1.5°C target for globalwarming must prevail

The world is burning, and our political leaders are failing us. With temperatures rising at an alarming rate, it seems that anyone who believes it is still possible to limit global warming to 1.5° Celsius is in a rapidly shrinking minority.

As governments around the world fail to meet their responsibilities under the Paris climate agreement, the window for keeping global temperatures below the 1.5°C limit has all but closed due to insufficient action. But while some eminent commentators have declared the 1.5°C target “deader than a doornail,” I have come to the opposite conclusion: 1.5°C will never die.

To be sure, the world is in a dire state. Greenhouse-gas (GHG) emissions dumped in the atmosphere since the start of the Industrial Revolution have already warmed the planet by roughly 1.3°C, according to this year’s annual report on Indicators of Global Climate Change. And studies, including mine, unequivocally show that crucial climate goals are not

being met. Under current policies, global temperatures are projected to increase by 2.5-3°C by the end of this century. Even if governments meet all their existing climate pledges, the odds against global warming staying below 1.5°C are seven to one. Combine this with the fossil-fuel industry's delaying tactics, including the greenwashing of their polluting business practices and recent roll-back on self-imposed emissions targets, and it becomes abundantly clear that our chances of staying below 1.5°C are indeed slim. Consequently, climate scientists expect global warming to "blast past" the 1.5°C limit.

But just as risks do not vanish when safety limits are exceeded, the Paris agreement's climate commitments do not disappear once we cross 1.5°C. While 1.5°C is a political target, it was not pulled out of thin air. It is a scientifically informed limit, first championed by small island states and later supported by a broad coalition of ambitious countries.

By now, it is clear to many governments that allowing global warming to exceed 1.5°C involves unacceptable societal risks, undermines development, and poses an existential threat to vulnerable communities and their cultures. Moreover, the line between "safe" and "dangerous" warming is becoming increasingly blurred. As the devastating effects of climate change worldwide show, even 1.5°C is dangerous and our societies are ill-equipped to handle it.

Over the past 20 years, we have experienced what a world that has warmed by about 1°C is like. No region has been spared the impact, with a growing number of countries facing fires, floods, and storms, resulting in devastating human and financial costs that extend well beyond national borders. Between 2000 and 2019, climate-related disasters claimed over half a million lives, caused over $2tn in estimated damage, and affected almost four billion people worldwide. Even at 1.5°C warming, up to one in seven species face extinction, critical ecosystems like tropical coral reefs face destruction, and extreme heat waves that our great-

grandparents experienced once in a lifetime will occur on average every six years. Centuries of ice melt will cause sea levels to rise, flooding major cities like London, New York, Shanghai, and Kolkata. Vulnerable and marginalised communities' efforts to escape poverty will be undermined, and every country's economic development will be impeded.

Limiting global warming is thus a matter of social justice, human rights, and long-term development, and this imperative remains even if we cross the 1.5°C threshold. Moreover, while exceeding 1.5°C will have unpredictable political consequences as compensation claims for avoidable climate-related damage increase, the political implications of reducing GHG emissions remain consistent with what the Paris agreement already outlines.

To halt global warming, the Paris agreement expects countries to implement emission-reduction plans that represent their "highest possible ambition." While governments are failing to meet this goal, exceeding 1.5°C does not change their responsibilities; in fact, fulfilling these commitments will become more important as temperatures continue to rise. The only way to improve our chances of keeping warming close to 1.5°C is by pledging and implementing more ambitious near-term emission cuts every year until 2035.

Even if we cannot avoid overshooting 1.5°C, the 1.5°C target remains relevant. Every fraction of a degree counts, and global climate efforts must therefore focus on limiting the exceedance of 1.5°C and returning to safe levels as quickly as possible. The Paris agreement's target of achieving global net-zero GHG emissions, in particular, could help reverse some of the excess warming. To maintain a safe, liveable, and just planet, we must keep our eyes on the 1.5°C limit and ensure that pursuing it remains our top priority.

Economic development in an age of great-power competition

Now that the United States has introduced a new set of import tariffs on Chinese goods, the world's two largest economies appear to be on the brink of open economic warfare – and developing countries are in danger of getting caught in the crossfire. Beyond the risk that they could face sanctions or other trade restrictions if one superpower perceives them to be helping the other, Sino-American trade tensions are eroding the value of many of these economies' comparative advantages, such as cheap labour and land. Coping with these challenges will require skillful economic statecraft.

Comparative and competitive advantages are dynamic by nature; they can be acquired or lost over time. As Harvard's Michael Porter put it in 1990, "National prosperity is created, not inherited. It does not grow out of a country's natural endowments, its labour pool, its interest rates, or its currency's value, as classical economics insists." Rather, an economy's competitiveness "depends on the capacity of its

industry to innovate and upgrade.”

As a growing number of governments pursue industrial policies – from short-term protective measures, like tariffs, to more forward-looking initiatives, such as targeted subsidies and deep structural reforms – the capacity to innovate and upgrade depends significantly on the state’s ability to work with the market to boost competitiveness. This poses a challenge for advanced economies no less than it does for developing countries.

Consider Europe, which was forced to rethink its prevailing business model – selling high-quality engineering products – after Russia’s full-scale invasion of Ukraine in 2022. As supply chains were disrupted, and energy costs and inflation soared, Europe’s reliance on others for critical goods, including inputs for its own manufacturing, became an enormous economic liability. Add to that China’s growing dominance in electric vehicles, and Europe finds itself increasingly anxious about its future competitiveness.

To be sure, many European economies remain highly competitive: Europe dominates the top 20 of the International Institute for Management Development’s 2023 World Competitiveness Rankings, with Denmark, Ireland, and Switzerland leading the pack. But Europe’s larger economies have been sliding in the rankings. Germany dropped seven spots between 2022 and 2023, to 22nd place, and France fell five spots, to 33rd.

One problem, pointed out in a report from the McKinsey Global Institute, is that while Europe leads in sustainability and inclusivity, per capita GDP (at purchasing power parity) is lagging. In 2022, it was 27% lower than in the United States, with about half that difference attributable to cultural norms – Europeans work fewer hours per capita over their lifetimes – and the other half resulting from differences in productivity levels. Boosting productivity is now a central concern of European policymakers and will have to be addressed partly

through the development of high-tech industries.

This approach has certainly worked for the US, which spends 3.5% of its GDP on research and development – a smaller share than South Korea (4.9%) and Israel (5.6%), but significantly larger than China (2.4%) and the European Union (2.2%). All of these economies are devoting considerable attention to dual-use R&D in strategic areas like artificial intelligence, green tech, and quantum computing. What stands out about the US is that, while the government is providing funding and incentives, not least through the 2022 Inflation Reduction Act, it is the private sector that is driving plans to invest $400-500 billion in R&D over the next decade.

As a report by the Boston Consulting Group notes, R&D is part of a "virtuous cycle of innovation" that sustains America's technological leadership. For example, the US claims 46% of the global market for semiconductor design. Thanks to its advanced technologies, the US semiconductor industry has a gross profit margin of 59%, which is 11 percentage points higher than competitors. In 2020, US semiconductor revenues reached $208 billion – twice the revenues of the second-leading country.

But not just anyone can emulate America's high-tech success, which is partly a function of its large and dynamic capital market. In 2022, the total market capitalization of the US stock market was 2.5 times higher than that of Europe. As a share of GDP, total market value in the US exceeded 158% in 2022, lower than Taiwan (195% of GDP), but higher than every other economy, including China (65.4%), Japan (126%), Germany (45.5%), and India (103.7%).

With its deep capital markets, the US is well-positioned to generate funding for high-risk R&D and, more importantly, reward and retain talent. Other economies – including China,

the EU, Japan, and most developing countries – cannot compete on this front, not least because their banking systems remain far more risk-averse.

Recognizing America's comparative advantages in high-tech sectors, China focused on building prowess in mid-tech areas of engineering and operational production and distribution, which opened the way to comprehensive competition at scale. Since 2014, China has led the world in exports of high-technology goods, accounting for more than 30% of the global market share. Since 2000, it has tripled its share of gross value added.

For developing countries, this means that it will be very difficult to compete in mid-tech industries, not just the high-tech sectors that the advanced economies (and, increasingly, China) dominate. Add to that their limited capacity to finance investment and their dependence on access to global or regional markets to achieve economies of scale, and economic statecraft becomes all the more challenging.

Some priorities are clear. To achieve technological upgrading, countries must invest as much as possible in digital infrastructure and education, as well as projects related to the United Nations Sustainable Development Goals. To cope with rising protectionism among major economies, they will most likely also increase support for domestic "champions," even if it means perpetuating market fragmentation.

Overall, however, we will probably see a lot more experimentation in development strategies in the coming years. Developing countries will just have to hope that the US and China come to some sort of grand bargain before their competition escalates into conflict.

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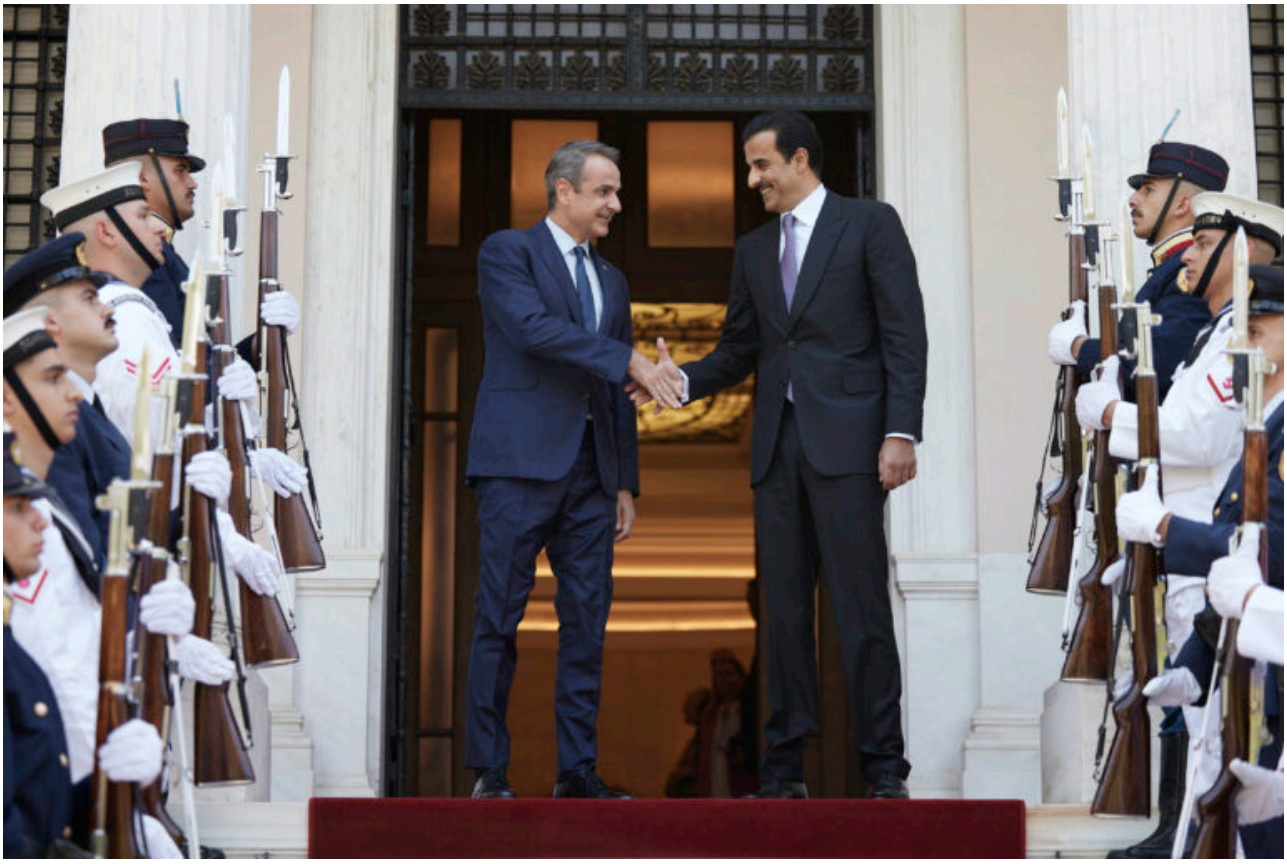
EMIR IN GREECE AND CYPRUS



Political 04.06.24
Interview by ALEXIA TASOULI
DIPLOMATIC CORRESPONDENT
POLITICAL.GR NEWSPAPER

Athens, Friday 31st of May 2024: Qatar's Emir Sheikh Tamim Bin Hamad AlThani paid official visits to Cyprus and Greece this week, meeting with senior officials from both countries as part of efforts to expand cooperation. International energy expert Roudi Baroudi, CEO of Dohabased independent consultancy

Energy and Environment Holding, sat down to answer a few questions about the outcome and significance of the emir's mission.

Question: Overall, how successful were HH the emir's visits to Greece and Cyprus?

Answer: Both visits appear to have been very fruitful. HH the emir and his delegation held constructive talks with their counterparts in both countries, and all sides came away with clearer understandings of where the already strong relationships should go next, and how they can get there. Several important first steps were taken toward identifying likely areas for further cooperation, and now both sides have the information they need to come up with proposals for the next steps on several fronts.

Q: From your perspective, what are the main takeaways from HH the emir's trip?

A: There are several elements at play here, multiple processes unfolding according to their own timelines, but all interrelated in some ways. The first thing to consider is that both visits constitute reaffirmations of Qatar's traditional diplomatic strategy, much of which revolves around having stable and friendly relations with as many counterparts as possible. That might sound a little basic, but it's really not: many governments "pick sides" in various international disputes, which often amounts to letting other countries decide your foreign policy for you. By contrast, the Qatari model seeks instead to be on good terms with all sides in most disputes, and the value of that approach has been on display for years: Doha has successfully used its good offices as a mediator in the past, and more recently it has done the same for ceasefire talks and other negotiations between Israel and

Hamas.

This same philosophy also informs Qatar's stances in the Mediterranean, where it looks for the warmest possible relations with Greece and Cyprus while simultaneously maintaining close ties with Türkiye, with which both Athens and Nicosia have been at odds for decades. I should mention, too, that Cyprus follows a similar path, maintaining friendly relations with both Israel and Lebanon, for example.

Both Cyprus and Greece also would like to play central roles in the development and buildout of facilities aimed at carrying energy to the European mainland. This is a core part of their respective plans to grow and develop their respective economies, and the necessary investment and expertise will require strong partnerships.

Q: So how do these priorities tie in with the emir's visit?

A: In several ways, really. First, HH the emir's goodwill visit is a reconnection: the COVID pandemic threw a lot of international issues into hibernation as governments everywhere spent a lot of time looking inward for several years. By visiting now, he's demonstrating in general that he values Qatar's relationships with both Cyprus and Greece. The reengagement also bodes well for particulars, and there are several opportunities for cooperation because the parties can help one another. Both Greece and Cyprus want to be part of plans to open new channels for natural gas into Europe, whether it's Eastern Mediterranean gas or from further afield. For this they could find no better partner than Qatar, which, in addition to its own worldleading LNG industry, has also been acquiring stakes in energy assets around the world. But both countries also want investment in other sectors, too, and once again, both the Qatar Investment Authority, the country's sovereign fund, and various private investors are on the hunt

for moneymaking ventures.

Q: What does the emir’s trip mean for Greece, in particular?

A: To me the time looks ripe for more cooperation. The period since 20072008 has been very difficult, but the current government under Prime Minister Kyriakos Mitsotakis has done wonders, not just to stabilize the Greek economy and restore hope to the population, but also to help Greece regain its rightful place at the European table. The country is now looking to build on this foundation by fully embracing cuttingedge sectors like digital connectivity and cleantech, but also by reinvigorating its traditional shipping expertise by becoming a major logistics center and by getting more out if its hospitality sector, too. The long recession is over, and some asset classes look very attractive to Qatari investors – and others, as well – especially given the stronger, cleaner governance and leadership on which Mitsotakis has built his reputation.

Q: What about Cyprus?

A: Another European land of opportunity. All other things being equal, if the world operated according to logic instead of politics, Cyprus would already be a major energy hub. Its location makes it the ideal base for the Eastern Med’s burgeoning offshore gas industry, which also includes strategic ports, telecoms, and other support services. Many analysts see real potential in several sectors, including ports, banking, and a host of technologies. The increased economic activity will also introduce more people to the beaches and other attractions that make the island’s tourism industry so popular. Another ingredient is leadership:

President Nikos Christodoulides has been in office for less than a year, but the former diplomat and foreign minister has already shown himself to be both a highly competent Head of State and a stern defender of his country’s economic development & interests.

And all this is not to mention the shipping of the gas itself, for Cyprus is not just part of the European Union: it is also very much an East Mediterranean country, so it stands to reason that it should become a gateway through which some of the world’s newest gas producers can sell their wares into the world’s largest gas market. Whether it’s a pipeline to Greece, an LNG plant to supply customers in Asia and East Africa, or both, it’s a nobrainer that Cyprus is the place to start the journey. To me, this is Cyprus’ destiny, and if it’s further Qatari investment that makes it happen, so much the better. Remember, too, that QatarEnergy is already involved in Cyprus’ gas industry, partnering with ExxonMobil to explore two offshore blocks. The Qataris know the LNG business like no one else, and their robust & steady reliability as partners is unchallenged: in 20172021, despite an illegal blockade imposed by some of their neighbors, they continued to process and ship at the highest rates to keep supplying LNG to all of their customers around the world, helping to calm world markets during a very vulnerable period.

“Baroudi, left, with Mitsotakis at the 2019 EUArab World Summit in Athens, before the latter became Greece’s prime minister. According to Baroudi, Mitsotakis has done much to speed his country’s recovery.”

Finally, the role played by Qatar and its leaders has captured the attention of the international community due to the wise policies of the Ruler of the Gulf state. His efforts have been lauded and appreciated by East and West alike, ranging from visits of goodwill by the Emir to regional countries, to forging relations based on mutual respect and cooperation. It also has been noted that visits by the Emir tend to manifest high levels of support in mediation, bringing peace, providing materials or otherwise, as and when needed.

Only public-private co-operation can accelerate decarbonisation

As countries around the world experienced record temperatures last year, UN Secretary-General Antonio Guterres declared: “We must turn a year of burning heat into a year of burning ambition.” But to move away from fossil fuels and unlock the green transition’s economic benefits, such as job creation and universal access to clean energy, industry leaders and policymakers must work together to translate the commitments made at the UN Climate Change Conference in Dubai (COP28) into actual renewable gigawatts.

COP28 marked a historic turning point in the battle against climate change. Rallying around the UAE Consensus, world leaders pledged to move away from fossil fuels, agreeing to triple renewable power capacity to at least 11,000 gigawatts

and double energy efficiency by 2030.

But ambition alone is not enough to achieve these targets and limit global warming to 1.5C. Governments must invest in mature, cost-competitive renewable technologies that can be rapidly deployed at scale. When integrated with long-duration energy storage, green hydrogen, and system optimisation, these technologies represent the most reliable and flexible way to accelerate the energy transition.

Renewables will undoubtedly shape the global energy landscape in the coming years. Both solar and wind power are expected to grow significantly, with hydropower serving as the backbone of grid flexibility. Consequently, renewables are poised to become the twenty-first century's dominant source of global electricity.

But as a joint report released by the International Renewable Energy Agency (IRENA) and the Global Renewables Alliance (GRA) ahead of COP28 noted, tripling renewable capacity will require cooperation between the private and public sectors. Partnerships should focus on initiatives that deliver immediate results, such as mobilising low-cost financing, accelerating permitting processes, clearing grid connection backlogs, reforming government auction mechanisms for renewable-energy projects, and diversifying global supply chains. A strong commitment to inclusivity and the active participation of developing economies must be at the heart of these efforts. IRENA and GRA are demonstrating this commitment by collaborating on the annual reports commissioned by the COP28 Presidency to monitor progress toward the global tripling target and facilitate the energy transition.

We must, however, move faster, especially if we aim to ensure that progress is equitably distributed around the world. While renewable power capacity rose by 473 gigawatts in 2023, the economic benefits of the energy transition did not reach every country. Remarkably, 83% of these increases were concentrated in China, the European Union, and the US, leaving many countries in the Global South behind.

In fact, the shift to renewables is alarmingly slow in many

parts of the world. Opportunities to address development and access challenges in Sub-Saharan Africa, where more than 500mn people still lack access to electricity, are being squandered. This sluggish transition can be attributed largely to the lack of affordable financing, adequate planning, and the policy and market frameworks needed to support the adoption of renewable energy. Tellingly, public fossil-fuel subsidies reached $1.3tn in 2022 – roughly the annual investment needed to triple renewable capacity by 2030.

A critical first step toward fostering greater public-private co-operation in pursuit of COP28's ambitious targets is to reform the global financial architecture. Africa, for example, accounts for 17% of the world's population but has received less than 2% of global investments in renewable energy over the past two decades, underscoring the need to reduce capital costs and attract private investors. Developing industrial clusters and initiating grant programs could also help foster environments conducive to innovation and private-public partnerships.

Recent commitments by world leaders offer glimmers of hope. African leaders at the September 2023 Africa Climate Summit in Nairobi, for example, pledged to increase the continent's renewable capacity to at least 300 gigawatts by 2030. This effort aims to reduce energy poverty and boost the global supply of cost-effective clean energy suitable for industrial use.

Kenyan President William Ruto, a key advocate of the Nairobi agreement, established the Accelerated Partnership for Renewables in Africa, an African-led international alliance of governments and stakeholders that aims to accelerate renewable-energy deployment, increase access, promote green industrialisation, and strengthen economic and societal resilience.

Governments and business leaders should harness the current political momentum to foster co-operation between policymakers and private investors. As governments develop appropriate policy and market frameworks to facilitate the transition to

renewables, the private sector – historically responsible for 86% of global investments in renewable energy – is poised to lead the charge. Together, we can achieve a clean, secure, and just energy future. But to realise this vision, we must act fast. – Project Syndicate

- *Francesco La Camera is Director-General of the International Renewable Energy Agency. Bruce Douglas is CEO of the Global Renewables Alliance.*

In the dock: Pivotal climate change testimonies in US

From Mexicans left homeless by rising seas to Colombians affected by coral bleaching, hundreds of people are telling the top human rights court in the Americas what climate change means to them in an historic case that could shape international law.

Environmental lawyers also hope the hearings at the Inter-American Court of Human Rights (IACHR), which were requested by Colombia and Chile, will define the duties of states to confront the climate crisis and stop it infringing on human rights.

As well as receiving submissions from climate victims, the Costa Rica-based court, which started its inquiry in Barbados in April, will hear from UN agencies, legal experts, grassroots environmental campaign groups, and youth groups.

The next sessions are due to be held in Brasilia and then Manaus, Brazil at the end of May, and an advisory opinion is expected by May 2025.

“We’re hoping that the court’s legal opinion is a guide and reference for Mexico, and other states, to develop public policies from a climate justice perspective,” said Nora Cabrera, a lawyer and head of Our Future, a Mexico-based youth climate justice campaign group.

“And that it includes loss and damage compensation for affected communities, and adaptation policies for those not yet directly affected by climate change,” said Cabrera, who will be speaking at the next hearing in Manaus.

In January, Colombia and Chile asked the IACHR to issue the advisory opinion, saying that they were experiencing the “daily challenge of dealing with the consequences of the climate emergency,” including fires, landslides, droughts and floods.

“These events reveal the need for an urgent response based on the principles of equity, justice, co-operation and sustainability, with a human rights-based approach,” they said in their petition.

“There is a close relationship between the climate emergency and the violation of human rights,” they added.

It is this link between climate change and human rights that the IACHR will seek to define, while also examining how climate change affects migration and looking at the disproportionate effect on children, women and Indigenous people.

Chile and Colombia also asked the court for clarification on a state's duties to protect environmental activists.

Latin America is the most dangerous place in the world for environmental and land defenders, according to advocacy group Global Witness. Around 90% of the 177 killings of environmental activists recorded in 2022 took place in the region.

"The hearing aims to ask for clarity about human rights obligations and the climate crisis," said Jacob Kopas, senior attorney at the Earthjustice environmental group, one of a group of lawyers who spoke at the Barbados hearing on April 26.

"It will help to create a more concise framework to guide state behaviour and policy to confront the climate crisis and protect human rights," said Kopas.

Among those submitting testimonies will be the residents of the El Bosque fishing community in Tabasco, Mexico, where rising sea levels caused by climate change have swept away about 200 meters of coastline.

Since 2019, the school and more than 50 homes have been destroyed, forcing about 200 people to leave.

El Bosque community leader, Guadalupe Cobos, said she and 10 neighbours will probably have to leave within a year and resettle in an area about 12km away, where new homes are being built by the government.

"We depend on the sea but coastal erosion has affected our way of life. It's important for the court to know that we're living climate change now and that this isn't something that will happen in the future in 20 or 50 years' time," said Cobos.

"We want the court to hear our experiences and to know that our rights have been violated, that we have been forced to migrate," Cobos told the Thomson Reuters Foundation.

The court's advisory opinion could have important implications for climate litigation across Latin America and the Caribbean and make it easier for communities living with the effects of global warming to take legal action.

The opinion will apply to all signatories of the American Convention on Human Rights, most of whom are members of the Organization of American States. The United States and Canada have not ratified the treaty however.

The advisory opinion will help shape the region's legal systems as many countries incorporate its jurisprudence into their laws and constitutions.

"We're hoping that the court makes the link between the climate crisis and human rights violations and that it recognises climate displacement," said Cabrera, whose organisation has been supporting the El Bosque community.

The IACHR is known for its progressive stance on climate justice and human rights.

In March, it recognised that citizens in Peru have the right to a healthy environment when it ruled in favor of people living in the Andean mining town of La Oroya, who had suffered from decades of environmental pollution.

Other courts are also breaking new ground in this sphere.

In Colombia in April, in response to a lawsuit filed by a farming couple who were driven out of their home by flooding caused by heavy rains, the country's constitutional court recognised the links between environmental disasters and climate change and people being forcibly displaced.

Across the world, other top courts are also examining the connection between human rights and climate change. On April 9, the European Court of Human Rights (ECHR) ruled that the Swiss government had violated the human rights of its citizens by failing to do enough to combat climate change.

Two other courts – the International Court of Justice (ICJ) and the International Tribunal for the Law of the Seas (ITLOS) – are also expected to give advisory opinions on international legal obligations of states regarding climate change.

Kopas said the IACHR ruling could lead the way by delivering a "forward-reaching and progressive" advisory opinion.

"It's historic because of the climate crisis we are in. This is the crisis of our lifetime and of all future generations."

– Thomson Reuters Foundation

Greece Spearheads a Dynamic Energy Transition

Countries have different energy priorities due to factors like the availability of energy resources, geopolitics, the population size, environmental considerations and excessive use of energy, the needs of industry, and the availability of technology.

The most representative energy priorities among countries, including Greece, revolve around energy security, reduction of greenhouse gas emissions, affordability, and avoidance of deforestation. Construction of additional energy infrastructure and charging energy consumers with more taxes for excessive energy use constitute additional energy priorities. According to a market survey conducted by IPSOS in

late 2022 that engaged 24 thousand people in 28 countries, the top energy priority was that of energy security followed by the development of cleaner energy sources, like wind and solar, and the affordability of energy.

The war on Ukraine brought energy security to the forefront of concerns for many regions, particularly Europe. Directly impacted countries, like Germany, have had to reactivate coal production and extend the operational lives of nuclear power plants to ensure efficient supply of energy to consumers.

Electricity Generation from Renewables

Despite challenges associated with the war on Ukraine, Greece has emerged more resilient by enhancing reform of its energy market and accelerating deployment of renewables in accordance with the National Climate Law of 2022. The Climate Law signals concrete milestones for Greece's energy transition with most prevalent the reduction of greenhouse gas emissions by 55 percent by 2030 and, achievement of net zero emissions by 2050.

The Climate Law also foresees a total phase-out of lignite generated electricity by 2028. Notably, Greece ranks 2nd out of the 27 EU member states in the reduction of electricity generation from certain solid fossil fuels; lignite generated electricity decreased by 57,7 percent in the first 8 months of 2023 compared to the same period of 2019 according to the Greek Independent Power Transmission Operator (IPTO).

The reduction of the use of solid fossil fuels has been offset by the accelerated development of renewable sources of energy, construction of critical energy infrastructure, and promotion of plans for Greece to position itself as key hydrogen hub in Europe. It is only in four years that Greece enhanced the installed capacity of renewable energy plants, accounting for 50 percent of electricity generation, with a clear target for electricity generation from renewables to reach 80 percent by

2030. The Greek solar photovoltaic market has gained most traction with 1.4 GW of new photovoltaic projects connected to the grid in 2022 and with anticipation of 10.9 GW to be added during the period of 2024-2027 according to the latest report by industry association Solar Power Europe.

The Offshore Wind Challenge

Wind energy in Greece has been surpassed by photovoltaics in new and total installations primarily due to delays in the licensing process. The largest onshore wind power plants include the 336 MW onshore Evia Wind Farm of Ellaktor located in Evia, Central Greece; the 330 MW Kafireas wind farm of Terna Energy on the island of Evia; and the 153MW Imathia Kozani Wind Farm under development by 547 Energy LLC, located in West Macedonia. Greece's revised National Energy and Climate Plan (NECP) sets a clear target of 2 GW for onshore wind capacity and 2.7 GW for offshore wind capacity by 2030.

Greece swiftly moves forward to tap for the first time ever its offshore wind potential in pursuance of the national offshore wind farms development program that incorporates 25 eligible development areas in the Ionian, Aegean, and the East Mediterranean Seas.

An environmental impact assessment that has been completed by the Hellenic Hydrocarbons and Energy Resources Management Company includes maritime zones of over 2,712 square km where floating technology will be employed for the offshore wind farms in full compliance with environmental safeguards striking a balance between offshore wind energy, national security, and tourism.

Offshore wind energy falls under the creation and development of new markets along with carbon dioxide CO2 capture and green hydrogen production.

Unlocking the CO2 Storage Potential

Clean hydrogen can prove to be commercially viable due to the use of CO2. CO2 can be transported from where it is produced, via ship, truck or in a pipeline, and be used in commercial applications such as food and beverage production, metal fabrication, and cooling.

The majority of commercial applications center on the direct use of CO2 by turning it into chemicals and construction materials. Liquid CO2 can also be transported to an underground site where it can be permanently stored under strict environmental standards. The capture and storage of CO2 contribute to the decarbonization of heavy industries and the development of clean hydrogen.

It is in this context that Greece swiftly moves to identify potential areas for CO2 storage, with the most mature option being that of Prinos basin. Specifically, under Greek and European legal contexts, an exploration permit has been awarded to medium-sized Energean Oil & Gas for CO2 storage in the depleted Prinos field evaluated as the best option because of its depth and structure.

Prinos is scheduled to be operational from the fourth Quarter of 2025 as small-scale project with capacity of up to 1 million tons (MT) of CO2 annually and with plans to increase capacity from the fourth Quarter of 2027 up to 3 MT of CO2 annually. Areas with saline aquifers, mafic rocks and oil and gas fields throughout Greek territory are evaluated as potential storage sites.

Prospects of a Hydrogen Hub for Europe

Green hydrogen production and transportation falls within the priorities of the Greek National Energy and Climate Plan. It is estimated that little investment is required, primarily in the form of developing compression stations, for the conversion of the existing national network to transport hydrogen. Extensive cross-border pipelines like Interconnector

Greece-Bulgaria (IGB) and Trans Adriatic Pipeline (TAP) have the potential to transport hydrogen.

Proper energy infrastructure can guarantee that massive imports of hydrogen from the Middle East and North Africa are directed to Europe via Greece. The European Union has declared that as the Ukraine war goes on it will have to import 10 MT of renewable hydrogen annually until 2030.

The first major hydrogen project that meets demands of industrial production has been launched in the north-west of Saudi Arabia, in a region called NEOM, that has been declared an exclusive renewable and hydrogen zone. The Neom Green Hydrogen Company project constitutes an 8.4-billion-dollar green hydrogen and green ammonia production facility that will integrate 4 GW of wind and solar energy to produce 600 tons of carbon-free hydrogen per day. Large-scale production of renewable hydrogen from the NEOM region is expected to begin in 2026, and green hydrogen will be exported in the form of green ammonia.

Overall, Greece fosters an effective energy transition with a blend of renewable energy pathways and a match of CO2 storage and hydrogen transportation. It is with no doubt that important targets and deliverables are on the horizon.

Antonia Dimou

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Developing Countries Need Debt Relief to Act on Climate Change

While developed economies have pledged to increase climate financing sharply by 2030, developing-economy policymakers are struggling to cover the costs of action. With medium-term strategies being used to address a short-term threat, progress on the green transition will be undermined, with potentially catastrophic implications.

WASHINGTON, DC/PARIS – If developing economies found it hard to manage their debts in 2023, they are likely to face even more formidable challenges this year. Though most possess relatively small debt stocks and are not considered insolvent, many are in dire need of liquidity. As long as this remains true, they will struggle not only to manage their debts, but also to invest in the green transition.

Developing economies have faced a series of external shocks in recent years, including the COVID-19 pandemic, war-related disruptions of food and energy supply chains, and an uptick in global inflation. Moreover, their access to capital

markets has been curtailed, preventing them from rolling over maturing loans, as they would do in normal times. As a result, countries have been forced to channel a large share of their tax and export revenues to service their debt, avoiding default at the cost of priorities like infrastructure investment, social-welfare programs, and climate action.

The outlook for these countries is likely to worsen in the next few years. According to estimates by the Finance for Development Lab (FDL), large debt payments are coming due in 2024 and 2026 for at least 20 low- and lower-middle-income countries. As countries hit this “debt wall,” their already fragile fiscal positions will deteriorate further. This does not bode well for climate action.

Climate change is not some distant menace; its effects are already being felt worldwide, especially in climate-vulnerable developing economies. But international summits on the topic last year sent a disappointing message: while developed economies pledged to increase climate financing by 2030, developing-economy policymakers are struggling against severe fiscal constraints. With medium-term strategies being used to address a short-term threat, developing and emerging economies have been expressing frustration, including at the Summit for a New Global Financing Pact that was held in Paris last June.

Multilateral development banks can provide an essential lifeline, but their capacity would have to be strengthened – and quickly. According to World Bank data, the new concessional loans the world’s poorest countries received from MDBs in 2022 were smaller than these countries’ debt-service payments, a large share of which went to private and bilateral creditors. Increasing capital flight from the developing world – driven not least by monetary tightening in advanced economies – will intensify the needs of illiquid lower-income countries.

But it is not only a matter of financial capacity. MDBs have

so far been inconsistent, at best, when it comes to supporting countries struggling to repay their debts. For example, both Kenya and Ethiopia have been under pressure to repay their private and Chinese creditors, which are now collecting more in debt-service payments than they are providing in new loans. But only Kenya received enough support from the International Monetary Fund, the World Bank, and others to refinance its debt that is maturing this year.

By contrast, assistance to Ethiopia has declined in recent years. As a result, Ethiopia recently defaulted on its external debt, even though it amounts to just 25% of GDP. While the Kenya approach is not the solution – providing similar levels of support to all illiquid countries would require a tripling of MDB flows – this is clearly unacceptable.

A better approach would focus on closing the gap between short-term debt concerns and long-term investment needs, by unlocking net-positive inflows for countries facing liquidity constraints. As the FDL has proposed, an agreement among debtors, creditors, and MDBs to permit countries to reschedule debts coming due – delaying maturities by 5-10 years – would create fiscal space for climate-friendly investments, financed by MDBs.

For this liquidity bridge to work, MDBs would have to accelerate progress on implementing existing reform plans and increase funding substantially, while the IMF helps manage debt-rollover risks. Importantly, private and bilateral creditors would have to agree to the rescheduling. That is why, compared to the Debt Service Suspension Initiative that the G20 introduced in 2020, the proposal includes stronger incentives for private-sector creditors to participate, in addition to longer time horizons.

There are good reasons to believe that creditors can be convinced to join the program voluntarily. It is, after all,

in their best interest to remain invested in solvent countries with strong growth prospects; no one benefits from debt crises like those that have ensnared Zambia and Sri Lanka. In any case, creditors would continue receiving interest payments, and as global interest rates fall and economic-growth prospects improve in the coming years, debtors may well be able to return to capital markets and resume repayment of the principal.

Shaping a workable blueprint along these lines is a task for upcoming international gatherings, such as the G20 summit in Brazil later this year. Logistical and financial coordination will be needed to ensure sufficient liquidity. Coordination among the IMF, the World Bank, and regional development banks will also be essential to ensure that participating debtor countries pursue investments that genuinely support green growth.

If nothing is done to help countries facing liquidity crises, the world will risk a wave of destabilizing debt defaults, and progress on the green transition will be severely undermined, with catastrophic implications for the entire world. Because promising solutions like the liquidity bridge can prevent such outcomes, they deserve broad global support.

UN climate chief calls for $2.4tn inclimate finance

The world needs to mobilise at least $2.4tn to keep global climate change goalswithin reach, the United Nations climate chief said in a speech yesterday.

Simon Stiell, executive secretary of the UN Framework Convention on ClimateChange (UNFCCC), addressed a group of students at the Azerbaijan DiplomaticAcademy in Baku, host of the COP29 climate summit in November, laying out thesteps that need to be taken this year to turn the commitments made at last year’ssummit in Dubai into reality.

This was Stiell’s first major speech since the UN gathering in Dubai, where nearly200 countries agreed to begin a transition away from fossil fuels to avert the worstimpacts of climate change.

“It’s clear that to achieve this transition, we need money, and lots of it – $2.4tn, ifnot more”, excluding China, Stiell said in prepared remarks, citing a reportreleased in December from the High-Level Expert Group on Climate Finance.

“Whether on slashing emissions or building climate resilience, it’s alreadyblazingly obvious that finance is the make-or-break factor in the world’s climatefight – in quantity, quality, and innovation,” he said. “In fact, without far morefinance, 2023’s climate wins will quickly fizzle away into more empty promises.”

Climate finance will be the main focus of the Azerbaijan-

hosted talks, wheregovernments will be tasked with setting a new target post-2025 for raising moneyto support developing country efforts to cut emissions and adapt to the worseningimpacts of climate change.
Setting a new financial goal will be challenging given that countries only met lastyear a goal set in 2009 to mobilise $100bn a year in climate finance by 2020.
“It’s already blazingly obvious that finance is the make-or-break factor in theworld’s climate fight,” he said, adding that without more finance, the winsachieved at the COP28 Dubai summit will fizzle out.
Stiell said that the year should be spent ensuring that the global financial systemand multilateral banks can meet the task of ramping up climate finance, and urgedbanks to triple the amount of climate grants and concessional finance by 2030and triple the rate of private capital they mobilise.
More broadly, he cautioned against taking “victory laps” after the UAE agreement,saying that the political agreement reached in Dubai enables countries to hidebehind “loopholes”.

“The action we take in the next two years will shape how much climate-drivendestruction we can avoid over the next two decades, and far beyond,” he said.
The world is currently far off track in delivering on its cornerstone climate deal,agreed in Paris in 2015.
Under the Paris Agreement, world leaders pledged to keep the rise in Earth’saverage temperature to “well below” 2.0° Celsius above the pre-industrial leveland preferably the much safer threshold of 1.5C.
The 2020s are critical for keeping that 1.5C target in view, with UN climate expertsestimating that planet-heating greenhouse gas emissions need to be slashed bysome 43% by 2030.
There is progress, with a surge in clean energy technologies like solar, wind andbatteries, as well as electric vehicles.
However, emissions continue to rise.
A key challenge that is likely to take centre stage at this

year’s climate talks inBaku, as well as meetings of the World Bank and International Monetary Fund(IMF), is how to support emerging economies manage and pay for their transitionto clean energy.

Many of these nations are currently mired in debt and facing a raft of challenges,from inflation to growing climate impacts.

Meanwhile global warming continues, with 2023 confirmed as the hottest everrecorded and experts warning 2024 could be even hotter.

The Earth is now about 1.2C warmer than it was in the 1800s.

This is already having an accelerating impact on people and ecosystems acrossthe planet, from heatwaves and droughts, to devastating floods and storms.

A damning appraisal of countries’ decarbonisation efforts so far, released lastyear, showed the world heading for catastrophic planetary heating.

Stiell conceded it would take an “Olympian effort” to get the world on track.

One key task for countries will be to outline a new round of national climatetargets for 2035 ahead of a pivotal COP30 meeting, due to be held in Brazil in2025.

These pledges should be strengthened to align with the 1.5C goal, cover thewhole economy and all greenhouse gases, Stiell said.

“The action we take in the next two years will shape how much climate-drivendestruction we can avoid over the next two decades, and far beyond,” he added.

Climate change march: From

Paris to Glasgow

The latest IPCC report shows that we are dangerously close to 1.5C already. Every fraction of a degree matters

The COP26 climate conference will be a clarifying moment, poised between global co-operation and competition. As one of the key French officials tasked with delivering a deal at COP21 in Paris in 2015, I can attest to the weight of expectations placed upon this year's hosts, Italy and the United Kingdom.

The summit in Glasgow this November is by far the most fraught meeting of governments since Paris. Paradoxically, greater global integration continues alongside emerging fault lines, including the injustices of the Covid-19 pandemic and a growing desire for inward, nationalistic policies.

While global trade is on track to increase by 8% this year, after falling by 5.3% in 2020, the rollout of medical supplies along global supply chains has exposed deep sources of antagonism and rivalry. The issue of vaccine solidarity –

compounded by wealthy countries earmarking trillions for their own economic recoveries – has seriously strained multilateral ties. COP26 is approaching under a cloud of tension.

This year's conference will test the spirit of co-operation that emerged in Paris, where – after several abortive efforts – 196 governments adopted the historic Paris accord and made "net zero" a geopolitical reality. The agreement has since provided the organising principle for all climate action – one that nation states, regions, cities, businesses, investors, civil society, and individuals all had a voice in, and can all act upon. This was people-powered multilateralism at its best.

Six years later, we ought to be seeing a positive domino effect of bold pledges from states. Instead, we are watching a nervous game of poker. As with vaccines, wealthier countries are not sharing their wealth and technology.

Tellingly, the international community still has not met the Paris agreement's target of $100bn per year for supporting climate investments in developing countries. This figure is a threshold, not an end goal: it is essential that we clear this hurdle for all parties at COP26 to know that wealthy countries mean business and are sincere in their solidarity.

Equally concerning is the absence of specifics for how G20 countries intend to meet abstract net-zero targets. Many remain fully locked into fossil fuels. Since these economies account for almost 80% of worldwide emissions, they must start including more concrete, comprehensive decarbonisation planning as part of their Nationally Determined Contributions (NDCs) under the Paris agreement.

The European Commission's new Fit for 55 plan shows how this can be done in a detailed, sector-specific way. Unfortunately, the European Union is the exception. Everyone else is still playing poker, even as the room fills up with water.

Just this year, climate-driven disasters have struck Brazil, Canada, Madagascar, China, Germany, Russia, the United States, and many others. There is no need to recall every cataclysmic weather event, because it is already sufficient to say that the problem has broken beyond our readiness.

As climate modelling improves, the path to remaining within 1.5C of warming is narrowing before our eyes. In early August, the latest report from the Intergovernmental Panel on Climate Change (IPCC) showed that we are dangerously close to 1.5C already. Every fraction of a degree matters. The differences between a 1.5C world and a 2C world would be dramatic.

When we were negotiating the Paris agreement, the preceding G20 gathering was similarly fraught – some might say disastrous. Many felt the COP21 was doomed to fail as a result. But after weeks of intense work and dialogue, the Paris summit managed to exceed most expectations, mine included.

How can the UK and Italy steer the talks toward another successful outcome? If the parallels with 2015 offer any indication, the key for this final "sprint" is to emphasise that no-one, and no single country, can tackle the climate crisis alone. Because every single party to the United Nations Framework Convention on Climate Change has an equal say, any single signatory can cause negotiations to stumble. Good faith dialogue, concrete plans, and serious means to finance them are the only way forward.

There are some recent positive developments to build on. Earlier this year, South Korea and Japan – respectively the world's second- and third-largest coal financiers after China – both pledged to end their public coal investments abroad.

But there are also clear areas where governments have more work to do. According to the International Energy Agency, staying on track for net-zero emissions by 2050 requires that no new coal, oil, or gas projects be started after 2021. That means all of the world's largest emitters must immediately end coal investments abroad and clarify how they will phase out their own use of coal.

Only a sincere spirit of multilateralism can solve the imbalance at the heart of the climate crisis, the impacts of which are profoundly unfair. Countries that are hardly responsible for the problem's escalation are the ones facing the most severe, often existential risks. Why would small

island states negotiate themselves into submersion?

The Paris agreement was only possible because of its commitment to multilateralism, and this remains the best guide to ensuring its relevance. It is telling that soon after a G20 climate meeting delivered few tangible positives this year, the world's Least Developed Countries issued a statement calling on their wealthier counterparts to "take responsibility."

Sovereign, competitive impulses will always strain the space for cooperation. But within that space, there are ample opportunities to achieve positive-sum outcomes – in technological innovation and adoption, for example. These instincts are rooted in the national interest, and thus should be responsive to the fearsome, increasing prospect of overshooting 1.5C.

In this spirit, some concrete steps to defuse tensions at COP26 would include a dedicated item for meaningful discussions on "loss and damage," while this summer's ferocious weather events still loom large in everyone's memory. The conference also must press the issue of financing for climate adaptation efforts as part of the broader drive to meet the minimum $100bn per year target. Finally, G20 countries that have not delivered their NDCs must do so as soon as possible, demonstrating that their policies are sufficient to keep the world on a 1.5C pathway.

G20 countries anxious to promote their role as climate leaders must listen carefully to the warnings from others, particularly those on the front lines. If we see momentum on these fronts between now and November, the UK and Italy could herald COP26 as a success, keeping the 1.5C goal in our sights. – Project Syndicate

l Laurence Tubiana, a former French ambassador to the United Nations Framework Convention on Climate Change, is CEO of the European Climate Foundation and a professor at Sciences Po, Paris.

Cheap imports threaten US solar panel production boom

US companies have announced plans to build dozens of solar panel factories across the country since last year when President Joe Biden’s signature climate law unleashed billions of dollars of subsidies, raising hopes a clean energy boom can provide tens of thousands of good paying jobs.

But global solar panel prices have collapsed due to a wave of new Asian production capacity in recent months, leading many in the US solar industry to worry many of these proposed factories may be uneconomical. As many as half may soon be delayed or canceled, a figure not previously reported, according to Reuters interviews with industry analysts, solar companies, and trade groups.

Changing market forces have already derailed solar

manufacturing operations in Europe. In recent days, the US race for a clean energy transition has already been hit by huge writedowns and project cancellations the offshore wind industry.

“The more prices decline in the global market, the more difficult it is to build US local manufacturing,” said Edurne Zoco, executive director for clean energy technology at S&P Global Commodity Insights. “If the cost gap between imported modules and locally manufactured modules is too big … many of these announcements might not happen.”

Solar shipments into the US more than doubled through August to $10bn from about $4bn a year earlier, according to the US International Trade Commission.

The domestic industry’s souring outlook could hurt Biden’s climate agenda and hinder reelection efforts for a president who has hailed solar project plans as proof his clean energy policies can create millions of good-paying jobs.

US solar manufacturers and trade groups have said they need more government help at the federal and state levels or those jobs may not materialise, and the US will keep relying on panels made with mainly Chinese components. US officials have repeatedly warned that over-reliance on Chinese clean energy technology could pose a security risk similar to Europe’s historical dependence on Russian natural gas.

A White House spokesperson did not respond to questions about recent market challenges facing domestic solar manufacturers, but said Biden’s policies had generated a huge wave of investment and were revitalising American manufacturing.

Companies have announced over three dozen solar factories since passage of the Inflation Reduction Act in August 2022 that collectively promised to create 17,000 jobs and bring in nearly $10bn in investment, according to projects tracked by the clean energy business advocacy group E2.

Of eight solar company representatives, trade groups and researchers who spoke to Reuters, all eight agreed the market has worsened. Energy research firm Wood Mackenzie shared its new forecast that just 52% of the 112 gigawatts of solar

module capacity companies planned will be online by the target date of 2026, a projection it has not previously made public.
Mike Carr, executive director of the Solar Energy Manufacturers for America trade group, said factories could be delayed, extending US dependence on China.
“A misunderstanding of the policy opportunity here could really undermine a signature initiative of this administration, which is to restore manufacturing competitiveness to the United States, and particularly in such a key industry,” Carr said.
Globally, the solar industry has already absorbed a 26% drop in panel prices this year to about 19 cents per watt, according to S&P Global Commodity Insights. US prices have been more resilient, but SEMA and analysts say spot prices are declining for those without long-term contracts.
The increase in solar imports stems partly from a temporary waiver of tariffs on Malaysia, Thailand, Cambodia and Vietnam, which expires in June, 2024. Imports are also up sharply from India, Mexico and other nations unaffected by that move.
The IRA provides a decade of tax incentives worth 30% of a project’s cost. But industry consultant Brian Lynch said that could be outweighed by the glut of cheap panels and worries about rising costs for labor, raw materials and financing.
“It’s almost like Dr Jekyll and Mr. Hyde. The incentives to site and open up a US factory are phenomenal,” Lynch said. “But if pricing is going to continue to go down, if the continued gamesmanship on the trade is going to continue, they can’t justify it.”
The US Commerce Department said imported panels and cells remained important to the clean energy transition.
“Commerce is committed to holding foreign producers accountable to playing by the same rules as US producers,” a Commerce spokesperson said.
The IRA also contains a 10% bonus credit for panel manufacturers using American-made components. This perk is critical for domestic panels that may command a 40% price

premium to imported alternatives, according to Wood Mackenzie. But so few components are produced domestically that much of the industry cannot secure that bonus. So far, solar module factory announcements have been more than double those for solar cells, the crucial components that transform sunlight into energy.

The industry needs more government help, including “the right tax and trade policies that build on the IRA and similar state laws that create the space for emerging US solar manufacturers to compete on a global scale,” said Danny O’Brien, president of corporate affairs at Hanwha Qcells, which is making one of the largest investments in the domestic solar supply chain.

Meyer Burger, which plans to build a factory in Colorado, said the government needs to help domestic manufacturers deal with “underpriced products that are coming from Asia”.

The Solar Energy Industries Association (SEIA), a large solar trade group that has long opposed tariffs, is also advocating for more support for manufacturers, warning it does not expect that every proposed factory will be built.

Convalt Energy plans next year to open 2 gigawatts of module capacity in New York and Maine followed by a facility for components in 2025. CEO Hari Achuthan said module production lines are already about four months behind schedule because the company’s financiers are waiting for the Treasury Department to issue crucial rules on how to secure the IRA tax credits.

“Our country has done a phenomenal job seeing through the IRA bill. But now it’s going to come down to the details of the IRA and how we execute it and the support that we need to get from the Commerce Department and anybody else with regard to tariffs on imports,” he said. — Reuters