Economics needs a climate revolution

By Tom Brookes And Gernot Wagner/ Brussels/New York

• There is no excuse for continuing to adhere to an intellectual paradigm that has served us so badly for so long

Nowhere are the limitations of neoclassical economic thinking – the DNA of economics as it is currently taught and practised – more apparent than in the face of the climate crisis. While there are fresh ideas and models emerging, the old orthodoxy remains deeply entrenched. Change cannot come fast enough.

The economics discipline has failed to understand the climate crisis – let alone provide effective policy solutions for it – because most economists tend to divide problems into small, manageable pieces. Rational people, they are wont to say, think at the margin. What matters is not the average or totality of one's actions but rather the very next step, weighed against the immediate alternatives.

Such thinking is indeed rational for small discrete problems. Compartmentalisation is necessary for managing competing

demands on one’s time and attention. But marginal thinking is inadequate for an all-consuming problem touching every aspect of society.

Economists also tend to equate rationality with precision. The discipline’s power over public discourse and policymaking lies in its implicit claim that those who cannot compute precise benefits and costs are somehow irrational. This allows economists – and their models – to ignore pervasive climate risks and uncertainties, including the possibility of climatic tipping points and societal responses to them. And when one considers economists’ fixation with equilibrium models, the mismatch between the climate challenge and the discipline’s current tools becomes too glaring to ignore.

Yes, a return to equilibrium – getting “back to normal” – is an all-too-human preference. But it is precisely the opposite of what is needed – rapidly phasing out fossil fuels – to stabilise the world’s climate.

These limitations are reflected in benefit-cost analyses of cutting emissions of carbon dioxide and other greenhouse gases. The traditional thinking suggests a go-slow path for cutting CO2. The logic seems compelling: the cost of damage caused by climate change, after all, is incurred in the future, while the costs of climate action occur today. The Nobel prize-winning verdict is that we should delay necessary investment in a low-carbon economy to avoid hurting the current high-carbon economy.

To be clear, a lot of new thinking has gone into showing that even this conventional logic would call for significantly more climate action now, because the costs are often overestimated while the potential (even if uncertain) benefits are underestimated. The young researchers advancing this work must walk a near-impossible tightrope, because they cannot publish what they believe to be their best work (based on the most defensible assumptions) without invoking the outmoded neoclassical model to demonstrate the validity of new ideas.

The very structure of academic economics all but guarantees that marginal thinking continues to dominate. The most

effective way to introduce new ideas into the peer-reviewed academic literature is to follow something akin to an 80/20-rule: stick to the established script for the most part; but try to push the envelope by probing one dubious assumption at a time. Needless to say, this makes it extremely difficult to change the overall frame of reference, even when those who helped establish the standard view are looking well beyond it themselves.

Consider the case of Kenneth J Arrow, who shared a Nobel Prize in Economic Sciences in 1972 for showing how marginal actions taken by self-interested individuals can improve societal welfare. That pioneering work cemented economists' equilibrium thinking. But Arrow lived for another 45 years, and he spent that time moving past his earlier work. In the 1980s, for example, he was instrumental in founding the Santa Fe Institute, which is dedicated to what has since become known as complexity science – an attempt to move beyond the equilibrium mindset he had helped establish.

Because equilibrium thinking underpins the traditional climate-economic models that were developed in the 1990s, these models assume that there are tradeoffs between climate action and economic growth. They imagine a world where the economy simply glides along a Panglossian path of progress. Climate policy might still be worthwhile, but only if we are willing to accept costs that will throw the economy off its chosen path.

Against the backdrop of this traditional view, recent pronouncements by the International Monetary Fund and the International Energy Agency are nothing short of revolutionary. Both institutions have now concluded that ambitious climate action leads to higher growth and more jobs even in the near term.

The logic is straightforward: climate policies create many more jobs in clean-energy sectors than are lost in fossil-fuel sectors, reminding us that investment is the flipside of cost. That is why the proposal for a $2 trillion infrastructure package in the United States could be expected to spur higher

net economic activity and employment. Perhaps more surprising is the finding that carbon pricing alone appears to reduce emissions without hurting jobs or overall economic growth. The problem with carbon taxes or emissions trading is that real-world policies are not reducing emissions fast enough and therefore will need to be buttressed by regulation.

There is no excuse for continuing to adhere to an intellectual paradigm that has served us so badly for so long. The standard models have been used to reject policies that would have helped turn the tide many years ago, back when the climate crisis still could have been addressed with marginal changes to the existing economic system. Now, we no longer have the luxury of being able to settle for incremental change.

The good news is that rapid change is happening on the political front, owing not least to the shrinking cost of climate action. The bad news is that the framework of neoclassical economics is still blocking progress. The discipline is long overdue for its own tipping point towards new modes of thinking commensurate with the climate challenge. – Project Syndicate

• *Tom Brookes is Executive Director of Strategic Communications at the European Climate Foundation. Gernot Wagner is Clinical Associate Professor of Environmental Studies at New York University.*

GREECE-TURKEY: ENERGY AS A MECHANISM FOR COOPERATION

“Climate crisis gives Greece and Turkey opportunity for ‘historic compromises”

By: Roudi Baroudi – Washington D.C. 23 June 2021
Greece and Turkey have one of the world’s most complicated relationships. We all know the history, although many of the details are contested by dueling narratives. However we got here, some indisputable facts are clear. Two former long-time enemies were thrown together as allies by the Cold War, when both of them joined NATO, but have generally remained at odds over a long list of issues.

The essential lesson from this simple synopsis is that Greece and Turkey joined the Atlantic alliance for the same core reason: each viewed their feud as a lesser threat than the one posed by the Soviet Union, which was potentially existential. At the end of the day, and despite both age-old resentments and ongoing tensions, successive governments – including military juntas – of both countries abided by the same rational analysis for decades.

Both are still NATO members, but the Soviet threat is no more, replaced only partially by a far weaker Russia. To some extent, this has led to a resumption of Greco-Turkish friction, especially over their maritime boundaries in the Mediterranean. And this time, there is much more than either

pride or territory at stake. Since huge amounts of offshore natural gas have been discovered in several parts of the Eastern Med, the border dispute may well involve resources that could confer historic advantages on whoever controls them.

Once again, these sound like rational calculations. But are they really? I will allow that large reserves of natural gas have the potential to help any country secure a better future for its people. The savings and revenues would allow unprecedented investments in education, healthcare, transport, and other infrastructure, creating more and better jobs and lifting countless people out of poverty. Even the transit fees from hosting an international pipeline can provide significant income, and the more territory a pipeline crosses, the higher the fees.

But ladies and gentlemen, I would submit that, as was the case during the Cold War, both Greece and Turkey would do well to take fuller account of larger – in fact, much, much larger – considerations. And all of them have to do with climate change. This challenge constitutes a mortal threat, not only to Greeks and Turks, but also to human civilization itself. And unlike the Soviet Union, this is not a politico-military power that can be deterred, mollified, or reasoned with. Nor can we wait it out and hope that, like the USSR, climate change will be torn apart by its own flaws.
No, we will only save our planet by working together to undo the damage we have done by pumping endless streams of carbon into the atmosphere. We can only do that by drastically reducing emissions, and that can only be accomplished by transitioning to renewables and cleaner, greener fuels. And like it or not, as major Mediterranean powers, Greece and Turkey have enormous roles to play in this process – and therefore enormous responsibilities. As in NATO, both will be expected to pull their respective weights.

As a result of all this, Greece and Turkey once again face a

common and potentially existential threat. Energy is a crucial consideration in combating this threat, but the acreage that matters most in the long term is no longer on the seafloor. Instead, it is on the surface, where offshore wind and solar parks figure to provide much of the electricity required to reduce, and eventually end, reliance on hydrocarbons.
The sea will abet decarbonization efforts in other ways, too, by hosting multiple clean energy activities and technologies that help reach the Paris Agreement goal of "Net Zero" carbon emissions by 2050. The options include wave, rain, and tidal power; undersea geothermal; and, yes, natural gas, which is cleaner than other fossil fuels and can be expected to persist for a considerable time as a transition fuel. In addition, no coastal country can ignore the potential of "Blue Carbon": if we restore and maintain the health of coastal and marine ecosystems, they will naturally remove more and more carbon from the atmosphere.

But here is the thing. Implementation of offshore energy projects will be slowed, or even indefinitely postponed, if Greece and Turkey continue on their current course. Even if they agree to reduce tensions but fail to settle or suspend their differences, the uncertainty will steer many investors to less troubled waters. By contrast, if they find a way to truly put the past behind them, both countries' decarbonization efforts will be vastly more attractive. As a result of an earlier and stronger start, they will also be more effective – exponentially so if they take the next step and actively cooperate, especially on maritime issues.

The sea is a wondrous place filled with many things we need, many we simply love, and others that we have yet to discover. It is also, however, a veritable and pitiless force of nature: what it cannot violently destroy in an instant, it will inevitably erode, undermine, and dissolve over time. We now have technologies to make far more – and far more responsible – use of the sea than ever before, but its very nature makes

most undertakings more difficult and potentially dangerous than on land. And as any sailor knows, the best tools we have to predict, avoid, and/or overcome whatever the sea throws at us are information and cooperation.

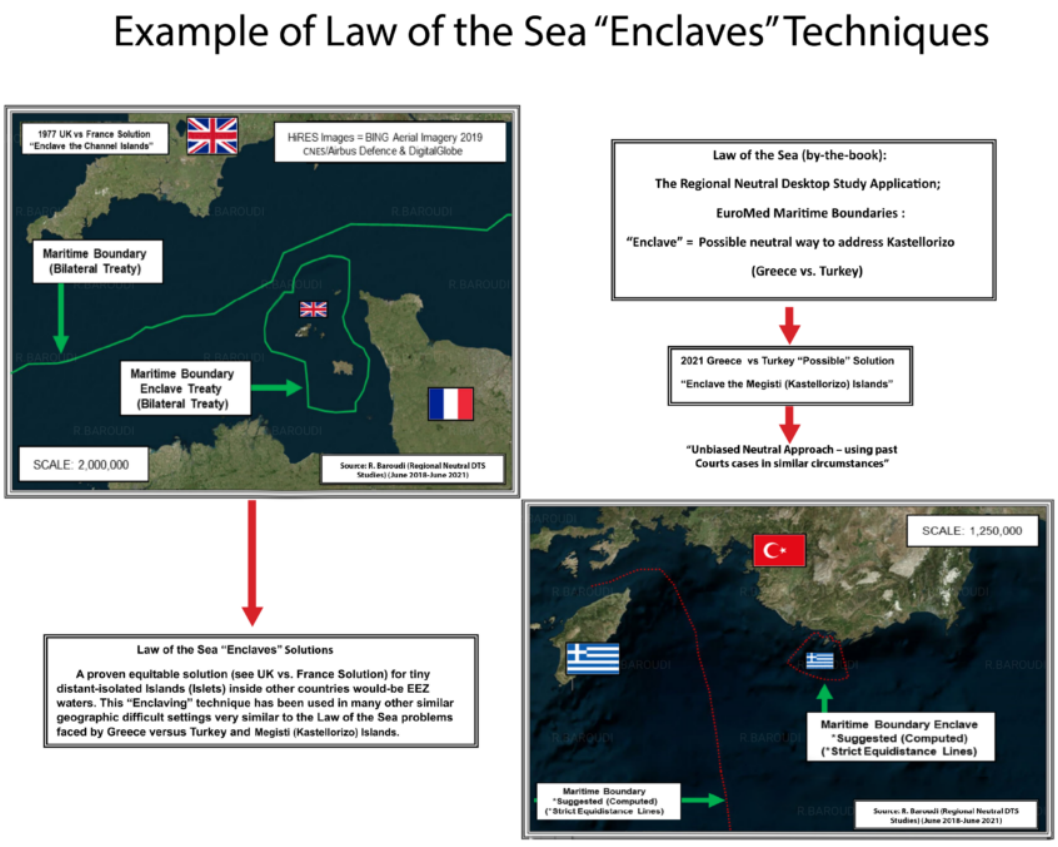
As neighbors in this shared space and de facto partners in the campaign to reduce emissions, Greece and Turkey could maximize the return on their efforts, both individual and combined, by working together. Given the importance of information and the rate at which our ability to gather it is growing due to technology, the natural place to start would be comprehensive data-sharing. For almost anything built, installed, and/or operated at sea, advance knowledge of weather conditions, tides, currents, water temperatures, salinity levels, etc., can be crucial for planning, performance, and the protection of both human beings and the environment. Wind and solar parks are no exceptions, and neither are numerous other activities in the Blue Economy, including maritime transport, aquaculture, conventional fisheries, tourism, seabed mining, and bio-prospecting.

In addition to activating commercial, efficiency, safety, and environmental gains, cooperation in these fields would also help build trust, but operational coordination and regulatory harmonization would go even further. In the best-case scenario, Greece and Turkey would both reap significant benefits by expanding into joint compliance and enforcement work, streamlining cross-border trade and investment, easing the migrant crisis, and addressing numerous other issues of mutual concern.

To get there, both Athens and Ankara need to take strategic decisions which, one way or another, insulate their present and future relationship against all extraneous considerations. And more than one clock is ticking. In addition to the 2050 target date for Net Zero carbon, an even more pressing deadline attaches to the region’s natural gas prospects. In a report for consideration during the UN Climate Conference, COP

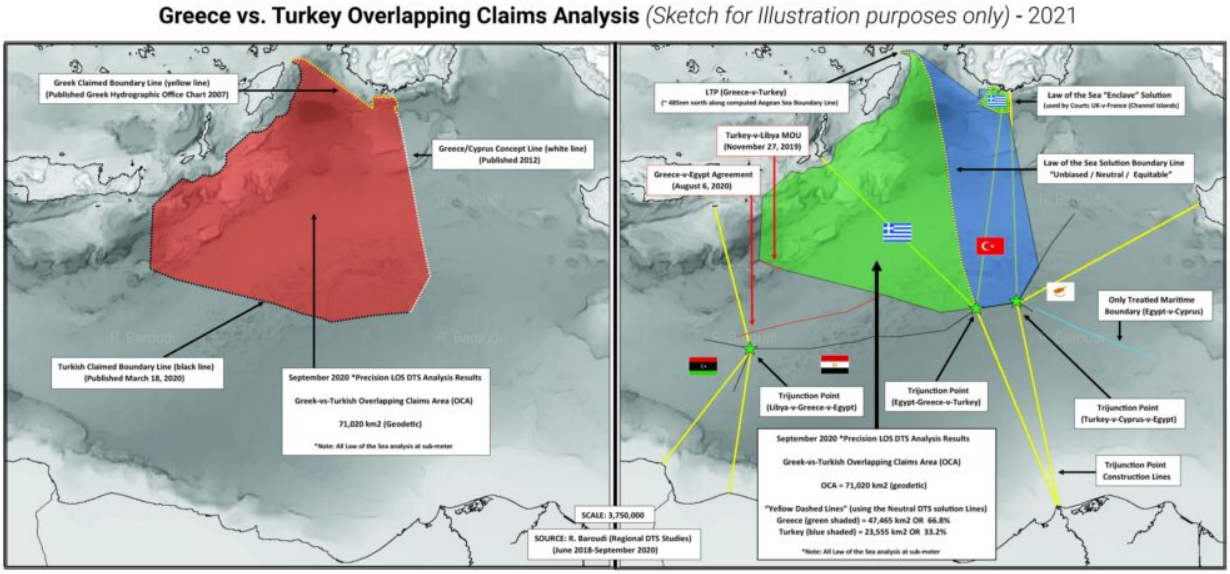
26, at Glasgow in November, scientists have recommended that if we are to meet the 2050 goal, development of new oil and gas fields should not be permitted beyond the end of this year. It is too early know whether that deadline will be adopted, but the writing is on the wall: apart from those that have already started – Egypt, Israel, and to some extent Cyprus – if East Med countries want to profit from their offshore hydrocarbons, they need to make meaningful progress very soon.

For several countries in the region, the primary obstacle is that most of its maritime boundaries remain in dispute or otherwise unresolved, so their claimed Exclusive Economic Zones overlap. With Greece and Turkey, the overlap is considerable.



But even this obstacle can be surmounted if there are sufficient amounts of both goodwill and self-interest. Both Greece and Turkey need to make the most of the Blue Economy, but neither will realize its full potential unless and until

it helps the other do the same. The UN Convention on the Law of the Sea, or UNCLOS, lays down a comprehensive assortment of legal and scientific standards for the fair and equitable drawing of borders at sea, and these apply to both member and non-member states. Whatever mechanism the parties use to settle their boundary dispute, whether it's direct negotiations, an international court, or some form of arbitrations, the same rules apply.



Ideally, Greece and Turkey would mount an all-out effort to recognize the relevant limits of their respective EEZs. It may be too late to succeed before a moratorium on new gas development is declared, but even if that is the case, they will still need in certain areas EEZ clarity to maximize both their offshore renewables and the non-energy components of their Blue Economy industries. In addition, they also have the option of circumventing the EEZ issue, allowing them to develop subsea gasfields and share the proceeds, while temporarily putting their territorial dispute in abeyance. Even if that fails too, the mere attempt might improve relations, establishing a basis for the cooperation described above.

Previous attempts at reconciliation have always fallen short or been derailed, but there is reason to hope that the time is

right for a new effort, and that some of the key players are in the right frame of mind. Last week's NATO summit, for instance, saw US President Joe Biden hit very different notes than his predecessor, Donald Trump, by stressing the alliance's potential to influence a wide variety of geopolitical issues. His meetings on the sidelines of the summit included one with his Turkish counterpart, Recep Tayyip Erdogan, who later described their conversation as having opened a "new era" of constructive ties. If that turns out to be true and Ankara really wants to repair its relations with Washington, it could have positive ramifications, not only for Greco-Turkish reconciliation, but also for a peaceful resolution of the Cyprus issue.

In the final analysis, both Greece and Turkey have everything to gain, and nothing or relatively little to lose, by cooperating at every opportunity, but especially on various forms of energy. As with their respective decisions to join NATO, this will require clear-headed analysis and pragmatic policymaking, but also the sangfroid to reach, promote, defend, and implement some historic compromises.
Roudi Baroudi has more than 40 years of experience in the energy business and has helped design policy for major international oil companies, sovereign governments, and multilateral institutions. He currently serves as CEO of Energy and Environment Holding an independent consultancy based in Doha, Qatar.

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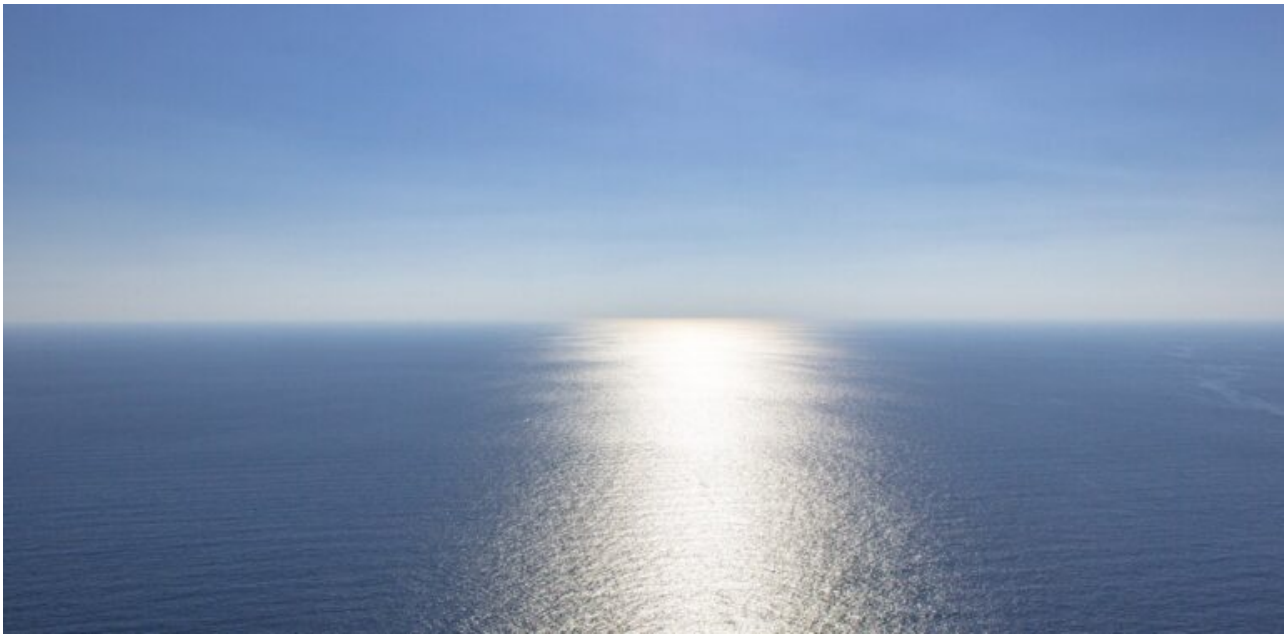
international oil companies, sovereign governments, and multilateral institutions. The author or co-author of several books, his latest was “Maritime Disputes in the Mediterranean: The Way Forward” (2020), and his next – a study of the region’s Blue Economy prospects in the post-carbon era – is expected to come out in the first half of 2022. He currently serves as CEO of Energy and Environment Holding, an independent consultancy based in Doha, Qatar.

Roudi Baroudi: Μπλε οικονομία στη Μεσόγειο



Οι χώρες της Μεσογείου πρέπει να είναι από τους μεγαλύτερους νικητές στη μετάβαση από τα ορυκτά καύσιμα στις ανανεώσιμες πηγές ενέργειας, δήλωσε ειδικός σε θέματα ενέργειας την Τετάρτη σε ένα βασικό συνέδριο πολιτικής.

«Εδώ στην περιοχή της Μεσογείου, η μετα-άνθρακα εποχή έχει στην πραγματικότητα τεράστιες ευκαιρίες όσον αφορά την μπλε οικονομία», δήλωσε ο βετεράνος της βιομηχανίας **Roudi**

Baroudi στο εικονικό All Things Energy Forum. Πρόσθεσε ότι ενώ η συμβατική αιολική και ηλιακή ενέργεια θα έχουν «βασικό ρόλο να διαδραματήσουν», η εγγύτητα της θάλασσας προσέφερε μια άλλη διάσταση.

"Υπάρχουν και άλλες πολλά υποσχόμενες ενεργειακές τεχνολογίες, όπως η βροχή, τα κύματα και η παλιρροϊκή ενέργεια, καθώς και η υποθαλάσσια γεωθερμία", δήλωσε ο κ. Baroudi, ο οποίος έχει διετελέσει σύμβουλος σε κυβερνήσεις, πολυμερείς οργανισμούς και μεγάλες διεθνείς εταιρείες για την ενεργειακή πολιτική.

«Μερικές από τις πιο υποσχόμενες αντικαταστάσεις για τα ορυκτά καύσιμα περιμένουν στη θάλασσα, αν μόνο έχουμε τη σοφία και την προνοητικότητα να τις αναπτύξουμε».

Η μεγάλη εγγύτητα μιας μεγάλης θάλασσας όπως είναι η Μεσόγειος δίνει στα παράκτια κράτη της βασικά πλεονεκτήματα σε σχέση με άλλα κράτη που είναι εγκλωβισμένα στην ξηρά, εξήγησε, επειδή έχουν πολλές περισσότερες επιλογές για παραγωγή ηλεκτρικής ενέργειας χαμηλής ή χωρίς άνθρακα.

Ο 40χρονος βετεράνος της περιφερειακής ενεργειακής σκηνής προέβλεψε ότι με ισχυρή ηγεσία, **οι περιφερειακές χώρες θα μπορούσαν να χρησιμοποιήσουν αυτό το δυναμικό για την πλήρη ηλεκτροδότηση όλων των κατοικημένων περιοχών τους.**

Αυτό το είδος πρόσβασης, στην ηλεκτρική ενέργεια, αποτελεί βασική προϋπόθεση για το είδος της οικονομικής ανάπτυξης που θα βοηθήσει εκατομμύρια ανθρώπους – ακόμη και δεκάδες εκατομμύρια – από τη φτώχεια», δήλωσε.

«θα μειώσει επίσης τη ροή των Αφρικανών μεταναστών που δεσμεύονται για την Ευρώπη δημιουργώντας νέες οικονομικές ευκαιρίες για αυτούς στην έδρα τους».

Ο κ. Baroudi προειδοποίησε, ωστόσο, ότι παρέμειναν σημαντικά εμπόδια εάν η περιοχή επρόκειτο να πραγματοποιήσει το πλήρες δυναμικό της για υπεράκτια παραγωγή ενέργειας, κυρίως επειδή περίπου τα μισά από τα θαλάσσια σύνορα της Μεσογείου

παραμένουν αδιευκρίνιστα.

Όπως και με τις προοπτικές για υπεράκτιο φυσικό αέριο, εξήγησε, οι επενδυτές αποφεύγουν τέτοια διαφιλονικούμενα σύνορα επειδή η αμφισβητούμενη ιδιοκτησία μιας περιοχής ενέχει πολύ μεγάλο κίνδυνο. Για αυτόν τον λόγο, είπε, και επειδή η πίεση χτίζεται για μορατόριουμ για την ανάπτυξη νέων πεδίων πετρελαίου και φυσικού αερίου, **οι περιφερειακές χώρες χρειάστηκαν να υιοθετήσουν τη διπλωματία και να καταρτίσουν συνθήκες που ορίζουν τις αντίστοιχες αποκλειστικές οικονομικές ζώνες τους.**

Δεδομένου ότι το φυσικό αέριο αναμένεται να παραμείνει βασικό καύσιμο μετάβασης για τουλάχιστον δύο δεκαετίες, εξήγησε, περιφερειακές χώρες θα μπορούσαν επίσης να κερδίσουν δισεκατομμύρια έσοδα από υπεράκτιες καταθέσεις – αλλά ορισμένες εξακολουθούν να χρειάζονται συμφωνίες ΑΟΖ για να ξεκινήσουν.

Δεν υπάρχει ανάγκη να είναι πιο πιεστική, ειδικά επειδή ο διάλογος και οι συμβιβασμοί που απαιτούνται όχι μόνο θα ανοίξουν την ανάπτυξη του φυσικού αερίου, αλλά θα έθεταν επίσης τα θεμέλια για στενότερη συνεργασία σε άλλους τομείς – αυτό ακριβώς απαιτεί η Μπλε Οικονομία για να αξιοποιήσει πλήρως τις δυνατότητές του», δήλωσε ο κ. **Baroudi,** ο οποίος είναι επί του παρόντος διευθύνων σύμβουλος της Energy and Environment Holding, ανεξάρτητης συμβουλευτικής εταιρείας στη Ντόχα.

Τα πλεονεκτήματα από την ηρεμία στη Μεσόγειο

«Ως μπόνους, μια πιο ήρεμη, φιλικότερη Μεσόγειος θα επέτρεπε επίσης την κατανομή ευθυνών και τη συγκέντρωση πόρων και δεδομένων, τα οποία θα βελτιώσουν σημαντικά τα αποτελέσματα σε όλα, από τη μετανάστευση, την πρόγνωση καιρού και την αναζήτηση και διάσωση σε συστήματα προειδοποίησης για τσουνάμι

και την προστασία καλωδίων επικοινωνίας», είπε.

«Τότε θα μπορούσαμε απλώς να δούμε ολόκληρη την ευρωμεσογειακή περιοχή να γίνει ένας από τους καλούς γείτονες, ένα μέρος αμοιβαίων στόχων, διευθετημένων παραπόνων και ακόμη και γεωστρατηγικής συνεργασίας.

Τολμώ να το πω, κυρίες και κύριοι, η Μεσόγειος θα μπορούσε να είναι απόλυτα ειρηνική στη ζωή μας".

Η εκδήλωση, της οποίας οι ομιλητές περιελάμβαναν διακεκριμένους ακαδημαϊκούς και ανώτερους ηγέτες επιχειρήσεων και ενέργειας, καθώς και βασικούς κυβερνητικούς υπουργούς, πραγματοποιήθηκε την Τετάρτη.

Ο Roudi Baroudi έχει περισσότερα από 40 χρόνια εμπειρίας στον τομέα της ενέργειας και βοήθησε στη χάραξη πολιτικής για μεγάλες διεθνείς εταιρείες πετρελαίου, κυβερνήσεις και πολυμερείς θεσμούς. Σήμερα υπηρετεί ως Διευθύνων Σύμβουλος της Ενέργειας και Περιβάλλον Διαθέτοντας ανεξάρτητη συμβουλευτική εταιρεία.

Renewables boom unleashes war over talent for green jobs

Clean energy giants are finding a shortage of workers with the skills needed to support their ambitious growth plans.

The renewables jobs market is heating up and candidates with the right abilities are becoming harder to find, according to Miguel Stilwell, chief executive officer at Portuguese clean-energy firm EDP Renovaveis SA. The company is one of the world's top installers of green power and plans to hire 1,300 employees over the next two years.

"There's a war over talent globally," Stilwell said in an interview on May 28. "The renewable sector, given the massive amount of growth that is expected, doesn't have enough people."

As countries funnel billions of dollars into developing renewable power, policymakers are banking on the sector to create new jobs that are crucial for the post-pandemic economic recovery. Solar generation capacity is expected to triple by the end of the decade, while wind capacity is expected to more than double over the same period, according

to clean energy research group BloombergNEF.

Green supermajors such as NextEra Energy Inc, Iberdrola SA, Enel SpA and EDP are leading the race to electrify the global economy. But some large oil companies are starting to get into the sector too, with BP Plc announcing last month it's looking to fill 100 offshore-wind jobs in the U.K. and the U.S., a figure that could double by the end of the year.

Engineering skills such as energy assessment, project management and project design are in high demand, EDP's Stilwell said. Good business developers who understand clean energy technologies are also a scarce resource. Other roles, such as managing mergers and acquisitions, or back office tasks, can easily be hired from other industries.

"We're having to bring in people from other sectors, whether it's oil and gas or other parts of the energy industry, or recruiting directly from universities," Stilwell said. "There's a lot of competition out there."

Engineering and chemistry graduates working on a masters degrees in renewables at the Universitat Politecnica de Catalunya in Barcelona are often hired while they're still in school, or right after they finish, according to Professor Jordi Llorca. The university has partnerships with other colleges in Europe and students often get hired to work in other countries like the U.K. or Denmark, said Llorca, who is also the director of an engineering research center at the university.

"We need to be fast to adapt the contents of our programs on the energy transition and renewable energies to make sure our graduates are competitive in the market," Llorca said. "We're constantly looking at the contracts and agreements we have with different industries to see what's needed."

The university launched a masters in hydrogen energy last year after professors realized very few people have the skills in

mechanics and chemistry that the fast-growing sector will need very soon. “There’s always a moment of vacuum whenever a new technology comes in, but we’re able to put together new programs in just a few months.”

Offshore wind farms are another growth area. The projects involve erecting and maintaining wind turbines the size of skyscrapers miles out to sea. A single turn of one of the massive blades could power a house for two days. The industry was pioneered in Europe, but is now rapidly expanding to Asia and the east coast of the U.S.

Those new markets don’t have people with experience. That means that developers are often sending British and European employees to lead the way, according to Clint Harrison, director at renewable energy-focused recruitment firm Taylor Hopkinson. But as business takes off there’s pressure to hire locally.

The limits of a well-trained workforce could end up being a bottleneck in an industry that is key to slashing emissions.

“There’s a sense of urgency,” Harrison said. “The market is growing very, very quickly and we need to ensure we have the right people across various projects and regions to ensure projects move forward and aren’t delayed.”

In the U.K. alone, around 200,000 skilled workers will be needed in the offshore energy sector by 2030, up from 160,000 today, according to a recent report by the Robert Gordon University in Aberdeen. About half the jobs are expected to be filled by people transferring from the oil and gas sector and about 90% of current workers in the fossil-fuel sector can be retrained for renewables, said author Paul de Leeuw.

“Demand for courses on renewable energy and the energy transition is ramping up rapidly and at the same time we see demand for oil courses declining,” he said. “It’s a societal and industry shift mirroring in the education system.”

Engine No. 1 converts tiny ExxonMobil stake into big win

NEW YORK: ExxonMobil has spent more than two decades sparring with activists over climate change, turning back virtually every shareholder challenge at its annual meeting each spring.

But late last month, the oil giant, which has shunned renewable energy investments embraced by some rivals, suffered a landmark defeat when upstart investment fund Engine No.1 successfully won election of three of its four board candidates, overcoming fierce campaigning from management.

A newly formed San Francisco-based investment group, Engine No.1 is a relative minnow in the world of finance, but now stands poised to steer the iconic US petroleum heavyweight in a new direction.

Its victory points to the increased vulnerability of incumbent energy players to insurgent investors as public concern mounts over climate change.

Engine No. 1’s stake in ExxonMobil amounts to 0.02 percent of total shares, a pittance that may have led the Texas company to underestimate the broader investor frustration it faces after it was kicked out of the prestigious Dow index last year.

“It’s ironic that an entity with such a small stake was able to effect such change,” said CFRA Research analyst Stewart Glickman, who noted that BlackRock and other funds with large stakes sided with Engine No.1 and played a critical role in its victory.

“They used institutional investors that are more climate change-focused to get this done,” Glickman added.

Andrew Logan, a veteran of shareholder campaigns at ExxonMobil as director of the oil and gas program at activist investor group Ceres, said Engine No.1 ‘s newness was an advantage.

“With Exxon, everyone has a history,” Logan said. “Having a new face without that baggage led them to open doors.”

Engine No. 1’s board nominees were not environmentalists, but longtime corporate executives with energy industry experience. The group was skillful in tying ExxonMobil’s carbon policy to a broader corporate strategy that struck investors as out-of-touch, Logan said.

Engine No. 1 “struck a powerful balance of nodding to climate change, but they focused on the core issue of Exxon’s capital plan and its strategy,” he said.

— Arguing for diversification —

Named for San Francisco’s first firehouse, Engine No. 1 was founded last year by Christopher James, a wealthy technology investor.

Another key player in the ExxonMobil campaign was Charlie Penner, a former partner with activist hedge fund Janus who is

well known to key asset managers.

The firm currently has $240 million under management and just 22 employees, according to a securities filing.

Neither James nor Penner were available for an interview, but Engine No. 1 pointed AFP to earlier statements that criticized ExxonMobil's investments on low-return petroleum projects and its lack of a plan in case government climate mitigation policies are accelerated.

ExxonMobil should "seriously explore opportunities to profitably diversify… with the assistance of new directors with notable track records of agile and adaptative innovation in energy," Engine No. 1 said in its initial letter to the company.

The three nominees elected by ExxonMobil shareholders are Gregory Goff, the former chief executive of refiner Andeavor; Kaisa Hietala, a former Neste executive who oversaw the company's expansion into renewable fuel; and Alexander Karsner, a strategist at Alphabet's X innovation lab and a former US assistant energy secretary.

Anders Runevad, former chief executive of Vestas Wind Systems, was not elected.

ExxonMobil deemed that none of Engine No. 1's nominees "meet the standards or needs of the company's board," according to a securities document. The board named two other candidates, who were elected last week by shareholders, along with the three Engine No. 1 candidates and seven other incumbents.

Engine No. 1 noted during the campaign that ExxonMobil did not meet with its nominees, and said the company's picks lack a "diverse track record of success in the energy industry who can position the company for success in a changing world."

— What will change? —

ExxonMobil has changed its tone since Engine No. 1's victories, saying, "We welcome the new directors to the board and look forward to working with them constructively and collectively to benefit all shareholders."

Only time will tell exactly how much the company shifts course and whether it will follow other oil majors into renewable energy, focus on executing long-discussed efforts at carbon capture, or go in a different direction.

The vote "means the status quo is no longer acceptable," said Dan Pickering, founder of Pickering Energy Partners in Houston. "The net impact is more of their capital is directed at energy transition or carbon abatement of some sort and less goes to the oil and gas business."

BLUE ECONOMY IN THE MEDITERRANEAN

ATHENS, Greece: Mediterranean countries should be among the

biggest winners in the transition from fossil fuels to renewables, an energy expert told a key policy conference on Wednesday.

“Here in the Mediterranean region, the post-carbon era actually holds enormous opportunities in terms of the Blue Economy,” industry veteran Roudi Baroudi told the virtual All Things Energy Forum. He added that while conventional wind and solar would “have a key role to play,” the proximity of the sea offered a whole other dimension.

“There are other promising energy technologies too, including rain, wave, and tidal power, as well as undersea geothermal,” said Baroudi, who has advised governments, multilateral institutions, and major international companies on energy policy. “Some of the most promising replacements for fossil fuels are waiting out at sea, if only we have the wisdom and the foresight to develop them.”

The very proximity of a large sea like the Mediterranean gives its coastal states key advantages over landlocked counterparts, he explained, because they have many more options for low- or no-carbon power generation. The 40-year veteran of the regional energy scene predicted that with strong leadership, regional countries could use this potential to fully electrify all of their populated areas.

“That kind of access [to electricity] is a key requirement for the kind of economic growth that would lift millions of people – even tens of millions – out of poverty,” he stated. “It also would reduce the flow of African migrants bound for Europe by generating new economic opportunities for them at home.”

Baroudi cautioned, however, that significant hurdles remained if the region was to realize its full potential for offshore energy production, mainly because about half of the Mediterranean’s maritime boundaries remain undefined.

As with the prospects for offshore natural gas, he explained,

investors avoid such unsettled borders because contested ownership of an area and/or resource poses too great a risk. For this reason, he said, and because pressure is building for a moratorium on developing new oil and gas fields, regional countries needed to embrace diplomacy and hammer out treaties that define their respective Exclusive Economic Zones. Since gas is expected to remain a key transition fuel for at least a couple of decades, he explained, regional countries could also earn billions in revenues from offshore deposits – but some still need EEZ deals to get started.

"No need is more pressing, especially since the dialogue and compromises required would not only open up gas development, but also lay the groundwork for closer cooperation in other fields – which is exactly what the Blue Economy demands in order to realize its full potential," said Baroudi, who currently serves as CEO of Energy and Environment Holding, an independent consultancy in Doha.

"As a bonus, a calmer, friendlier Mediterranean would also allow the sharing of responsibilities and the pooling of resources and data, which would significantly improve outcomes in everything from immigration, weather forecasting, and search and rescue to tsunami warning systems and protecting communication cables," he said. "Then we could just see the whole Euro-Med region become one of Good Neighbors, a place of mutual goals, settled grievances, and even geostrategic cooperation. Dare I say it, ladies and gentlemen, the Mediterranean could be fully at peace in our lifetimes."

The event, whose speakers included noted academics and senior business and energy leaders, as well as key government ministers, on Wednesday.

Roudi Baroudi has more than 40 years of experience in the energy business and has helped design policy for major international oil companies, sovereign governments, and multilateral institutions. He currently serves as CEO of

Energy and Environment Holding an independent consultancy based in Doha, Qatar.

LNG Makers Get Hint to Go Greener From U.S. Energy Secretary

The days of promoting liquefied natural gas as “freedom gas” or “molecules of freedom” have ended at the U.S. Department of Energy.

During a Friday visit to Houston, U.S. Secretary of Energy Jennifer Granholm said the Biden administration would rather promote and sell a cleaner version of the superchilled power plant fuel. The statement marks a policy shift from the Trump

administration, which rolled back environmental regulations and heavily promoted U.S. LNG around the world.

The energy industry has been under mounting pressure from investors and governments to step up efforts to reduce greenhouse-gas emissions, with some spectacular victories for activists over Big Oil this week. U.S. LNG makers are seeking to green their image in order to land supply deals with environmentally conscious customers in Europe and Asia.
The Biden administration, Granholm said, is looking closely at carbon capture and sequestration technology, which would take emissions from LNG plants and other facilities, move them by pipeline and then inject them underground.

“We want to be able to promote and sell clean technologies,” Granholm said following a tour at an Air Liquide SA hydrogen plant in La Porte, Texas. “That could be natural gas that has been decarbonized, or that could be natural gas where the methane flaring has been eliminated.”

Houston-based Cheniere Energy Inc., the largest U.S. LNG exporter, recently announced that it would be including carbon emission tags with its cargoes, allowing customers to audit the environmental footprint of a shipment. One of the company’s LNG tankers recently participated in a study analyzing emissions on a roundtrip between Texas and Europe.
Arlington, Virginia-based Venture Global LNG announced Thursday that it plans to implement carbon capture and sequestration at three export terminals in Louisiana, where one is already under construction and expected to produce its first drops of the fuel later this year.

Still seeking to sell enough contracts to support its proposed Rio Grande LNG export terminal in South Texas, Houston-based LNG developer NextDecade Corp. has also pledged to add carbon capture and storage to its plant.

Exxon Mobil’s last-ditch attempt to stave off a climate vote coup

It was a stunning moment for Exxon Mobil Corp and the wider corporate world: a tiny activist fund had succeeded in changing the company’s board.

But in the hours leading up to this week’s annual shareholders meeting, Exxon went to extraordinary lengths to head off the threat from a campaign about which it had been largely dismissive months earlier.

Exxon telephoned investors the morning of the ballot – and even during an unscheduled, hour-long pause during the virtual meeting – asking them to reconsider their votes, according to several of those who received calls.

Some said they found the last-ditch outreach and halt to the meeting unorthodox and troubling.

“It was a very unusual annual general meeting,” said Aeisha Mastagni, a fund manager at the California State Teachers’ Retirement System, a major Exxon investor that backed the activist campaign from the beginning. “It didn’t feel good as an investor.”

The May 26 meeting concluded with Exxon stating that two of the dissident’s four director nominees had been elected, a coup for Engine No 1, a little-known investment firm calling

for the company overhaul its strategy, cut costs and come up with a plan to address climate change.
Its victory is widely seen as a warning to the rest of the industry that investors will now hold energy companies to account for environmental concerns.
The full results of the vote still haven’t been disclosed; a third Engine No 1 nominee is still in the running to fill one of the two remaining board seats.
While there’s no suggestion Exxon broke any rules during Wednesday’s meeting, such tactics are unusual for a blue-chip company.
In response to questions about the meeting, the company said it’s been “actively engaged” with investors and welcomes the newly elected directors.
Net Zero Exxon opposed Engine No 1 from the outset.
The fund holds a stake in Exxon of just 0.02%, valued at about $54mn.
The oil company described the fund’s four candidates as unqualified and said its proposals would imperil Exxon’s dividend.
Still, the company made a concession in March to another investor, D.E. Shaw & Co, appointing two new directors, including activist investor Jeff Ubben.
But Exxon still refused to meet with the Engine No 1 candidates.
A significant hurdle faced by the company was winning support of large institutions including its top three investors, Vanguard Group Inc, BlackRock Inc
and State Street Corp, which collectively hold a stake of more than 21%. BlackRock has been vocal about its voting guidelines on climate change.
Discussions with many large investors in the run-up to the vote were primarily focused on Exxon’s strategy to get to net zero emissions by 2050, and not the company’s financial performance, according to people familiar with the talks.
Chief Executive Officer Darren Woods got down in the trenches during the proxy fight and made commitments to keeping the

dialog going after the meeting, the people said.
But Vanguard, BlackRock and State Street ultimately supported a partial slate of nominees from Engine No 1. An indication the fight might be tilting in Engine No 1's favour came mid-May with the partial backing from two leading proxy advisory firms.
Two days before the vote, Exxon said it would appoint two new directors, one with "climate experience" and another with industry expertise.
On the morning of the meeting, Engine No 1 issued a statement alerting shareholders that Exxon may try, "in a targeted manner," to persuade them to change their vote.
Sure enough, by the time the virtual meeting began at 9:30am. Dallas time, Exxon representatives were ringing investors. In some cases, those calls entailed cajoling holders to at least reduce their support to one or two dissident nominees rather than all four, according to people familiar with the conversations, who asked not to be identified because the discussions were private.
At about 10:15 a.m., investor relations head Stephen Littleton announced proceedings would be paused for 60 minutes, citing the volume of votes still coming in.
As classical music played on the webcast, emails started flying between investors left bewildered by the halt.
One executive at a major Exxon shareholder said they were contacted during this hiatus and pushed to change their vote.
The person, who has decades of experience dealing with boardroom elections, said that while such appeals a day before a vote are commonplace, it was the first time they'd fielded such a request during a meeting.
Meanwhile, Engine No.1 released another statement saying shareholders should "not be fooled by ExxonMobil's last-ditch attempt to stave off much-needed board change." Charlie Penner, head of active engagement at Engine No 1, went on television to complain. "They're doing a tactic called the whittle-down, where they tell a shareholder to draw down your votes for this person, they tell another shareholder they'll

draw down their votes for this person, and they gradually try to whittle people down," he told CNBC. "It has a very banana-republic feel."

The pause was something that Anne Simpson – the California Public Employees' Retirement System's managing investment director for board governance and sustainability – had never seen before in her three-decade career.

Simpson didn't get a call from Exxon about altering her votes. But the practice still disturbed her. "If the comments are true, this raises the question about the sanctity of the ballot box and whether companies should have privileged access," she said.

The meeting didn't conclude until almost three hours after it first began, with Littleton reading out a summary of the preliminary tally of votes.

"We welcome the new directors Gregory Goff and Kaisa Hietala to the board," Woods said in his concluding remarks, "and look forward to working with them constructively and collectively on behalf of all shareholders."

Spain to invest 1.5B euros in 'green hydrogen'

Spain will spend 1.5 billion euros ($1.8 billion) from a European Union recovery fund to develop green hydrogen production over the next three years, Prime Minister Pedro Sanchez said Monday.

Spain will spend 1.5 billion euros ($1.8 billion) from a European Union recovery fund to develop green hydrogen production over the next three years, Prime Minister Pedro Sanchez said Monday.

The goal is for Spain to become Europe’s leading hydrogen producer using renewable sources instead of fossil fuels to curb greenhouse gas emissions and create jobs, he said.

“The Spanish government is firmly committed to green hydrogen,” the Socialist premier said at a ceremony in Toledo, just south of Madrid.

His government expects the outlay will stimulate 8.9 billion euros of mainly private-sector investment to develop the technology by 2030.

Madrid has already received over 500 “green hydrogen” project proposals from energy firms, a government statement said.

Creating “green” or emissions-free hydrogen is seen as a key step towards developing sustainable energy sources and slashing carbon emissions.

One reason for the strong interest in hydrogen technology is when used to fuel motors, the only emission is water vapour.

But it is expensive to produce and the electricity needed generates a lot of carbon dioxide emissions or other pollutants.

Green hydrogen is produced via electrolysis – an electrical current passing through water – with wind, solar or hydro-electric power providing the electricity.

Europe in particular is anxious to get a handle on the new and still costly fuel, having missed the boat on solar and battery technology, which is dominated by China.

Experts predict green hydrogen using renewable energy will soon plunge in cost and become cheaper than natural gas in many areas.

US engine maker Cummins announced Monday it would spend 50 million euros to build one of the world’s biggest electrolyser plants for the production of green hydrogen in Spain.

The plant, which will be built in the central region of Castilla-La Mancha, is expected to open in 2023.

“Spain offers a strong and dynamic local environment for hydrogen production, and we are excited to invest,” said Cummins chairman Tom Linebarger.

Spain is set to receive 140 billion euros – half in direct payments, half in loans – from the 750 billion-euro recovery plan adopted by EU leaders last year as the economy reeled under virus lockdown restrictions. (AFP)

Climate change goals: green art of the possible

By Daniel Gros/Brussels

US President Joe Biden recently gathered 40 world leaders for a summit on combating climate change, a welcome sign of progress on forging a global strategy. But tackling global warming is a marathon, not a sprint. And while the recent increase in climate ambition from the United States and the European Union is welcome, more difficult choices lie ahead.

Back in 2009, for example, the US led the global effort to achieve the Copenhagen Accord at the COP15 climate-change summit, which was attended by more than 100 world leaders. But hopes of a meaningful US contribution were subsequently killed by bipartisan opposition in Congress, which balked at the perceived cost of reducing emissions.

Biden, who was then vice president, faces a similar problem today: how to make good on his pledges while knowing that

Congress will not approve any serious climate measure. He has therefore chosen the path of least political resistance, which is why Biden's climate plan carefully avoids notions such as a "carbon tax" or a "cap-and-trade" emissions scheme, both of which are politically toxic in the US.

Biden's target of halving US emissions by 2030 sounds ambitious, but the substance is actually much less demanding. Governments invariably choose the benchmark year that makes the biggest headlines. The US has chosen 2005, because that represents the high-water mark for US emissions. Since then, emissions have already declined by about 25%, thanks to the substitution of shale gas for coal. Reducing emissions by 50% from 2005 levels requires a further fall of about 30%.

The EU also has chosen a convenient baseline, namely, its own peak emissions year of 1990. But its target of lowering emissions by 55% by 2030 entails a further reduction of over 40% from today's level.

Given that US per capita emissions are currently about twice the European level, achieving Biden's pledge would reduce them only to the EU's level of today by 2030. By that year, US per capita emissions would still be more than double those of the EU.

The key to the Biden administration achieving its 2030 target is its pledge to make the US power sector emissions-free by 2035. But this might be difficult to achieve, given that fossil fuels currently account for about 60% of US electricity (compared to about 34% in the EU).

Moreover, making one sector totally emissions-free while taking little action in other areas increases the cost of reaching the overall target. This is a mistake the EU previously tried to avoid when establishing its Emissions Trading System (ETS), which covers both industry and the power sector.

The Biden plan boldly asserts that decarbonising the power sector "can be achieved through multiple cost-effective pathways." This is difficult to believe. For starters, it took more than a decade of subsidies before renewables made a

meaningful contribution to the overall energy mix in Europe.
The cost of renewables has fallen greatly over the last decade, in many cases by a factor of five, partly thanks to these subsidies setting in motion a cost-reduction process as demand for solar panels and batteries increased.
The Biden administration also says that carbon capture and storage can make a potentially important contribution. But CCS remains an expensive technology, with a much smaller potential for cost reductions.
US climate policy thus makes little sense from an economic point of view. Biden's approach is instead best understood as a political strategy aimed at so-called battleground states such as Pennsylvania, where coal remains economically and politically important. A carbon price will become possible in the US only when the last coal mine has closed.
The European approach – with the ETS and its emissions allowances that can be traded across sectors and countries – looks much more sensible at first sight. But a closer look reveals similarities with Biden's plan. When the ETS was created, industrial firms argued that sectors subject to international competition should receive their allowances for free to avoid so-called "carbon leakage." Predictably, the risk of carbon leakage was found to exist in almost all industries. EU industry thus obtained most of the allowances for free. The ETS worked only because the EU's power sector was treated differently, given that there is no international competition in this sector.
The implicit deal underpinning the ETS was thus that industry would be spared the pain of emissions reductions. The entire burden of adjustment fell on power generation, where an increasing supply of renewables made it possible to reduce emissions by about a quarter over the last decade. EU industrial emissions have not fallen significantly. But this might change now that the price of emissions certificates, which for many years had remained in the single digits, has reached almost €50 ($60) per ton.
Free allocation of emissions allowances also meant that the EU

has had little justification for introducing a carbon border tax. Such a measure would be justified (and should be approved by the World Trade Organisation) only if the free allowances were abolished at the same time – but this is vehemently opposed by industry.

The underlying political deal is thus similar on both sides of the Atlantic: decarbonise the power sector first, while sheltering industry from higher costs. Europe's experience suggests that this can generate some modest progress in reducing emissions, but achieving the more ambitious targets ahead will require tougher choices. The US will not be able to rely on renewables providing all its power, and the EU will have to start putting pressure on its own industry. – Project Syndicate

? Daniel Gros is a member of the board and a distinguished fellow at the Centre for European Policy Studies.