

NFE project to 'reposition' Qatar as world leader in LNG liquefaction capacity: IGU



The multi-billion dollar North Field East (NFE) project will “reposition Qatar as the world leader” in terms of liquefaction capacity, overtaking Australia, the International Gas Union (IGU) has said in a report.

Qatar Petroleum has taken the final investment decision for the NFE project, the world’s largest LNG project, which will raise Qatar’s LNG production capacity from 77mn tonnes per year (mtpy) to 110mtpy.

The project involves the construction of four new LNG mega-trains with a capacity of 8mtpy, the IGU said in its ‘World LNG Report 2021’.

This year’s global LNG trade increased to 356.1mn tonnes, a small increase of 1.4mn tonnes compared to 2019, but another year of consecutive growth in LNG trade despite Covid-19 related impacts on the supply and demand sides, noted Joe M Kang, president, IGU.

This was mostly supported by increased exports from the US and

Australia, together adding 13.4mn tonnes of exports.

Asia Pacific again imported the most volumes in 2020, together accounting for more than 70% of global LNG imports. Asia also accounted for the largest growth in imports in 2020 – adding 9.5mn tonnes of net LNG imports compared to 2019.

Global LNG market pricing experienced a turbulent year. Spot prices of cargoes trading in the Atlantic and Asia Pacific basins plummeted to record lows in the first six months, before reaching record highs at the start of 2021.

Pricing responded to Covid-19 impacts on demand, an initially well-supply market, and high storage levels in some markets, followed by a cold winter and shipping constraints.

While 20mn tonnes per year in liquefaction capacity was brought onstream in 2020, all in the US, start-up of several liquefaction trains in Russia, Indonesia, the US and Malaysia were delayed as a result of the pandemic.

The only project that was sanctioned in 2020 was the 3.25 mpta Energia Costa Azul facility in Mexico, and early 2021 Qatar took FID on four expansion trains totalling 32mn tonnes per year, the IGU said.

With additional new projects proposed, global pre-FID volumes stand at 892.4mn tonnes per year, most of which are in North America, the IGU noted. With some 35 new vessels added to the LNG shipping fleet in 2020, the total number of active vessels reached 572 at the end 2020, including 37 FSRUs and 4 FSUs.

Notably, with the exception of one, all new vessels are equipped with membrane containment systems, and 23 of them feature X-DF propulsion systems. Membrane containment systems capitalise on improved fuel efficiencies and lower emissions.

The number of LNG voyages, however, only increased by 1%, largely due to demand impact of Covid-19. Global regasification capacity increased by 19mn tonnes per year in 2020, bringing the total to 850.1mn tonnes per year as of February 2021.

Four new terminals and four expansion projects at existing terminals started importing cargoes – with the majority in the Asia Pacific region. There are now 39 markets that are

equipped with LNG receiving capabilities.

As of February 2021, there was 147.3mn tonnes per year of regasification capacity under construction, of which 72.3mn tonnes per year have communicated start-up dates in 2021, some of which is in new importing markets such as Ghana, El Salvador, Vietnam and Nicaragua.

Offshore regasification capacity increased by 5.6mn tonnes per year, bringing the global floating and offshore regasification capacity to 115.5mn tonnes per year as of February 2021, the IGU said.

Aramco raises \$6bn with debut global sukuk to fund dividend



Saudi Arabian oil giant Aramco locked in another \$6bn yesterday to help fund a large dividend as it returned to the international debt markets with its first USdollar-denominated sukuk sale, a document showed.

The debt issuance, which will help fund a \$75bn dividend commitment that will mostly go to the government, comprises tranches of three, five and 10 years, a document from one of the banks arranging the deal and seen by Reuters showed.

Aramco sold \$1bn in the three-year tranche at 65 basis points (bps) over US Treasuries (UST), \$2bn in the five-year portion at 85 bps over UST and \$3bn in 10-year paper at 120 bps over UST.

Initial price guidance was around 105 bps over UST for the three-year bonds, around 125 bps over UST for the five-year notes and around 160 bps over UST for the 10-year tranche.

The spreads were tightened after the deal attracted combined orders of more than \$60bn.

Aramco last year maintained its promised \$75bn annual dividend to shareholders despite lower oil prices, and is expected to shoulder significant domestic investments in Saudi Arabia's plans to transform the economy.

Fitch assigned Aramco's sukuk issuance programme an A1 rating with a negative outlook, in line with the negative outlook on existing Aramco ratings and tracking a change in Saudi Arabia's sovereign outlook to negative in May last year.

"The company has displayed a strong commitment to pay \$75bn in annual dividends, which in Moody's view is not sustainable should oil prices fall and remain significantly below \$60/bbl," Fitch said.

"Interlinkages between Saudi Arabia and the company imply that any change in rating outlook on the government of Saudi Arabia would be mirrored on Saudi Aramco's rating outlook."

The company chose to issue Islamic bonds over conventional ones due to high demand for the instrument as a result of the low number of dollar sukuk sales in the Gulf this year, a source told Reuters on Monday.

Aramco has been widely expected to become a regular bond issuer after its debut \$12bn issuance in 2019 was followed by an \$8bn, five-part transaction in November last year, also used to fund its dividend.

A source had told Reuters that Aramco was expected to raise up

to \$5bn with the deal, which had 29 active and passive bookrunners working on it.

Active bookrunners on the deal included Citi, HSBC, JPMorgan, NCB Capital and Standard Chartered Bank.

Iran plans oil output hike as it sees nuclear talks progress



Bloomberg / Tehran

Iran said it's preparing to hike oil production even as talks with world powers over how to lift sanctions curbing the nation's crude exports have so far failed to clinch an agreement.

Parties to the 2015 nuclear deal, led by the European Union, are attempting to fully restore the landmark accord that all but collapsed after then-President Donald Trump withdrew three

years ago. The negotiations in Vienna aim to ease US sanctions on the Islamic Republic's economy and scale back a significant expansion of its atomic activities.

In Tehran, President Hassan Rouhani's chief of staff, Mahmoud Vaezi, said that while there had been "great progress" on some economic issues, the fate of oil sanctions hadn't yet been resolved, according to the semi-official Iranian Students' News Agency.

The comments, and an industry report showing another fall in US crude inventories, saw crude extend its gains.

Iran's national oil company, though, laid out plans to revive oil production in the event that US sanctions are removed, starting with an output hike to 3.3mn barrels a day within one month of the penalties being lifted, the official Shana news agency reported.

In a gesture to Iran's leaders, Washington's top diplomat to the International Atomic Energy Agency acknowledged late Tuesday that trust needs to be rebuilt after the damage caused by Trump's policies and appealed to Iran to accept a "mutual return" to the agreement.

Iran's lead negotiator in the talks, Abbas Araghchi, said yesterday that diplomats are set to reconvene in the Austrian capital at some point from Saturday, without giving further details.

"The negotiations are at a point where some key issues still remain outstanding and decisions need to be made regarding those," Araghchi told reporters after briefing lawmakers in Tehran.

The talks coincide with Iran's fast-approaching June 18 presidential election that is widely expected to replace President Hassan Rouhani – a champion of the nuclear deal – with a hardliner who's been very critical of the accord.

Oil markets are closely watching the talks as the removal of

sanctions could trigger a flood of Iranian oil onto markets as the Opec founder-member seeks to reclaim the market share it had before the Trump era.

Libya Oil Production Picks Up After Pipeline Leak Fixed



(Bloomberg) – Libya has cut crude production by nearly 20% due to maintenance at its largest oil field and leaks on pipelines linking other desert deposits to the Mediterranean coast.

The OPEC producer began reducing output at fields operated by the Waha Oil Co. over the last two days because of leaks, Mustafa Sanalla, chairman of the country's National Oil Co., said in an online conference. Production has also dropped at its biggest field, Sharara, over the past two weeks, he said. The outages total more than 200,000 barrels a day, according to people with knowledge of the matter.

Libya holds Africa's largest crude reserves, but it's struggled to pump a fraction of the oil it produced under late dictator Moammar Qaddafi. Fighting between rival factions has put the country's oil fields, ports and workers in the firing line, and faltering sales have starved the nation of the income needed to rebuild its infrastructure. Freeing up access to investment would help expand the country's output beyond

previous levels, Sanalla said.

“The NOC is facing tremendous challenges in the rehabilitation and restoration of oil installations,” Sanalla said. “The lack of funds needed for the projects” and the country’s fragile security situation hurt its ability to complete needed work and upgrades, he said.

That means the country is missing out on taking full advantage of oil prices that have surged by 40% this year. Production cuts by the Organization of Petroleum Exporting Countries and partners like Russia have pushed crude to about \$70 a barrel as economies exit coronavirus-linked lockdowns and energy demand recovers.

Production Capacity

Libya pumped 1.14 million barrels a day in May, according to data compiled by Bloomberg. The country wants to boost production capacity to 2.1 million barrels a day over the next few years but faces enormous obstacles to that aim, Sanalla said. Analysts surveyed by Bloomberg estimate the country can pump at most 1.3 million barrels daily.

With the latest problems, production at Sharara is down by about 50,000 barrels a day, Sanalla said, without saying when output might be restored.

Fields operated by Waha Oil have cut production to about 140,000 barrels a day from normal output of 300,000 barrels, according to two people with knowledge of the situation who asked not to be identified discussing operational matters.

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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."

World's Top Oil Trader Vitol Sees OPEC+ Controlling Crude Market



(Bloomberg) – OPEC+ seems in charge of crude costs as U.S. manufacturing is lagging pre-pandemic ranges, in line with a senior govt on the world’s greatest unbiased oil dealer, Vitol Group.

The decline in U.S. drilling and output leaves little competitors to efforts by the producers’ group to handle markets, Mike Muller, Vitol’s head of Asia, stated throughout an internet convention on Sunday. Brent crude closed above \$70 a barrel final week for the primary time in two years, as patrons demand extra oil than producers are pumping.

U.S. oil producers are nonetheless using solely half the rigs they used earlier than the coronavirus struck. Meanwhile OPEC+, because the group led by Saudi Arabia and Russia is thought, is easing barrels again on to the market as demand recovers.

“There’s a perception in the market that control is with OPEC+,” Muller stated on the occasion hosted by the consultancy Gulf Intelligence. “It will take a long time for

U.S. oil to come back" to manufacturing ranges seen earlier than the coronavirus outbreak, he stated.

The Organization of Petroleum Exporting Countries and companions agreed final week to proceed easing manufacturing restraints in July however left markets guessing about what it should do for the remainder of the yr. After reducing manufacturing by some 10 million barrels a day, or a tenth of every day international demand, the group nonetheless has about 6 million barrels a day of idle capability.

China's economic system will proceed to develop, serving to bolster oil demand and bringing down crude stockpiles, Muller stated. Economic enlargement and regulatory adjustments there'll doubtless trigger home refineries to course of extra crude, he stated. "It doesn't pay to hold inventory at all," Muller stated. "De-stocking must continue from a purely commercial perspective."

More Iranian crude oil is more likely to hit markets this yr after an anticipated deal to restrict the nation's nuclear program in return for the U.S. easing sanctions. Iran is restricted in how shortly it could actually carry oil again to the market since a variety of its saved barrels are condensate, a lightweight and sulfurous liquid which can be more durable to promote, he stated.

Given delays in negotiations final week, Muller stated it's much less doubtless extra Iranian barrels will hit the market earlier than the fourth quarter.

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G7 finance ministers meet, global corporate tax deal 'within sight'



Finance ministers from the G7 countries met face-to-face for the first since the pandemic. A key issue on the agenda is possible tax rules for major multinationals.

Finance ministers from Group of Seven nations are meeting in London on Friday kicking off two days of talks, as the Europeans expressed optimism that a US-backed global minimum corporate tax rate was now “within sight.”

The meeting, chaired by British Chancellor of the Exchequer Rishi Sunak, will be the first time since the start of the pandemic that all seven ministers will get together in person.

However, because of COVID-19 restrictions, the delegation has been trimmed down and the seating plan has been reworked with the help of public health officials.

"I believe we can make significant progress in tackling some of the world's most pressing economic challenges," Sunak said shortly before the meeting began.

The talks are expected set the ground for the broad summit of G7 leaders, scheduled to take place in Cornwall, southwest England, starting on June 11.

What is the minimum global corporate tax?

The spotlight at the meeting will be on a global minimum corporate tax rate, proposed by the United States.

President Joe Biden has called for minimum corporate tax rate of 15%. If a company pays taxes somewhere with a lower rate, it would probably have to pay top-up taxes.

According to the proposal, the global minimum tax would be levied only on the world's 100 largest and most profitable companies.

Britain, Germany and France have welcomed this approach in theory but want to ensure companies such as Amazon – which has lower profit margins than other tech firms – do not escape the net.

"All of them, and without exception" must be covered by the new rules, German Finance Minister Olaf Scholz told news agency Reuters.

The finance ministers also hoped an agreement could be reached at the broader G20 meeting which will be held in Venice in July.

Deal 'within sight,' European ministers say

There is broad support for the proposal among the European members of G7.

A deal on a minimum corporate tax rate is "within sight,"

finance ministers from France, Germany, Italy and non-G7 member Spain said in *The Guardian* newspaper on Friday.

“For more than four years, France, Germany, Italy and Spain have been working together to create an international tax system fit for the 21st century,” the four ministers said. “It is a saga of many twists and turns. Now it’s time to come to an agreement.”

Japanese Finance Minister Taro Aso said earlier this week that he did not expect agreement on a specific minimum tax rate during this meeting.

US Treasury Secretary Janet Yellen said she expected a fuller agreement when G7 leaders met later this month.

Digital services taxes

Host nation Britain has been on the fence on the corporate tax issue, calling for wider tax reforms.

The UK also insists that companies should pay more tax where they make their sales, not just where they book profits, or locate their headquarters.

“Securing a global agreement on digital taxation has also been a key priority this year,” Sunak said in a statement. “We want companies to pay the right amount of tax in the right place, and I hope we can reach a fair deal with our partners.”

The US wants an end to the digital services taxes which the UK, France and Italy have levied, and which it views as unfairly targeting American tech giants for tax practices that European companies also use.

The issue of digital taxation has become a flashpoint in trade relations among the economic powers.

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.

A global incentive to reduce emissions



- **A fair proposal for reducing emissions would go some way towards reassuring that we do not live on another planet. And it would give everyone a greater incentive to save this one**

With President Joe Biden's administration recommitting the United States to the Paris climate agreement, and with a major United Nations climate-change conference (COP26) coming later this year, there is new hope for meaningful global policies to meet the challenge. But while mounting evidence of increasing climate volatility – unprecedented wildfires in Australia, droughts in California and Sub-Saharan Africa, intensifying hurricane and cyclone seasons – suggests that we must move fast in curbing planet-warming greenhouse-gas (GHG) emissions, there are serious impediments to concluding any new global accord.

Economists generally agree that the way to reduce GHG emissions is to tax them. But such taxes almost certainly will cause disruptive economic changes in the short run, which is why discussions of imposing them tend to run quickly into free-rider or fairness problems.

For example, industrialised countries such as the US are concerned that while they work hard to reduce emissions, developing countries will keep pumping them out with abandon.

But at the same time, developing countries like Uganda point out that there is profound inequity in asking a country that emitted just 0.13 tonnes of carbon dioxide per capita in 2017 to bear the same burden as the US or Saudi Arabia, with their respective per capita emissions of 16 and 17.5 tonnes.

The least costly way to reduce global emissions would be to give every country similar incentives. While India should not keep building more dirty coal plants as it grows, Europe should be closing down the plants it already has. But each country will want to reduce emissions in its own way – some through taxation, others through regulation. The question, then, is how to balance national-level priorities with global needs so that we can save the one world we have.

The economic solution is simple: a global carbon incentive (GCI). Every country that emits more than the global average of around five tonnes per capita would pay annually into a global incentive fund, with the amount calculated by multiplying the excess emissions per capita by the population and the GCI. If the GCI started at \$10 per tonne, the US would pay around \$36 billion, and Saudi Arabia would pay \$4.6 billion.

Meanwhile, countries below the global per capita average would receive a commensurate payout (Uganda, for example, would receive around \$2.1 billion). This way, every country would face an effective loss of \$10 per capita for every additional tonne that it emits per capita, regardless of whether it started at a high, low, or average level. There would no longer be a free-rider problem, because Uganda would have the same incentives to economise on emissions as the US.

The GCI also would address the fairness problem. Low emitters, which are often the poorest countries and the ones most vulnerable to climatic changes they did not cause, would receive a payment with which they could help their people adapt. If the GCI is raised over time, the collective sums paid out would approach the \$100 billion per year that rich countries promised to poor countries at COP15 in 2009. That would far exceed the meagre sums that have been made available

thus far. Better still, the GCI would assign responsibility for payments in a feasible way, because big emitters typically are in the best position to pay.

Moreover, the GCI would not snuff out domestic experimentation. It recognises that what a country does domestically is its own business. Instead of levying a politically unpopular carbon tax, one country might impose prohibitive regulations on coal, another might tax energy inputs, and a third might incentivise renewables. Each one charts its own course, while the GCI supplements whatever moral incentives are already driving action at the country level.

The beauty of the GCI is its simplicity and self-financing structure. But it would require one adjustment in how per capita emissions are computed. What is consumed is as important as how it is produced, so there will need to be some accounting for the portion of emissions embedded in imported goods; these will need to be added to the importer's emissions tally and subtracted from the exporter's.

Also, most experts would regard a \$10 GCI as too low. But the point is to start small in order to get the scheme going and iron out the kinks. After that, the GCI can easily be raised by common agreement (or reduced, if there were some miraculous breakthrough in emissions-reduction technology). But to avoid creating uncertainty after an initial period of calibration, changes might be considered only every five years or so.

What about alternative proposals that have global effects? Some industrialised countries plan to impose a domestic carbon tax alongside a border-adjustment tax, effectively applying the same tax rate to goods coming in from countries that do not have a carbon tax. The border taxes might push other countries to impose their own carbon taxes, but it certainly would not improve fairness. On the contrary, they would let large importing countries impose their tax preferences on poor exporting countries and might serve as a Trojan horse for protectionism.

To be sure, the bureaucrats who dominate international

meetings will want to dismiss this proposal as “interesting but simplistic” (or words to that effect). The most powerful countries are also the biggest emitters, and few want to pay into a global fund, especially in these times of massive budget overruns.

But a GCI is by far the best option available. As rich countries cast about for remedies to domestic inequality, they should spare a thought for inequality between countries, which the pandemic and the unequal vaccine rollout will only worsen. Developing countries feel abandoned today. A fair proposal for reducing emissions would go some way toward reassuring them that they do not live on another planet. And it would give everyone a greater incentive to save this one.

– Project Syndicate

- *Raghuram G Rajan, former governor of the Reserve Bank of India, is Professor of Finance at the University of Chicago Booth School of Business and the author, most recently, of The Third Pillar: How Markets and the State Leave the Community Behind.*