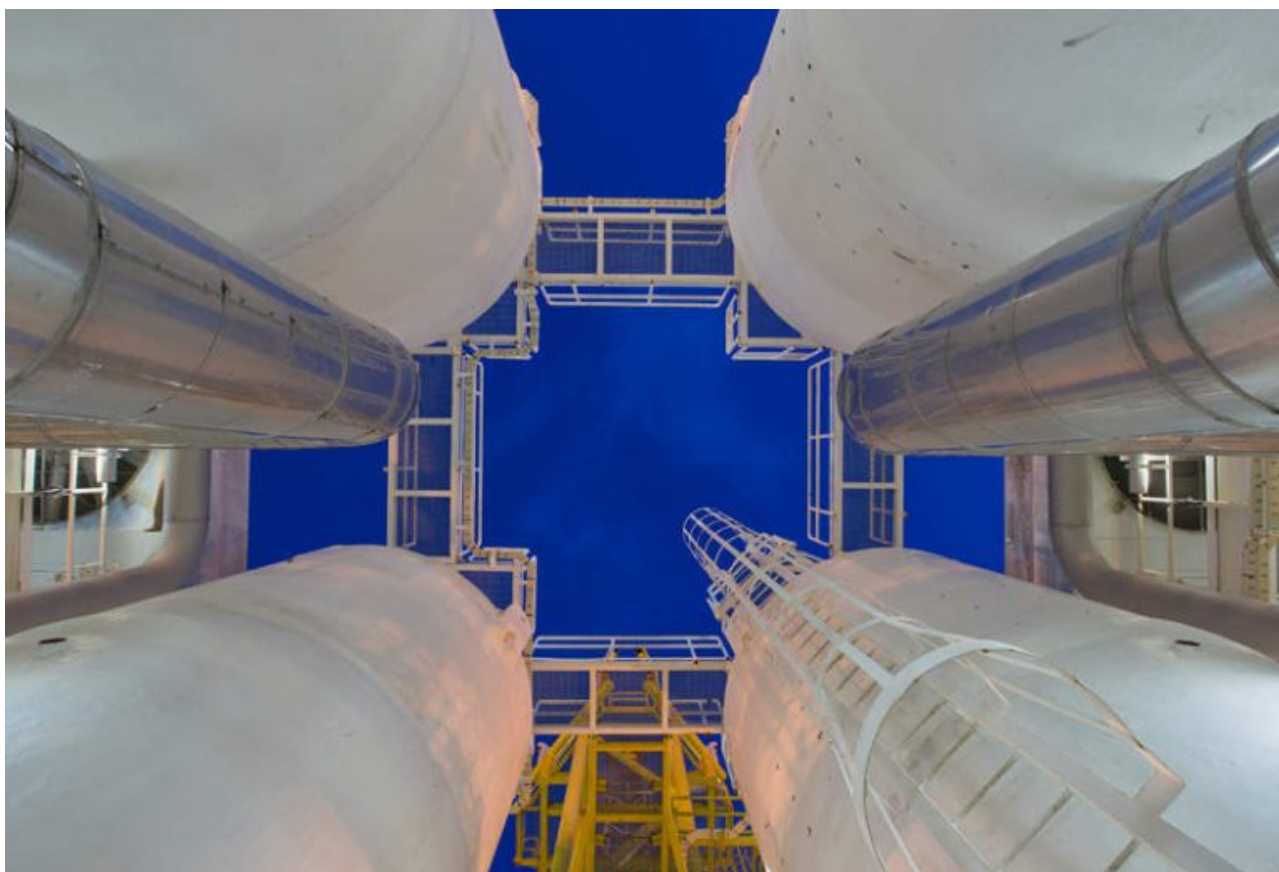


US Exim Bank seeks vote on \$5bn loan to Mozambique LNG project



The US Export-Import (Exim) Bank said on Thursday its board intends to vote on a \$5-billion direct loan for the development of a liquefied natural gas (LNG) project in Mozambique, the bank's biggest export financing deal in years.

The government export lender said it has notified the US Congress of the transaction, which will be ready for a final board vote in 35 days.

If approved, the transaction would support US exports of goods and services for the engineering, procurement and construction of the onshore LNG plant and related facilities on the Afungi Peninsula in northern Mozambique.

Exim said over the five-year construction period the financing

could support 16 400 American jobs among suppliers in Texas, Pennsylvania, Georgia, New York, Tennessee, Florida and the District of Columbia.

It estimated interest and fee income from the transaction of more than \$600-million from a consortium led by Occidental Petroleum Corp.'s recently acquired Anadarko Petroleum Co.

US exports to supply the project, however, face competition from financing offered by foreign export credit agencies.

The project would be the single biggest financing deal since Exim's full lending powers were restored in May with the confirmation of three new board members. That ended a drought of nearly four years in which the bank could not approve loans and guarantees of more than \$10-million due to a protracted fight in Congress over its future.

The bank, seen by some conservatives as providing taxpayer-backed "corporate welfare" and "crony capitalism," was unable to finance major infrastructure projects like the Mozambique LNG plant and commercial aircraft built by Boeing. It needs Congress to renew its charter before September 30 to keep operating.

US President **Donald Trump**'s administration views the bank as a tool to boost US exports in an increasingly competitive trade environment.

"This critical project is not only a win for American companies and workers, supporting over 10 000 jobs in the US, but also for the people of Mozambique as well," US Commerce Secretary **Wilbur Ross** said in a statement.

Exim said the Mozambique LNG project would begin to develop the Rovuma Basin, one of the world's most extensive untapped reserves of natural gas, with a major impact on Mozambique's economy.

Tesla in talks with LG Chem on battery supply in China



Reuters Seoul/Shanghai

US electric vehicle maker Tesla Inc is in advanced talks with South Korea's LG Chem Ltd to source batteries for vehicles to be made in its Shanghai plant, a person familiar with the matter said.

The move represents a push by Tesla to diversify sources of the key component for its electric vehicles from its exclusive supplier, Japan's Panasonic Corp.

Another source said LG Chem agreed to supply batteries for Tesla's China plant, without elaborating.

LG Chem is expanding its China battery capacities and modifying some manufacturing facilities in Nanjing to make a different type of auto battery, according to the first source. The company currently mainly makes pouch-type auto batteries, but as a major battery maker, it is not hard for it to revamp

facilities to make cylindrical auto batteries that Tesla uses, the source and separate people familiar with the matter added. The source said Tesla is still likely to use Panasonic batteries in the initial phase of production and source from other suppliers including local names in the future. A third person said Tesla may source batteries from CATL later, as the Chinese battery maker does not have much experience in making cylindrical batteries used by Tesla.

All of the sources declined to be identified because of the confidentiality of the deal.

Tesla did not immediately respond to Reuters' request for comment.

LG Chem and CATL declined to comment. Tesla chief executive Elon Musk said in November the US company would manufacture all its battery modules and packs at the Shanghai factory, which will make Model 3 and Model Y cars, and planned to diversify its sources.

LG Chem has signed battery material supply agreements with China's Huayou and Tianqi, as the South Korean battery maker is trying to expand its foothold in China.

It said it would set up a joint venture with a unit of China's Geely on batteries.

China has scrapped its so-called "white list" of recommended battery suppliers, which did not include foreign firms when it was first published in 2015 to spur a domestic battery sector, a decision foreign companies said could open up the world's biggest market for electric vehicle batteries.

Panasonic has said it could supply batteries to Tesla's Chinese plant either from Japan, the United States or China

The real obstacle to climate action



By Kemal Dervis And Sebastian Strauss/Washington, DC

Climate change is probably the biggest threat facing humanity today. According to the United Nations Intergovernmental Panel on Climate Change, the world must cut its carbon dioxide emissions to net zero by 2050 in order to prevent global warming of 1.5°C, or likely more, above pre-industrial levels in this century. The challenge calls for drastic immediate action, because the infrastructure investments the world makes today will determine the carbon intensity of its growth path for decades.

Yet despite widespread recognition of the size and urgency of the climate challenge, emissions continue to increase, land is “under growing human pressure,” and the Amazon has never been more threatened.

Much of the early climate debate revolved around whether the world should take drastic immediate action to mitigate global warming, or adopt a more gradual approach. The gradualists argued with some success that drastic immediate measures would

impose heavy short-term economic costs.

But three recent developments have altered the course of the debate. First, the various feedback loops triggered by global warming now threaten to cause greater and more imminent damage than previously thought.

Second, the cost of clean energy has declined much faster than previously assumed. According to the International Renewable Energy Agency, renewable-energy sources are already the cheapest power option in much of the world, with solar and wind technologies leading the way. Moreover, the cost of "greening" could fall even faster in the future through learning-by-doing. This is also likely to be the case in urban design, transportation, agriculture, and forest protection, all of which need to undergo a green transition.

Finally, the immediate negative externalities of the world's current high-carbon growth model, such as air pollution, are now better recognised as adding to the short-term cost of climate change. Reducing them would therefore partially offset the upfront cost of mitigation.

These shifts greatly strengthen the case for pursuing much faster and bolder forms of mitigation. As the 2014 New Climate Economy Report concluded, there need not be a tradeoff between growth and forceful climate action, even in the short term.

So, why is more not being done? For starters, although the green transition may have a small net aggregate cost, it is certain to generate losers (as well as winners). And as is often the case with such transitions (for example with trade liberalisation), the gains will be spread across large parts of the population, while the losses will be more concentrated on specific groups, making them more visible and politically disruptive.

When advocating policies that result in aggregate welfare gains, economists often fail to give enough consideration to their likely distributional impact. Instead, they often implicitly assume that the winners will compensate the losers. But if such compensation does not actually occur, the losers are left worse off and can often block change, as the "yellow

vest” protesters (gilets jaunes) have done since 2018, when the French government proposed a new climate-friendly fuel tax.

The de facto coalition that is currently resisting climate action consists of the vested interests that own carbon-intensive assets (such as oil companies) and the mostly lower-income groups that would be short-term losers in a rapid transition. Compensating the latter and isolating the former is politically essential.

Unfortunately, it is not clear whether, say, the young German urbanites who voted for the Greens in the European Parliament elections this year would happily compensate the older auto workers – let alone Polish coal miners – who would suffer in a rapid transition. And complicating matters further, the groups at risk of short-term losses from green policies are often bearing the brunt of digitisation and globalisation, too.

Another hurdle to bold action is that climate protection constitutes an “additive” global public good, because there is only one atmosphere and the emissions of any one country add to global greenhouse-gas concentrations as much as those of any other country. This causes the free-rider problem of “carbon leakage.” Europe may well reduce its emissions in line with (or even beyond) the aims of the 2015 Paris climate agreement, but if India and China’s emissions keep increasing – or if Brazil allows the Amazon to collapse – those efforts will have been futile.

Clearly, the whole world would benefit from a co-operative solution. But without a binding international agreement or a supranational authority that can impose global green policies, few countries have an incentive to engage in sufficient mitigation efforts – leaving everyone worse off.

One possible measure to deter free riding is a carbon border tax, as recently proposed by the incoming president of the European Commission, Ursula von der Leyen. Governments that tax carbon could levy a border tax equal to the implicit subsidy given to their “dirty” exports by governments who do not have such a tax. This would effectively impose a kind of

shadow carbon price on free riders, prompting them to produce fewer carbon-intensive goods.

Provided that it is non-discriminatory, such border pricing would enhance global welfare and be compatible with World Trade Organisation rules. But calculating the appropriate tax would be very difficult in practice. It would, for example, necessitate calculating the tax equivalent of regulatory ceilings. The measure may also invite countries like the United States to retaliate with distortive measures, making it somewhat perilous. Moreover, the tax would likely have regressive distributional consequences, hurting poor countries the most. A better strategy, then, is to increase green investment in developing countries substantially, with multilateral development banks catalysing private financing in addition to their own funds.

Distributional issues – not aggregate costs – are the real obstacle to the ambitious policies needed to avert possibly catastrophic climate change. Similar challenges, at both the national and international level, also affect the transitions entailed by the so-called Fourth Industrial Revolution.

Neo-nationalist populists are already feeding on the fears created by disruptive change. Ambitious carbonisation could further fan these flames if it is not accompanied by social policies that effectively ease the process. Progressives everywhere must therefore unite in support not only of a rapid green transition, but of one that is politically feasible and desirable for the vast majority of citizens – even in the short run. – Project Syndicate

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Trafigura to take stake in Frontline in \$675mn deal



Frontline has agreed to buy 10 Suezmax oil tankers from Trafigura in a cash and share deal worth up to \$675mn which will make the Geneva-based trading firm the group's second biggest shareholder.

Under the terms of the deal Trafigura will take an 8.5% stake in Frontline valued at \$128mn, and will receive a cash payment of between \$538mn and \$547mn, the companies said yesterday.

The agreement will allow Frontline, which is controlled by Norwegian-born billionaire John Fredriksen, to boost its future dividends, the Oslo-listed tanker operator said.

Frontline and Trafigura, together with dry bulk shipping firm Golden Ocean, announced a marine fuel partnership earlier this month ahead of a shake-up in regulation that will enforce cleaner fuels for ships.

Frontline has agreed to time-charter all the 10 vessels, which were built this year and fitted with exhaust gas cleaning

systems known as scrubbers that will help them meet the upcoming marine fuels rules, until the deal closes.

“The price is reasonable, and they are (fitted) with scrubbers so... I think it’s cheap,” Frontline chief executive Robert Hvide Macleod told Reuters. “The market is about to firm considerably so I think the timing is good.”

Crude tanker freight rates have been under pressure for the best part of 2019 but are expected to improve later this year, lifted in part by the upcoming fuel regulations.

Frontline also has an option to buy a further four vessels and agreed to charter five of the vessels back to Trafigura for three years at a daily base rate of \$28,400 with a 50% profit share above the base rate, the trading firm said in a statement.

At a price of about \$66.5mn to \$67.4mn per vessel based on Thursday’s Frontline closing price, the deal is in line with current market values, according to an Arctic Securities research note.

“We see the timing of adding high-end tankers with scrubbers at current prices as very compelling, just as the market starts to move,” the brokerage added. “(We) see today’s announcement as an attractive deal ahead of the market recovery.”

A newbuild Suezmax tanker currently costs above \$60mn to order, not including costs for scrubbers, and delivery won’t take place until 2021, Macleod said.

“What is interesting about the Suezmax market is that there has been very little delivered over the last year and there is virtually nothing on the order book. So the fleet profile is looking healthy,” he added.

Frontline’s shares rose following the announcement, trading 5.3% higher at 0926 GMT.

Trafigura sees “significant upside potential in our equity investment in Frontline, a company with vast commercial scale and capabilities with whom we already enjoy a close working relationship”, its Global Head of Wet Freight Rasmus Bach Nielsen said in the statement. The cash boost will also help

the trading firm reduce its debt profile as the end of its financial year on September 30 approaches.

Trafigura needs to maintain a healthy level of equity as a guarantee against debt with its bank lenders.

The firm has struggled with keeping a cap on its debt but managed to hit its targeted ratio of below 1.0 times for adjusted debt to equity during its 2018 financial year.

However, this ratio rose in the first half of 2019 to 1.16 times. Its total debt was at nearly \$33bn as of March 31 this year, out of which \$24bn is current debt.

Frontline's fleet will consist of 75 vessels after the transaction, including newbuilds.

Fredriksen currently holds around 46.6% of the Oslo-listed tanker operator's shares and will see his stake diluted to around 42% by the deal, according to a Reuters calculation.

Copper hits 2-year lows as metals demand outlook dims



(Repeats Monday's column with no changes to text. The opinions expressed here are those of the author, a columnist for Reuters.)

* Fund positioning on CME copper: tmsnrt.rs/2Myafvs

* LME Index vs China PMI: tmsnrt.rs/2YnPVnD

* Global Vehicle Production: tmsnrt.rs/2YqBKy7

By Andy Home

LONDON, Aug 5 (Reuters) – If you believe that “Doctor Copper” is a sensitive gauge of the health of the global economy, then you should be worried.

London Metal Exchange (LME) copper fell through the year's low of \$5,725 per tonne on Friday and hit a 26-month low of \$5,640 early on Monday.

The trigger for the slump was the latest escalation of the trade stand-off between the United States and China, President Trump announcing the imposition of more tariffs on Chinese

goods effective the beginning of next month.

Copper has been used as a proxy for trading the on-off trade talks for some time and funds had amassed a significant short position on the CME copper contract even before Friday's break-down.

However, what's troubling Doctor Copper and just about every other LME-traded base metal, with the single exception of nickel, is the accumulating evidence of a global manufacturing downturn.

Quite evidently, an escalation of trade tensions between the world's two biggest economies is not going to help an already fragile industrial economy.

THE TRUMP TRADE AND THE BIG SHORT

Funds have for many months been expressing their views on the likely success of the trade talks via the CME copper contract.

When a positive outcome looked possible around the end of the first quarter, fund positioning switched to net long. But since then bears have amassed short positions as the prospects of a breakthrough have receded.

The latest Commitments of Traders Report shows money managers holding a net short position of 40,372 contracts.

Outright short positions totalled 86,841 contracts. That's less than the record 101,593 contracts accumulated at the start of June but the latest report only covers positioning as of last Tuesday. The big short has almost certainly got bigger still, given the price action towards the end of last week.

Long positioning has been largely unchanged since the unwind of previous exuberance in April and May.

THE GLOBAL RECESSION TRADE

It's not just copper that is being punished by speculators. LME aluminium, zinc, lead and tin are all now trading below year-start levels.

Only nickel is defying this broader trend, with investors keeping faith with nickel's bull narrative of a lift in demand from the electric vehicle battery sector. It is the only LME metal still showing a net speculative long position, according to LME broker Marex Spectron.

What's depressing the rest of the LME base metals complex is the deterioration in global manufacturing activity as shown by falling purchasing managers indices (PMI) the world over.

"For the first time in recent history we now have the majority of global manufacturing PMIs in contraction," said BMO Capital Markets. ("Metals Brief", Aug. 2, 2019).

The metal markets are particularly sensitive to the health of China's massive industrial economy, which is struggling, according to both the official and Caixin PMIs. Both indices edged up in July but both, critically, remained below the expansion-contraction threshold.

Other key metals economies such as South Korea, Japan and Taiwan are also suffering.

Manufacturing activity in the euro zone goes from bad to worse, contracting at the fastest pace in July since late 2012.

The United States remains a rare bright spot, but even here activity is slowing fast. The Institute for Supply Management's July index fell to 51.2 in July, the weakest growth rate in nearly three years.

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AUTOMOTIVE PAIN

The automotive sector is a particular source of metals demand weakness.

World motor vehicle production fell last year for the first time since the financial crisis, according to the International Organization of Motor Vehicle Manufacturers.

Car markets are being hit both by the broader cyclical downturn and the structural challenge of transitioning from the internal combustion engine to electric vehicles.

This double whammy is particularly acute in China, the world's largest car market and the one that is rolling out electric vehicles faster than anyone else.

Chinese vehicle sales have fallen year-on-year for 12 straight months, with expectations that car demand will slide some 5% this year after a 2.8% fall last year to 28.1 million units – the first decline since the 1990s.

Transport is an important end-use sector for metals such as aluminium, so look no further to understand why China's exports of semi-manufactured aluminium products are booming even as national aluminium output flat-lines.

Exports of "semis" rose 8% in the first half of 2019 despite the proliferation of trade barriers and anti-dumping duties on Chinese products.

BACK TO SUPPLY

A breakthrough in U.S.-China trade talks could lift some of the manufacturing gloom but the prospects appear to be dimming after the most recent escalation of threatened tariffs by U.S. President Donald Trump.

Beijing, meanwhile, is working hard just to maintain economic

stability by using targeted stimulus.

Hopes for a shock-and-awe metals-intensive stimulus package such as that seen in 2009-2010 and again in 2015-2016 have faded.

Beijing has made it quite clear it doesn't want to repeat the mistakes of the past. The current stimulus pulse is largely bypassing the residential construction sector, another key end-use area for many base metals. Infrastructure spend, meanwhile, also appears to be bypassing the copper- and aluminium-intensive power grid.

With China's manufacturing sector treading water and other countries' activity rapidly decelerating, there is no reason for heavyweight fund managers to allocate money to the base metals sector, again with the possible exception of nickel.

Analysts such as those at BMO are looking for some improvement after the seasonal slowdown months of northern hemisphere summer and as destocking through the manufacturing chain comes to an end.

But, until there is "evidence of improvement (...) supply cuts may offer more hope for price upside" in the base metals complex.

That says as much as anything else about the state of global metals demand.

Editing by Louise Heavens

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Gas companies ask Pakistan govt to rescue network



Pakistan's gas network has raised the 'red flag' owing to high-pressure levels, compelling the authorities to drastically scale down supplies, particularly from domestic gas fields amid lower electricity demand and better hydropower generation. Pakistan State Oil (PSO), the country's premier importer of liquefied natural gas and largest company by revenue, and Sui Northern Gas Pipelines Limited (SNGPL) have sought intervention of the energy ministry and the Prime Minister Office to resolve an issue involving safety of the gas network, financial costs to the exchequer and international penalties. In two simultaneous communications to the federal government, the PSO and SNGPL have complained about lower than committed gas quantities by the power sector and warned of serious consequences. As an interim arrangement, the government has reduced supply from some of the domestic gas fields to avert accidents caused by high pressures, a senior official at the petroleum division said. He said that in its latest letter to the federal government on the weekend,

the SNGPL had complained that since July 14, average RLNG (re-gasified liquefied natural gas) consumption by the power sector remained 714mmcfcd (mn cubic feet per day) against a confirmed demand of 828mmcfcd as conveyed by the power division.

This reduced consumption has resulted in an increase in system pack which has reached 4,925mmcfcd. It remained so on August 2 as well. The company said RLNG off-take by the power sector had dropped further to 550mmcfcd on August 1 and in case of continued reduced consumption, further packing would be a catastrophe for its system and might jeopardise the entire RLNG supply chain, adding that the "current level of system pack has resulted in increase in line pressures and red flags have risen across the network". A petroleum division official said the supply from Hassan, Koonj and Sui fields and even from the SSGCL (Sui Southern Gas Company Limited) swap system had been curtailed by a total of 400mmcfcd to ensure safety. The supply from Hassan and Koonj fields has been completely stopped, while that from the Sui field curtailed by 75% to just 45mmcfcd against its normal flow of 180mmcfcd, he said. After including RLNG swap from the SSGCL, the total supply to the SNGPL network has been reduced by more than 30pc to 945mmcfcd from over 1340mmcfcd. "It is, therefore, imperative that RLNG-based power plants should be given priority while allocating dispatch requirements for sustainability of the RLNG supply chain," the SNGPL said. On the other hand, the PSO complained that it was being exposed to financial and credibility risks. "It is rather unfortunate that instead of improvement in re-gasification rates, the situation is getting out of control now in terms of delays in cargo unloading, resulting in huge expected demurrages on all incoming cargoes," the PSO said. As of now, Engro's terminal-1 is running at around 540mmcfcd and will further go down against the planned 600mmcfcd or maybe more to recuperate the earlier lost capacity. As a result of continuous default by the SNGPL against committed off takes, the PSO said, the cargo berthing

would incur heavy demurrages as the expected discharge rate owing to lesser available ullage with the Engro terminal will be maintained at one-fourth of the normal discharge rate. "The delays in cargo unloading will have cascading effect on future deliveries as well and now all cargos in the month of August 2019 are expected to incur heavy demurrages which are estimated to be well above \$150,000 as of now if the regasification rates are not increased immediately," it added. On top of that, the PSO warned that if immediate actions were not taken, the cargo arriving on August 15-16 "might attract 'take or pay' charges as well, which means the whole cargo value of around \$30mn will be to the buyer's (Pakistan) account without even receiving the product". The PSO said the situation warranted immediate remedial measures to be taken in coordination with the power division and SNGPL as the situation had developed due to lesser off take by the power sector. In the meantime, the SNGPL should take all possible measures on a war footing, including diversion of gas to other sectors or reduction or temporary suspension of local supplies, so that huge cost implications could be averted. Zargham Eshaq Khan, the power division's joint secretary, declined to comment on the issue, but another official said the power division had committed 850mmcf/d gas for August and mostly utilised up to 90% of those quantities during peak hours. He said oil and gas companies should also have the flexibility to absorb 10%- 15% gap in case of fluctuation in the electricity demand. The problem, he added, was that the petroleum division had erroneously been assuming 1,130mmcf/d allocation for the power sector against a firm written demand for 850mmcf/d. Moreover, the official said, power plants were hired on the basis of economic order. The hydropower generation is now touching 7,500-8,000MW, which was the cheapest and its utilisation could not be reduced because of rainy spell. The SNGPL said the weather forecast suggested rains over four major consumption hubs on the SNGPL network and it would result in continued less consumption of RLNG by the power sector.

Qatari investments in Russia around \$13bn, says official



(MENAFN – Gulf Times) Amid strengthening political, economic, and cultural relations between Qatar and Russia, Qatar's investments in the Russian Federation are estimated at around \$13bn, according to an embassy official.

Rashid bin Majid Awad al-Suwaidi, first secretary of the embassy of the State of Qatar in Russia, made the statement on Monday in a meeting with Qatar Chamber officials, who received a visiting Russia delegation.

Citing the country's 19% share in Russian oil giant Rosneft, al-Suwaidi noted that Qatar's investments have witnessed a 'strong continuing in Russia.

The meeting, led by Qatar Chamber assistant director general for Government Relations Ali Busherbak al-Mansouri, discussed Qatar's participation in the St Petersburg International

Economic Forum slated in Russia next year.

The forum is an annual Russian business event for the economic sector, which has been held in St Petersburg since 1997 under the auspices of the Russian president since 2005.

Al-Suwaidi said the Russian delegation's visit to Doha aims to facilitate the participation of Qatar in the forum, which is attended by more than 20,000 participants and more than 1,000 Russian companies, as well as 500 companies from other participating countries.

He noted that the importance of Qatar's participation in the forum lies in the signing of trade agreements and enhancing co-operation between participating Qatari companies and their counterparts from other countries.

The forum, al-Suwaidi said, will witness the participation of officials and Qatari delegations comprising business owners, as well as on the cultural side, considering that last year was the year of cultural co-operation between Qatar and Russia.

Al-Mansouri said the forum represents an important opportunity to discuss the strengthening of co-operation relations between the Qatari private sector and its Russian counterpart, in addition to reviewing the attractive investment climate in Qatar and promoting the Qatari economy and private sector projects.

He also noted that the forum would explore the possibility of strengthening alliances between Qatari businessmen and their Russian counterparts to establish joint ventures whether in Qatar or Russia, adding that the Chamber will encourage Qatari companies to participate in the forum and the accompanying exhibition.

Other members of the visiting Russian delegation include Ekaterin Sharbatenko, Andrei Igorov, and Diana Charmadova, who

delivered a presentation about the forum and its objectives, as well as its significance to Qatar and its participating companies.

The case for carbon tariffs



By backing tariffs that would reflect the carbon intensity of key imports, more than 3,500 US economists have broken with the free-market orthodoxy that national environmental policies should not impede global trade liberalization. They were right to do so.

AVIGNON – This January, 3,554 US economists – including 27 Nobel laureates, four former Chairs of the Federal Reserve, and two former Treasury Secretaries – proposed a previously heretical policy. The United States, they said, should combine a domestic carbon price with a “border carbon adjustment system.” By backing tariffs that would reflect the carbon intensity of key imports, they broke with the free-market orthodoxy that national environmental policies should not impede global trade liberalization.

They were right to do so. Absent carbon tariffs, concerns about industrial “competitiveness” will continue to constrain vital action to counter harmful climate change.

The fundamental obstacle to decarbonization is the apparent paradox that the costs are trivial at the final consumer level, but large for an individual company. As the Energy Transitions Commission’s recent *Mission Possible* report emphasizes, the technology to achieve total decarbonization of the global economy by around 2050-60, with very small effects on households’ living standards, already exists. If all steel used in car manufacturing were produced in a zero-carbon fashion, the price of a typical car would increase less than 1%. The total cost to decarbonize all the harder-to-abate sectors – heavy industries such as steel, cement and chemicals, and long-distance transport (trucking, aviation, and shipping) – would not exceed 0.5% of global GDP. Viewed from this perspective, there is no excuse for national policymakers failing to adopt policies that can drive progress to a zero-carbon economy.

But, viewed from the perspective of an individual company, the costs of decarbonization can be daunting. Producing zero-carbon steel could add 20% to total production costs, and producing zero-carbon cement might double cement prices. So any individual steel or cement company that committed to zero-carbon emissions, or was forced to do so by regulation or carbon pricing, could be driven out of business if its competitors did not face equivalent constraints.

This conundrum has so far stymied the effective use of explicit carbon prices to drive decarbonization. Almost all economists who accept climate science believe that carbon taxes, or prices set in an emission-trading scheme, must be part of any optimal policy response. But even in places where this theoretically desirable policy has been deployed – for example, within the European Emissions Trading System – carbon prices have played a less important role than either

regulation or direct subsidization of renewable energy in driving decarbonization. The reason for this is either that carbon prices have been too low to make a major difference, or that the most energy-intensive heavy industries have been exempted. And those weak policies reflect the fear that higher carbon prices and more complete coverage will make domestic industry uncompetitive with imports from countries without such policies.

The obvious response is to impose carbon taxes in one country, or in a customs union of multiple countries, with an equivalent tariff per ton of carbon on carbon-intensive imports, combined with rebates of the tax for exporters. Ten years ago, when I was Chair of the UK Committee on Climate Change, we debated this possibility. But it was met by a wall of opposition. Such policies, it was said, violated WTO rules, were undesirable in principle, and would unleash tit-for-tat tariff increases justified by whatever environmental priority each country wished to pursue.

Since then, we have successfully used other policy levers to drive large-scale deployment of renewable electricity systems, with costs falling dramatically as a result. But in the industrial sectors, the multiplicity of alternative possible routes to decarbonization, and the fact that different routes will likely be optimal in different circumstances, makes it essential to use the price mechanism to unleash a market-driven search for least-cost solutions. And to do that, we need an answer to the competitiveness problem.

That's why the ETC's *Mission Possible* report argues for the inclusion of border carbon adjustments (carbon tariffs) in policymakers' tool kit, and why so many leading US economists have reached the same conclusion. They now argue for a carbon price within the US, combined with border adjustments for the carbon content of both imports and exports. Such a scheme "would protect American competitiveness and punish free riding by other nations."

But while the economists couch their argument in language designed to play well in the US, the policy could equally be applied by other countries to defend their industries against carbon-intensive imports from America, should the US choose to be a free rider in efforts to tackle global climate change.

Indeed, no country committed to addressing climate change should regard this policy proposal as a threat to its economy. If one country applies a tax of, say, \$50 per ton of carbon dioxide emitted, with an equivalent border tax on imports and with a rebate for exporters, any other country doing the same will leave its industries in exactly the same relative competitive position as before either country introduced the policy. But companies in both countries would now face an effective carbon price.

Global political agreement on carbon pricing has proven to be elusive. A carbon tariff could unleash a sequence of independent national decisions that drive a beneficial “race to the top” in which roughly equal carbon prices spread around the world.

Sometimes, intellectual taboos should be dropped. Border carbon adjustment is an idea whose time has come. It could play a major role in driving progress toward the zero-carbon economy that is technologically and economically possible by mid-century.

The inequality of nations



MILAN – The eighteenth-century British economist Adam Smith has long been revered as the founder of modern economics, a thinker who, in his great works “The Wealth of Nations” and “The Theory of Moral Sentiments”, discerned critical aspects of how market economies function. But the insights that earned Smith his exalted reputation are not nearly as unassailable as they once seemed.

Perhaps the best known of Smith’s insights is that, in the context of well-functioning and well-regulated markets, individuals acting according to their own self-interest produce a good overall result. “Good,” in this context, means what economists today call “Pareto-optimal”, a state of resource allocation in which no one can be made better off without making someone else worse off.

Smith’s proposition is problematic, because it relies on the untenable assumption that there are no significant market failures, no externalities (effects like, say, pollution that are not reflected in market prices), no major informational gaps or asymmetries and no actors with enough power to tilt outcomes in their favor. Moreover, it utterly disregards distributional outcomes, which Pareto efficiency does not cover.

Another of Smith's key insights is that an increasing division of labour can enhance productivity and income growth, with each worker or company specialising in one isolated area of overall production. This is essentially the logic of globalisation: the expansion and integration of markets enables companies and countries to capitalise on comparative advantages and economies of scale, thereby dramatically increasing overall efficiency and productivity.

Again, however, Smith is touting a market economy's capacity to create wealth, without regard for the distribution of that wealth. In fact, increased specialisation within larger markets has potentially major distributional effects, with some actors suffering huge losses. And the refrain that the gains are large enough to compensate the losers lacks credibility, because there is no practical way to make that happen.

Markets are mechanisms of social choice, in which dollars effectively equal votes; those with more purchasing power thus have more influence over market outcomes. Governments are also social choice mechanisms, but voting power is, or is supposed to be, distributed equally, regardless of wealth. Political equality should act as a counterweight to the weighted "voting" power in the market.

To this end, governments must perform at least three key functions. First, they must use regulation to mitigate market failures caused by externalities, information gaps or asymmetries, or monopolies. Second, they must invest in tangible and intangible assets, for which the private return falls short of the social benefit. And, third, they must counter unacceptable distributional outcomes.

But governments around the world are failing to fulfill these responsibilities, not least because, in some representative democracies, purchasing power has encroached on politics. The most striking example is the United States, where electability

is strongly correlated with either prior wealth or fundraising ability. This creates a strong incentive for politicians to align their policies with the interests of those with market power.

To be sure, the Internet has gone some way towards countering this trend. Some politicians, including Democratic presidential candidates like Bernie Sanders and Elizabeth Warren, rely on small individual donations to avoid becoming beholden to large donors. But the interests of the economically powerful remain significantly overrepresented in US politics, and this has diminished government's effectiveness in mitigating market outcomes. The resulting failures, including rising inequality, have fuelled popular frustration, causing many to reject establishment voices in favour of spoilers like President Donald Trump. The result is deepening political and social dysfunction.

One might argue that similar social and political trends can also be seen in developed countries, Italy and the United Kingdom for example, that have fairly stringent restrictions on the role of money in elections. But those rules do not stop powerful insiders from wielding disproportionate influence over political outcomes through their exclusive networks. Joining the "in" group requires connections, contributions, and loyalty. Once it is secured, however, the rewards can be substantial, as some members become political leaders, working in the interests of the rest.

Some believe that, in a representative democracy, certain groups will always end up with disproportionate influence. Others would argue that more direct democracy, with voters deciding on major policies through referenda, as they do in Switzerland, can go some way towards mitigating this dynamic. But while such an approach may be worthy of consideration, in many areas, such as competition policy, effective decision-making demands relevant expertise. And government would still be responsible for implementation.

These challenges have helped to spur interest in a very different model. In a “state capitalist” system like China’s, a relatively autocratic government acts as a robust counterweight to the market system.

In theory, such a system enables leaders, unencumbered by the demands of democratic elections, to advance the broad public interest. But with few checks on their activities, including from media, which the government tightly controls, there is no guarantee that they will. This lack of accountability can also lend itself to corruption, yet another mechanism for turning government away from the public interest.

China’s governance model is regarded as dangerous by much of the West, where the absence of public accountability is viewed as a fatal flaw. But many developing countries are considering it as an alternative to liberal democracy, which has plenty of flaws of its own.

For the world’s existing representative democracies, addressing those flaws must be a top priority, with countries limiting, to the maximal extent possible, the narrowing of the interests the government represents. This will not be easy. But at a time when market outcomes are increasingly failing to pass virtually any test of distributional equity, it is essential.

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ECB loosening is not enough



The European Central Bank's negative interest rates and quantitative easing measures cannot by themselves address the pervasive risk aversion holding back the eurozone economy. Eurozone policymakers must, therefore, find the political will to design a comprehensive package of financial and fiscal measures aimed at injecting new energy into the European project.

LONDON – If indications of disappointing economic growth in the eurozone are confirmed, the European Central Bank will loosen monetary policy further in September. Last week, outgoing ECB President Mario Draghi signaled a further likely cut in the ECB's rate on commercial banks' overnight deposits with the central bank, which is already -0.4%. In addition, the ECB is discussing a new program of asset purchases.

Economic stimulus is clearly needed. Annual inflation is well below the ECB's target of "close to, but below 2%," and financial markets expect it to remain so for years. What's more, the eurozone has grown more slowly than the US economy

since the 2008 global financial crisis. Growth has flagged since peaking in the third quarter of 2017, and slowed again in the second quarter of this year.

It is also clear that national governments in the eurozone are reluctant to provide a coordinated fiscal stimulus, despite the urgings of the ECB and many economists. Willingly or not, the ECB remains the only game in town.

The question is whether monetary policy alone can help to improve real growth and the inflation outlook in the eurozone. Monetary policy can be a powerful tool. The key to President Franklin D. Roosevelt's successful effort to revive the US economy in the 1930s was not deficit spending, but rather the large monetary stimulus resulting from America leaving the gold standard before continental European countries did. Today, the ECB needs to engineer something similar with different tools.

In principle, taking the ECB deposit rate further into negative territory should remove the restriction on future expected short-term interest rates turning negative, and therefore flatten the forward yield curve. A rate cut should also put downward pressure on the euro's exchange rate, potentially making eurozone exporters more competitive.

But such a move would be controversial, in particular because it would dent the profitability of banks that cannot pass on negative ECB deposit rates to their customers. Such policies have heterogeneous effects across banks, and mitigating action, although feasible, requires complex engineering.

According to an analysis by the ECB's staff, "strong" eurozone banks are able to pass on negative rates to their corporate clients; "weak" banks cannot.

The ECB is therefore considering ways to mitigate this – in particular by granting very favorable conditions on the special loans that it will offer under the TLTRO III program,

which are likely to be taken by the “weak” banks. In addition, a tiering system is being considered in which reserves below a certain threshold would not be subject to negative rates. But this is likely to benefit the strongest banks of stronger core eurozone countries such as Germany, France, and the Netherlands, which together hold about one-third of total deposits at the ECB.

Beyond these technical considerations, policymakers must grapple with two root causes of excess demand for central-bank reserves among strong eurozone banks. One is very high demand for safe assets in general – and banks in core eurozone countries have little incentive to hold their own governments’ debt when the interest rate is below the ECB deposit rate. Another cause is the segmentation of the eurozone’s interbank market, which, if the ECB implemented tiering, would prevent strong banks from benefiting from arbitrage opportunities by lending to weak banks at a rate above -0.4% . Both causes are the result of the eurozone’s dysfunctional banking system, in which demand for safe assets involves both a “home bias” and a strong demand for core countries’ sovereign debt.

In these circumstances, the ECB will not find it easy to implement a policy that would remove the constraint of the zero lower bound on interest rates, while ensuring that the policy’s distributional effects on banks and EU member states are neutral. Doing so will involve many instruments and complex design, far from the simple one-tool-for-one-target framework that was best practice before the financial crisis.

Moreover, negative rates become less effective over time and, if protracted, may have undesirable effects – for example, by inducing savers to de-risk, thereby potentially generating asset-price bubbles and increasing financial disintermediation. The positive stimulus from the depreciation of the euro’s exchange rate could offset these effects, but only if other central banks – and in particular the US Federal Reserve – do not ease at the same time. And on July 31, the

Fed announced a widely expected quarter-percentage-point cut in its benchmark interest rate, while further future cuts cannot be excluded.

But the main problem is that neither negative rates nor quantitative easing can by themselves address the pervasive risk aversion holding back the eurozone economy. The ECB is trying to discourage demand for safe assets by making them more expensive to hold, but it cannot address the causes of the increase in such demand. This is a global trend driven by several factors, including demographic changes, widespread uncertainty linked to technological transformation, and political risks such as trade wars and nationalism. But in the eurozone they are exacerbated by the lack of reform of the single currency.

More than ten years after the financial crisis, the eurozone's financial markets are still fragmented, and the supply of safe assets is limited by the conservative fiscal policy of northern European countries, particularly Germany. Eurozone policymakers must, therefore, find the political will to design a comprehensive package of financial *and* fiscal measures aimed at injecting new energy into the European project. Such a combined approach is essential to address the deep-rooted risk aversion sapping growth across the eurozone.

In the 1930s, America's key stimulus was monetary rather than fiscal, but a vital ingredient of success was a comprehensive set of reforms coupled with a strong message capable of unifying the country. Today, Europe needs a twenty-first-century version of that policy.



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