carbonio che causano il cambiamento climatico e quindi facendo gli interessi di tutti, ovunque.

Queste proiezioni positive non si avvereranno mai per osmosi. Molti paesi nel Mediterraneo hanno bisogno di assistenza finanziaria e tecnica per mettere in pratica i progetti di conversione. L'accordo di Parigi includeva impegni economici da parte degli stati più ricchi per finanziare i paesi più bisognosi, ma molti governi non hanno rispettato l'accordo. Questo è controproducente, proprio come la mancata distribuzione del vaccino contro il COVID ai paesi del Sud del mondo, un errore imperdonabile che non solo determina la morte di persone innocenti, ma crea anche terreno fertile per nuove

varianti del virus. Se la transizione verso un'energia più pulita creasse difficoltà alle popolazioni già svantaggiate, potrebbe venire a mancare il sostegno popolare verso questo percorso, con conseguenze terribili per tutti noi. Se lasciato incontrollato, il cambiamento climatico potrebbe provocare morte e distruzione ovunque creando flussi migratori ingestibili.

Roudi Baroudi conclude esortando la COP26 a produrre nuovi programmi di finanziamento da parte dei paesi ricchi verso quelli più poveri senza creare situazioni di assistenzialismo. Ci sono moltissime risorse a disposizione e c'è poco tempo per agire, quindi gli stati finanziatori non possono permettersi di sbagliare. I prestiti agevolati andranno messi a disposizione per i paesi più virtuosi che garantiranno la finalizzazione dei progetti. L'unico modo per farlo è articolare una strategia coerente per eseguire progetti rilevanti e fattibili con tempi e budget ben definiti. In particolare, i governi regionali devono dissipare i timori giustificati che, i fondi destinati ai progetti per le energie rinnovabili o ad altri strumenti di de carbonizzazione, andranno invece a riempire le tasche di funzionari locali corrotti.

Queste sono le linee guida che deve seguire quest'anno la conferenza di Glasgow. La lotta ai cambiamenti climatici è ampiamente considerata come la sfida più importante che la nostra specie abbia mai affrontato e la capacità della regione di proteggersi e di esercitare il proprio peso sarà in bilico alla COP26. I paesi che si presentano con piani ben sviluppati per progetti concreti avranno la strada spianata per varie forme di finanziamento. Coloro che non lo faranno saranno inevitabilmente tagliati fuori.

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# Saudi triumphs in oil market with comeback from the Covid crisis



Bloomberg Riyadh/London

When the Opec+ alliance of oil producers gathers next week, group leader Saudi Arabia can savour a moment of triumph. Eighteen months after slashing crude production during the pandemic, Riyadh is set to pump at almost pre-Covid levels of 9.8mn barrels a day this month as a recovering global economy clamours for energy supplies.

Furthermore, by bringing those shipments back slowly enough to avert a new surplus, Saudi Energy Minister Prince Abdulaziz bin Salman has revived crude prices to \$80 a barrel. That's swelled the kingdom's petroleum revenues to a three-year high, putting them on track for an even bigger payout in 2022.

"Opec+ has had a very good year," said Ben Luckock, co-head of oil trading at commodities merchant Trafigura Group. "They have delivered: they have managed to thread the needle."

That's a far cry from the tumult of last March, when the

plunge in fuel demand briefly pitched Organization of Petroleum Exporting Countries and its partners into a vicious fight over customers. Those bitter memories seem very distant as the 23-nation network – jointly led by the Saudis and Russia – prepares to meet on Monday.

If there's a threat to the delicate balance Opec+ has achieved, it's that the market could overheat and prices rise too high.

The alliance has signalled it will stick with its schedule of modest production increases by approving another 400,000 barrel-a-day increment for November. But the market has shifted since that road map was agreed in July.

The shortage of natural gas, which has sent prices to the equivalent of \$190 a barrel, is spurring a switch to oil products for heating and manufacturing, boosting overall demand. US oil production is still recovering from Hurricane Ida, which has knocked out a total of almost 35mn barrels after slamming the Gulf of Mexico a month ago – equivalent to almost two full months of Opec+ supply increases.

Anxiety among key consuming nations is palpable, especially if they end up experiencing a cold winter. China has instructed top energy firms to secure supplies at any cost. US President Joe Biden's administration says it has reminded Opec of the need to support the recovery, and National Security Adviser Jake Sullivan met with Saudi Crown Prince Mohamed bin Salman last week.

"Opec will come under increasingly intense pressure from Washington to open the production release valve and cap the upside" in prices, said Helima Croft, chief commodities strategist at RBC Capital Markets. "An increase beyond the 400,000 barrels a day is a live option for Monday."

That's a view shared by the world's largest independent trader, Vitol Group. Not only is demand being boosted by the shortage of natural gas, the supply outlook is tightening as prospects diminish for a swift deal to revive Iranian exports, said Chris Bake, the company's head of origination.

Tehran and Washington have been involved in negotiations to

reactivate a nuclear accord – and lift US sanctions on Iranian oil shipments – but the talks have so far made little headway. As a result, roughly 1.4mn barrels a day of Iranian crude that traders thought might be entering the market in late 2021 remains absent.

Some Opec+ delegates say privately that the increase approved at Monday's meeting could be bigger than the scheduled 400,000 barrels a day. Scenarios for larger hikes have been considered, said one official.

Saudi Arabia doesn't want to see prices spiral toward \$100 a barrel, as excessive fuel costs would curtail demand and stimulate a revival in US shale output, according to people familiar with the kingdom's thinking.

A spike in crude prices – just weeks before world leaders gather in Glasgow, Scotland, for a fresh round of climate talks intended to shift the world away from fossil fuels – could boost support for the transition to renewable energy.

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## **The promise of 'green' hydrogen**





By Thomas Koch Blank/ Stockholm

While we already have mature technologies that can replace fossil fuels in many parts of our economy, there are areas where eliminating carbon pollution will be much more difficult. Steel, shipping, aviation, and trucking, for example, account for a combined 40% of our global carbon footprint and are on track to consume two times the remaining carbon budget for staying below 1.5C of warming.

Fortunately, “green” hydrogen – H<sub>2</sub> produced through electrolysis using renewable energy – holds enormous promise for these sectors. Through various applications, this tiny molecule can provide the heat, reduction properties, fuel, and other services needed to replace fossil fuels. In fact, given the technical challenge of getting these “hard-to-abate” sectors to a state of carbon neutrality, hitting 2050 net-zero targets without it would be virtually impossible.

H<sub>2</sub> uptake can serve other objectives beyond decarbonisation. For example, hydrogen’s ability to substitute for natural gas in many applications allows for a degree of energy independence and reduced reliance on liquefied natural gas or pipeline imports from Russia. And while renewables like solar and wind are limited by the extent of electrical grids,



hydrogen can be transported by pipeline or potentially by ship. That means it could become an exportable renewable-energy source, eventually replacing petroleum as the main global energy commodity.

H2 uptake is starting from vastly differing points, depending on the market. In Europe and Southeast Asia, political and market incentives are already fully aligned for the deployment of H2 infrastructure. But in large oil- and gas-exporting economies, the incentives are often conflicting. Notably, there is significant misalignment in the United States, where natural gas fulfils all the political priorities that hydrogen can provide for other markets.

As a crucial element in achieving 2050 net-zero targets, hydrogen production, storage, and transport represents a multi-trillion-dollar opportunity, not only for energy incumbents but also for investors. While hydrogen is currently more expensive (per unit of energy delivered) than competing options such as fossil fuels, the scaling up of electrolyser production is driving down costs. Within the next decade, we can expect H2 to reach break-even points with fossil fuels across different applications, after which hydrogen uptake will bring cost savings.

Green hydrogen is particularly attractive for developing economies. There is a strong geographical overlap between countries and regions with the lowest production cost for renewable energy and those with lower per capita GDP. These countries thus could secure a global competitive advantage by becoming hydrogen producers and exporters. Doing so would also help them attract zero-carbon heavy industry, such as fertiliser manufacturing or hydrogen-based direct reduction steelmaking. And, of course, the development of these sectors would lead to significant job creation.

H2 is also attractive for wealthy industrialised countries, which currently lead the world in the manufacture of hydrogen electrolysers. However, if the recent history of the photovoltaic (solar panel) industry is any guide, wealthy countries may need stronger industrial policies to ensure that

production does not migrate to China and other regions. There is more work to do before hydrogen can realise its full decarbonisation potential. As matters stand, green hydrogen represents a very small portion of existing hydrogen production. Instead, most hydrogen is “gray,” because it is made using fossil fuels through a steam methane reforming (SMR) process. Though there is potential to capture and store some of the associated carbon dioxide emissions to make a slightly cleaner fossil-based “blue” hydrogen, this option would not be emissions-free. H<sub>2</sub> therefore has a complex CO<sub>2</sub> footprint, for now.

Furthermore, for hydrogen to deliver on its promise, the decarbonisation of electric grids must happen in parallel. But as with electric vehicles (EVs), we cannot wait for a 100% clean grid to begin deploying electrolysers; we must start now.

This is not as financially risky as it sounds. There will undeniably be a threshold where green hydrogen becomes the lowest-cost source of hydrogen generally. Notably, the US Department of Energy’s recently announced goal of reducing the cost of “clean hydrogen” to \$1 per kilogram is nearly impossible to achieve with hydrogen produced through the SMR process at sustainable price levels for natural gas. That means US policy is already aligned behind green hydrogen.

Nonetheless, using green hydrogen to decarbonise heavy industry will demand a truly awesome amount of electricity. Producing the necessary volume of hydrogen would almost double total current global electricity generation. The only way to meet this demand is to build renewable energy even faster.

That, in turn, will lead to critical infrastructure-design questions, such as whether to prioritise H<sub>2</sub> pipelines or power lines. And the growth of this sector will have many regulatory implications. To ensure a rapid build-out of hydrogen infrastructure, it will be important to enable monetisation, create rate structures to encourage capital-expenditure deferral, and provide system-wide planning across infrastructure types.

Equally, a move to H2 will accelerate the obsolescence of many fossil fuel-based assets. For these large volumes of stranded assets not to produce negative side effects, they will need to be repurposed or helped into early retirement with various financial incentives.

One high-potential area for repurposing infrastructure is in natural-gas pipeline networks, which, in some cases, can be retrofitted to allow for hydrogen transport. Some thermal power plants can also potentially be repurposed; but, here, the end-to-end efficiency of power-to-hydrogen-to-power is low, so the profitable use cases are limited. For the steel industry, the picture is grimmer, as existing blast furnace capacity may need to be replaced with direct reduction. Similarly, gasoline and diesel fuelling infrastructure will need to be replaced. But the future of such infrastructure is already in doubt, owing to the growing market for battery EVs. Hydrogen brings enormous opportunities but also a daunting scaling challenge. Globally, the industry currently has the capacity to produce only around one gigawatt of hydrogen electrolysers each year, whereas, according to the International Energy Agency's analysis on what a 1.5C pathway requires, green hydrogen production will need to grow 1,000-fold from today to 2030.

There are actions that can and must be taken to meet this challenge. First, we need policies to ensure stable demand at scale, so that electrolysis makers can leap-frog into industrialised manufacturing. Second, governments must provide subsidies to cover the initial "green premium" until learning-curve effects take over. And, finally, we must address the tension between current asset locations and the places with the lowest-cost clean-sheet footprint for decarbonised industries.

Backed by direct and indirect political priorities, hydrogen markets have already gained momentum and crossed the point of no return. As such, they are quickly bringing cleaner industry and a decarbonised economy within striking distance. – Project Syndicate

- Thomas Koch Blank is Senior Principal of Breakthrough Technologies at RMI.

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## **Column: Europe's rising energy prices will force factory closures: Kemp**



LONDON, Oct 1 (Reuters) – Europe's increasingly expensive gas and electricity prices are sending a strong signal to manufacturers to consider temporary plant closures and to home and office owners to turn down thermostats to conserve fuel this winter.

Front-month gas futures are now more than six times more expensive than at this point last year, as the region struggles to import enough gas to refill its depleted storage

ahead of the winter peak heating season.

Regional storage sites are still only 74.7% full, the lowest for more than a decade, and compared with a pre-pandemic five-year seasonal average of 87.4%, according to Gas Infrastructure Europe.

In the short term, Europe is unlikely to attract significantly more gas because production is fixed and there is already a worldwide shortage, which is also pushing up prices in Northeast Asia and North America.

Escalating futures prices signal traders think lower consumption will be necessary to prevent stocks eroding to critically low levels and risking fuel supplies running out this winter (<https://tmsnrt.rs/2YkKwPc>).

Rising prices will find the path of least-resistance to cut consumption – with the most price-sensitive and least politically sensitive customers forced to reduce gas and electricity use first and most deeply.

In theory, the crisis could be resolved easily by homes, offices, schools and factories turning down thermostats by 0.5-1.0 degrees this winter; the result would be an enormous fuel saving with only a minimal impact on comfort.

In practice, policymakers will be reluctant to call for thermostat reductions since it implies a policy failure and has unpopular associations with one-term U.S. President Jimmy Carter.

European governments are instead trying to shield residential and small business customers from the full force of increasing energy prices on utility bills through price caps, rebates and tax cuts.

But if the crisis continues to worsen, and especially if the winter proves colder than normal, shielding residential customers could prove unsustainable and calls for energy

conservation may become inevitable.

In the meantime, policymakers are likely to explore other fuel saving measures, including reduced street-lighting and extended closures of government buildings, offices and schools over the mid-winter holiday period.

More significant savings could be made if manufacturers close their operations temporarily, cutting consumption and potentially reselling energy into the spot market if they have already contracted to buy it.

Steeply rising energy costs will force many manufacturers to reassess their production plans this winter, especially those with energy-intensive processes and/or limited ability to raise the price of their own products.

For manufacturers, short closures have the double benefit of cutting energy costs and also driving up the price of their products, helping protect margins against rising power and gas prices.

Once enough credible plant closures and other energy-saving measures are announced futures prices are likely to moderate.

Plant closures would, however, worsen problems throughout the supply chain and intensify the upward pressure on inflation, as well as disrupting long-standing customer relationships.

But unless the winter proves mild, price rises and physical shortages of gas, coal and electricity are unlikely to remain confined to energy markets, rippling out to the rest of the economy as is already happening in China.

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# How to Avert a Global Climate Catastrophe



Sep 23, 2021 10MAR RAZZAZ

Current global efforts to raise awareness and nudge and shame policymakers are necessary but not sufficient to prevent an existential climate crisis. Addressing the problem more effectively requires international governance arrangements that amount to a new social contract on global public goods.

AMMAN – The hottest day on record in Jordan since 1960 was a staggering 49.3° Celsius, (120.7° Fahrenheit) in July 2018, one month after I became prime minister. Jordan is not unique: heat waves have been causing record-high temperatures in countries from Canada to Australia in recent years. The effects of climate change (including increased frequency and severity of floods, hurricanes, and droughts), while felt locally, demand a global response, which should set binding targets that take into account countries' contributions to the problem and to the solution.

Jordan has been actively pursuing policies and programs to

reduce carbon-dioxide emissions. Over the past 15 years, Jordan's annual emissions per capita fell from 3.5 tons to 2.5 tons. But Jordan, like the vast majority of countries, accounts for a negligible share of global CO<sub>2</sub> emissions – just 0.04% annually. So even if Jordan was to turn its whole economy green overnight, it would hardly make a dent. This does not absolve us of responsibility, but we cannot overlook the fact that emissions are concentrated: the top 20 emitters account for almost 80% of the annual total, with the United States and China alone accounting for 38%.

In many countries, the ramifications of climate change for water supply have been staggering. In the case of Jordan, it made an already tight constraint much more acute. Rainfall was previously the savior for rural communities that engaged in seasonal rainfed agriculture and herding on semi-arid land. Over the last decade, however, a steady decline in average annual rainfall and an increase in the frequency and severity of droughts have undermined these modes of agriculture, deepening the socioeconomic divide between rural and urban areas.

Jordan is by no means unique: the World Health Organization estimates that half of the world's population will be living in water-stressed areas by 2025. In essence, what was previously a regional challenge has now become a serious global governance issue with environmental, political, and economic ramifications.

More broadly, other manifestations of climate change, and the lack of an internationally coordinated response to them – not to mention to additional threats such as the COVID-19 pandemic – suggest that something is seriously wrong at the global level. According to the recent sober assessment by the United Nations Intergovernmental Panel on Climate Change, the world will not meet the 2015 Paris climate agreement goal of limiting global warming to well below 2°C unless it makes huge



additional cuts in CO<sub>2</sub> emissions.

Quite simply, the results of the world's climate efforts are dangerously inadequate. According to the Climate Action Tracker, current policies put the world on course to be an alarming 2.7-3.1°C warmer by 2100, relative to pre-industrial levels. Yes, many emerging green technologies are promising and should be supported. But in the absence of a global approach, these innovations risk merely redistributing the impact of climate change among countries and regions.

Raising awareness and nudging (and shaming) policymakers is necessary, but not sufficient to avert what UN Secretary-General António Guterres has referred to as a "climate catastrophe." Climate-change mitigation must be pursued as a global public good. The problem is that such goods are plagued by collective-action problems, because the costs tend to be spatially and temporally concentrated while the benefits are diffuse. These difficulties can be tackled only by global governance structures that reduce the cost of collective action, internalize externalities, and counter short-term biases in decision-making.

To address climate change more effectively, we need global governance arrangements that amount to a new global social contract. Existing international governance structures can serve as a foundation for these new institutions, but will need to be amended and supplemented to address specific problems related to public goods and collective action.

For starters, we need a governance structure whose jurisdiction is limited to global public goods that cannot be provided adequately at the national level. Nation-states would be free to opt in and opt out, with the benefits of opting in outweighing those of opting out. Decisions would be taken on a majoritarian basis, with no single country having veto power. There would also be an appeals and adjudication process that allows decisions to be challenged.

Second, a custodial entity would keep track of global natural wealth accounts to address intergenerational equity issues. This entity should be able to place items on the global governance institution's agenda and to appeal decisions.

Lastly, a regime of incentives and disincentives would aim to preserve nature and biodiversity and tax those who consume it, taking wealth and income disparities across countries into account.

Establishing global governance mechanisms that focus on the public-goods and collective-action challenges of climate change will not be easy. Concerns and fears related to a "democratic deficit" and the need to protect national sovereignty are legitimate, and cannot simply be brushed aside.

Nevertheless, we are not starting from scratch. The World Trade Organization provides an example of a strong and successful global governance structure with binding rules. It is thus both ironic and sad that the WTO has failed to incorporate trade-related environmental and human-rights issues into its regulations in order to ensure a level international playing field. After all, with its sanctioning authority, the WTO is best positioned to link issues such as greenhouse-gas emissions and labor rights to trade rules.

Jordan cannot successfully tackle today's global climate challenges on its own. Nor can the Middle East, owing to regional conflicts and rivalries. Now that the world has become a village, the task facing the region is instead to agree with other countries – our fellow villagers – on how to mitigate our own excesses and avert an existential threat. This can be achieved only by finding suitable ways to hold ourselves and each other accountable. The solution lies in establishing a global governance system that is based on the nation-state but has the capacity to sanction harmful behavior.

Some might regard the idea of creating such a structure as far-fetched. But unless we do, there is scant hope of preventing the climate crisis – already apparent in Jordan and around the world – from continuing to destroy countless lives and livelihoods.



## **OMAR RAZZAZ**

Writing for PS since 2021

1 Commentary

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# **China's power crunch spreads, shutting plants, dimming growth outlook**



BEIJING: Widening power shortages in China have halted production at numerous factories including many supplying Apple and Tesla, while some shops in the northeast operated by candlelight and malls shut early as the economic toll of the squeeze mounted.

China is in the grip of a power crunch as a shortage of coal supplies, toughening emissions standards and strong demand from manufacturers and industry have pushed coal prices to record highs and triggered widespread curbs on usage.

Rationing has been implemented during peak hours in many parts of northeastern China since last week, and residents of cities including Changchun said cuts were occurring sooner and lasting for longer, state media reported.

On Monday, State Grid Corp pledged to ensure basic power supply and avoid electricity cuts.

The power crunch has hurt production in industries across several regions of China and is dragging on the country's economic growth outlook, analysts said.

The impact on homes and non-industrial users comes as night-

time temperatures slip to near-freezing in China's northernmost cities. The National Energy Administration (NEA) has told coal and natural gas firms to ensure sufficient energy supplies to keep homes warm during winter.

Liaoning province said power generation had declined significantly since July, and the supply gap widened to a "severe level" last week. It expanded power cuts from industrial firms to residential areas last week.

The city of Huludao told residents not to use high energy-consuming electronics like water heaters and microwave ovens during peak periods, and a resident of Harbin city in Heilongjiang province told Reuters that many shopping malls were closing earlier than usual at 4pm (0800 GMT).

Given the current power situation "the orderly use of electricity in Heilongjiang will continue for a period of time," CCTV quoted the provincial economic planner as saying.

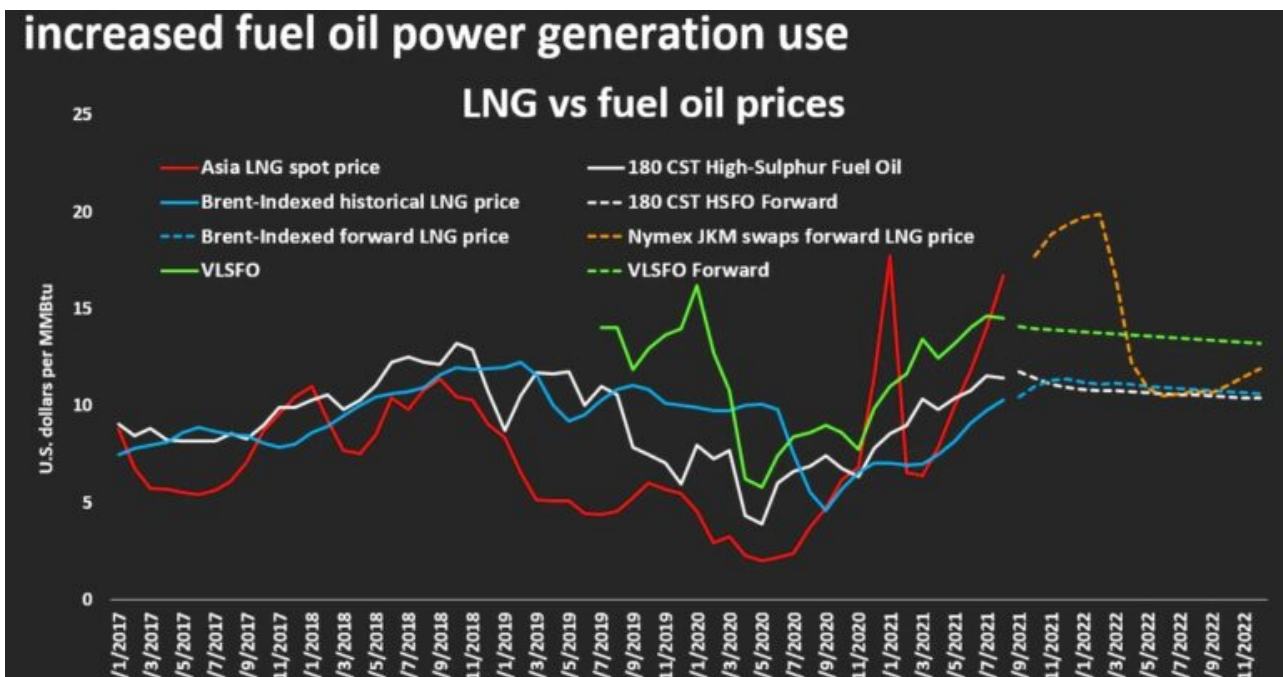
The power squeeze is unnerving Chinese stock markets at a time when the world's second-largest economy is already showing signs of slowing. China's economy is grappling with curbs on the property and tech sectors and concerns around the future of cash-strapped real estate giant China Evergrande.

Tight coal supplies, due in part to a pickup in industrial activity as the economy recovered from the pandemic, and toughening emission standards have driven the power shortages across the country.

China has vowed to cut energy intensity – the amount of energy consumed per unit of economic growth – by around 3% in 2021 to meet its climate goals. Provincial authorities have also stepped up the enforcement of emissions curbs in recent months after only 10 of 30 mainland regions managed to achieve their energy goals in the first half of the year.

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# GLOBAL LNG-LNG prices continue to soar as buying ahead of winter starts



- \* Bangladesh pays nearly \$30/mmBtu for prompt cargo – sources
- \* China and Turkey seek cargoes for winter
- \* Cameron LNG says Louisiana plant unit to return online this week

SINGAPORE, Sept 24 (Reuters) – Asian liquefied natural gas (LNG) prices surged by about 10% this week as demand continues to rise in the region despite higher prices and amid a supply crunch.

The average LNG price for November delivery into Northeast Asia LNG-AS was estimated at about \$26.50 to \$27 per metric million British thermal units (mmBtu), up at least \$2 from the previous week, industry sources said.

“The post-COVID recovery in some places has been fast, which is pushing up demand, while there are some supply issues in several places, which is causing a crunch,” a Singapore-based trader said, adding that prices are expected to rise even higher during winter when demand for heating peaks.

Bangladesh, for instance, bought a cargo for delivery in late September from Vitol at \$29.89 per mmBtu, the highest the country has paid for the super-chilled fuel, three industry sources said.

It did not award a separate tender seeking a cargo for October delivery as the offer was at around \$35, two other sources said. Instead, it will issue two tenders next week to buy two cargoes for delivery in October, a third source said.

Demand from China was also firm with Unipecc Singapore, the trading arm of Sinopec, seeking 11 cargoes for delivery in winter while Beijing Gas and Guangzhou gas also sought a cargo each for delivery in October and November, traders said.

Turkish state energy company Botas is also seeking 20 cargoes for delivery in winter, while Thailand’s Egat was seeking two cargoes for delivery in October, they added.

Some spot cargoes were offered in the market from Angola, Australia, Russia and Indonesia from October to January, but lower shipments from Egypt and Malaysia were supporting prices, traders said.

Cameron LNG in the U.S. said on Wednesday the liquefaction train shut for maintenance at its Louisiana export plant was expected to return later this week, which could add some supply. (Reporting by Jessica Jaganathan. Editing by David Evans)

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