# How cleaner ship fuel will raise costs, ease coughing

By Brian Wingfield/ London

Ship owners and refiners are facing the biggest change to their industries in a generation: strict environmental rules for vessel fuel that kick in on January 1, 2020. Technically, it's just a cap on sulphur content, but the repercussions are sweeping. Governments and companies across the globe have raced to prepare amid concerns about fuel shortages that could affect thousands of ships. Consumers, from cruise ships to truckers, will face higher prices. Some companies are already making a fortune. But the health benefits are expected to be substantial around the globe. If adopted widely – and enforcement is an open question – it may be the biggest single global change for air quality ever.

1. What are the new rules?
Fuel must have a maximum sulphur content of 0.5%, down from the current 3.5% limit in most cases. Known as IMO 2020, the regulation is set by the International Maritime Organization,

a UN agency with responsibility for the safety and security of shipping as well as marine pollution by ships. Sulphur emissions are linked to acid rain and medical conditions such as asthma and heart disease.

2. Why does shipping cause pollution?
Because ships use heavy fuel oil — the gunk that's left over in the refining process once more valuable, less sulphurous products such as gasoline, diesel and jet fuel have been squeezed out of crude oil. Although IMO rules have progressively tightened sulphur limits since 2005, there's a long way to go: A Finnish study in 2016 estimated that air pollution from ships under current guidelines would contribute to more than 570,000 premature deaths worldwide between 2020 and 2025.

3. How are refiners affected by shipping rules?
Even though the rules apply specifically to ships, those vessels have to get their fuel from somewhere. Simply put, if refiners can make more IMO-compliant fuel, they stand to make more money. Complex refiners, such as those on the US Gulf Coast, would benefit. So-called simple plants, which can't adjust as easily, could be at risk. Demand for so-called sweet (low sulphur) crude such as Brent is set to rise, at the expense of sour (high sulphur) crude produced mainly in the Middle East. Refiners' economics from making a range of fuels — from gasoline to jet fuel — are being upended.

4. Which fuel will shippers switch to?
As of now, they seem to be favouring a somewhat broad group of products called very-low sulphur ship fuel, or VLSFO. Another option is marine gasoil, a distillate-based fuel. For this reason, analysts expect distillate demand to increase when the rules take effect. However, no single, IMO-compliant benchmark fuel has emerged. The market is still evolving, and companies including  Exxon Mobil Corp and Royal Dutch Shell Plc plan to offer a range of products. Shell has already made $1bn from fuel oil trading this year.

5. Will there be enough compliant fuel?

It depends who you ask. In recent months, a flotilla of vessels storing compliant fuel has gathered near Singapore, the world's largest bunkering port. Shipping company Euronav NV has even filled a supertanker with oil to help it comply with the rules and sent it to the region — for a profit of $52mn by one estimate. In other places, such as Gibraltar, there's been a back-up of vessels. Researcher EnSys Energy & Systems Inc — an early sceptic of fuel availability — thinks that even if there's enough compliant-fuel at the outset, stockpiles will wind down within months.

6. Do shippers have any other options?

Yes, they can install pollution-reducing scrubbers that can handle oil with a higher-sulphur content. But here's the thing: Fitting a scrubber can cost as much as $6mn per ship. New orders for scrubbers have dwindled, and only 3,000 new orders are expected to be installed by the end of the year, according to BloombergNEF. That means the vast majority of ships will need to switch to using more expensive, low-pollutant fuel.

7. How will these changes be enforced?

The IMO says it expects strict enforcement of the rules, and it's up to ports to make sure that happens. Some, such as Greece, have pledged strict adherence and potential sanctions for violators. Others, like Fujairah, the Middle East's main bunkering hub, are taking a much softer approach. In places like Denmark and Norway, drone aircraft are being used to sniff out those who run afoul of the IMO's mandate. Still, it's going to be tricky — about half of the IMO's members didn't sign up for the switch.

8. Who will suffer?

Potentially anyone who buys petroleum products — including cruise ships, trucking companies and automobile drivers. That's because the extra demand for cleaner fuel from shippers

could mean refiners may produce lower quantities of products such as jet fuel and gasoline. Some shippers contend that the new rules have the potential to upend world trade, since the cost of compliance will be high for many.

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# Sweden’s energy deal collapses amid clash over nuclear power

* Capacity tax to be phased out over 2 years from 2017

* New reactors to be built to replace old ones (Adds Energy Minister comment, background)

STOCKHOLM, June 10 (Reuters) – Sweden said on Friday it would phase out some taxes on nuclear power and build new reactors to replace aging plants and secure energy supplies for decades to come.

Nuclear power providers in Sweden have said they would be forced to shut the country's loss-making nuclear reactors unless a tax on nuclear capacity is abolished, risking a spike in electricity prices and energy shortages for industry.

"The aim is … to make sure we can always guarantee electricity at competitive prices, in a stable and sustainable way, both in the short and long term," Energy Minister Ibrahim Baylan told reporters.

The tax, which brought in about 4 billion Swedish crowns ($488 million) in 2015, will be phased out over two years starting from 2017, but households will see their energy bills rise as Baylan said the government would increase taxes on energy users to make up for the nuclear tax. Heavy industry, however, would be excluded from the tax rise.

In a broad deal agreed with the main opposition parties, the government also said it would allow up to 10 new reactors to be built as the country closes its old plants, built in the 1970s and 80s.

The tax on capacity – which was increased last year – has hurt profitability at plants already under pressure from low market prices and the need for expensive upgrades to meet tougher safety standards since Japan's Fukushima nuclear disaster.

Swedish state-owned utility Vattenfall and Germany's E.ON have said they will shut four of Sweden's 10 nuclear reactors earlier than previously planned. One of them was shut last year.

In April, Vattenfall said all the remaining six reactors would have to close by 2020 if the capacity tax was not abolished.

Nuclear plants produced around 34 percent of Sweden's electricity in 2015.

The deal to end the tax is a blow for the Green Party, which

wants nuclear power phased out as soon as possible and instigated the increase in the tax last year. ($1 = 8.1964 Swedish crowns) (Reporting by Johan Sennero; Editing by Simon Johnson and Susan Fenton)

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# Can Pakistan make transition to electric vehicles soon?

KARACHI: When you think of electric vehicles, you think of Elon Musk, a noiseless Tesla and luxury more than zero emissions. But today the government wants to use the same technology for the common man – to run bikes, rickshaws and even buses, jeeps and trucks. Will this transition from fossil fuel vehicles to electric vehicles in Pakistan happen anytime soon?

Cities are witnessing the worst ever smog. This was followed by a climate march with youth demanding climate justice.

Thus the Pakistan Tehreek-i-Insaf government could not have chosen a better time than when the UN climate summit COP 25 is

taking place to make a strong case against tailpipe emissions from urban transportation, a major contributor to air pollution and climate change.

Little wonder then they quickly got the nod of approval by the cabinet for the first national electric vehicle (EV) policy.

With 43 per cent of the airborne emissions in the country coming from the transport sector, federal Minister for Climate Change Malik Amin Aslam said that transitioning to EV provided a "huge opportunity" for the country.

"These will have many advantages for Pakistan – it will reduce pollution, will cut the cost of fuel by 70pc thereby [leading to] huge saving for FFV (fossil fuel vehicle) owners, and will cut the country's import bill tremendously."

There are three million private cars and 20m motorcycles and motorised rickshaws plying the roads, according to the Pakistan Bureau of Statistics, as cited in the Economic Survey 2018-19, mainly due to the absence of a good public transport system.

Riaz Haq, who has worked in various tech firms for 35 years in the Silicon Valley and is an EV enthusiast, said that with 32m households and 17.5m motorcycles registered in Pakistan, the motorcycle ownership increased from 41pc in 2015 to 53pc in 2018.

The new policy envisions using electricity to get 100,000 cars, 500,000 two- and three-wheelers, 1,000 buses and trucks to ply the roads in the next five years. By 2030 it sees 30pc of all new cars, big and small trucks, vans, and jeeps and 50pc of all two-, three- and four-wheelers to be electric vehicles reducing tailpipe emissions by 65pc. By 2040, if all goes well, 90pc of all vehicles on the roads will be EVs.

"The PM wants all new buses coming on the road to be electric hybrid – run both on electricity and CNG (compressed natural

gas),” said the federal minister.

Most experts are lauding the policy as a step in the right direction. “It is a forward-looking step needed to deal with climate concerns from growing transport sector emissions with rapidly rising vehicle ownership,” Mr Haq wrote in his blog.

Another proponent for EVs, Islamabad-based energy expert Vaqar Zakaria, said that “surplus power generation capacity, building off-peak demand for better utilisation of generation capacity which also brings down generation costs, poor urban air quality, high levels of noise from traffic and safer cars” are some of the reasons to make the move.

The automobile industry remains sceptical though. “I would love to see EV launched in Pakistan, but it means developing a huge set-up anew,” said Juzer Amreliwala, the chief executive officer of a Honda partner in Karachi.

“On the face of it, it looks great. But establishing proper after-sales set-up requires both capital and human investment. Although most dealerships have come quite far in technology development, much training is still needed,” he added.

Aware of the infrastructure that will be needed for EVs, the minister for climate change sees it as an opportunity with a whole new service industry and numerous livelihood options opening up. “Pakistan is thirsting for new business opportunities and markets. If we build our capacity technologically, Pakistan can become a hub for exporting EVs – especially two- and three-wheelers,” Mr Aslam said.

However, a potential problem with the policy is the plethora of government supervisors – nine ministries, the Higher Education Commission, the State Bank of Pakistan and various authorities in energy sectors. “This industry transcends so many domains that all these stakeholders had to be included,” explained Mr Aslam. “Interaction and cooperation between stakeholders are the mark of good governance.”

Vaqar Zakaria warns of the “vested interests” who may not like the transition. “Those that sell low quality fuel and cheat on quantity sold will not like it, the refiners will not like it, the car traders will not like it as the EVs will last longer, the industry as it presently will not like it, the FBR may say the government will lose taxes on imported fuel which are huge at the moment and a significant source of revenue for the government. But as a consumer I will be delighted… if they only let me import EVs and E-bikes at reasonable cost.”

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# Solar power project for auction in South Pakistan

Pakistan is entering into a new era of attracting power projects through competitive bidding to provide cheaper electricity to end-con- sumers, as Sindh government is all set

to auction the fi rst-ever project through the bidding process by March 2020. To date, the country has at- tracted power projects by off er- ing incentives to investors un- der the cost-plus tariff formula, which ensured a fi xed internal rate of return (IRR) to investors.

The achievement of sur- plus installed capacity of power production in recent times al- lowed authorities to make a shift towards new power projects through the tariff -based com- petitive bidding. “We are set to auction the fi rst 50-megawatt (MW) solar power project at Manjhand (district Jamshoro) through competitive bidding by February-March,” Sindh Solar Energy Project (SSEP) Project Director Mehfooz A Qazi said. The 50MW project is part of the planned 400MW solar pow- er park in Sindh that is estimated to attract new investment of around $250mn. “We aim to auction all the potential 400MW solar power projects by 2021 and start sup- plying electricity to the national power grid within the next fi ve years (2023-24),” he said. The World Bank is providing fi nancial and technical support for establishing the solar park. “Word Bank has provided an as- sistance of $100mn for four dif- ferent solar power projects, in- cluding $30mn for establishing the 400MW solar park,” he said. In this backdrop, the energy department of the government of Sindh appointed a consorti- um of foreign and local advisers to auction the 400MW power projects.

The consortium comprises Bridge Factor (Pakistan) and Tractebel Engie (Germany) in association with Renewable Resources Limited (Pakistan), Ashurst Law (Singapore) and Axis Law (Pakistan). On behalf of the government of Sindh, Qasim inked the con- tract with the consortium to hire its services in the presence of Provincial Energy Minister Imtiaz Ahmed Shaikh at Energy Department. The project director hoped the solar projects would attract an investment of around $250mn, considering the country has re- cently attracted $38mn invest- ment for a 50MW solar project under the old formula of cost-

plus tariff . “We are highly hopeful the projects will provide cheaper and clean energy in the country,” he said. Earlier, the National Electric Power Regulatory Authority (Ne- pra) had announced an upfront tariff of 5.23 cents per unit (Kilo- watt per hour) to attract solar projects under the old formula of cost-plus tariff . “The competi- tive bidding will surely attain a comparatively cheaper tariff than the upfront tariff ,” he said. The competitive bidding process allows the Sindh gov- ernment to accept the lowest tariff -bid from new potential investors. Later-on, it may ask other in- vestors to match the lowest bid to become part of the 400MW solar park. He said the investors would off er the much cheaper tariff than the upfront one, as cost of solar power projects has mas- sively gone down over a period of time. “The government awarded a (high) tariff of 15-16 cents per unit for the fi rst solar park (Quaid-e-Azam Solar Park of 100MW set up in Bahawalpur, Punjab) years back. The cost of solar power projects has further cut down since Nepra approved the up- front tariff of 5.23 cents per unit for solar power,” he said. Solar remains one of the low- cost sources of electricity gen- eration in the energy mix in the country. More importantly, the federal government has planned to in- crease the share of solar power to around 25% by 2025 compared to around 4-5% at present. Qazi said the demand for elec- tricity has been increasing by 5-7% per year. “The surge in de- mand may come comparatively higher and quicker considering the country is set to see acceler- ation in economic growth going forward.”

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# Future of solar panel

# production will have two faces

Solar customers increasingly want panels that capture energy from both their sunny and shady sides, as plummeting component prices finally allow such products to be cost-effective.

Panels that are bi-facial, as the technology is known, will probably become the industry standard, according to one of the world’s biggest solar manufacturers, LONGi Green Energy Technology Co. They already dominate in the Middle East and are making inroads in the U.S., Europe and elsewhere, according to another top maker.

The shift is being driven by ever-cheaper parts, which are making the products profitable even though adding solar glass on the underside of panels boosts power output by less than 10%, according to BloombergNEF. Bi-facials will likely make up 15% of the global market next year, up from 4% this year, BloombergNEF analyst Wang Xiaoting said Tuesday at the research firm’s annual summit in Shanghai.

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# Germany faces power shortages

# if onshore wind grows too slow

Germany’s onshore wind crisis, which is already cutting into company profits and costing jobs, may also begin to weaken defenses against blackouts.

That’s the conclusion of analysts who see electricity risks mounting in Europe’s biggest economy, where construction of new onshore wind parks has dropped to a standstill because of a flood of environmental complaints. German industry will need new power sources in coming years to ensure security of supply as coal and nuclear stations are decommissioned.

Chancellor Angela Merkel’s government is trying to coordinate the shutdown of thermal plants with a build-up of clean power to avoid potential supply shortages, said McKinsey &

Co. Senior Partner Thomas Vahlenkamp. But that "entails pushing ahead with reaching clean energy targets – especially turning around stalled onshore wind," he said.

Coal power will start to come offline next year and Germany forsees completing its full exit from nuclear energy by the end of 2022. Those two sources of energy comprise about 43% of German power currently available around-the-clock that will disappear by 2030, according to Vahlenkamp.

Merkel's coalition government has set an ambitious green power growth target. It wants to generated almost two-thirds of its electricity with renewables over the next decade from about two-fifths today. Reaching that goal implies onshore wind adding about 4.6 gigawatts of fresh power annually.

The pace of net new onshore installations dropped to 0.3 gigawatts in January to June, down from 5.3 gigawatts in 2017 and 2.4 gigawatts last year. The drop in construction is already hurting turbine maker Enercon GmbH, which has a strong focus on the German wind market.

Until now, Germans have enjoyed one of the most resilient power grids in Europe. Consumers experienced just 12 minutes of power outages last year, according to the latest report of the Council of European Energy Regulators. That compares with some 6 hours of outages in Romania, the worst-performing country.

Merkel's coalition is counting on restoring wind power's trajectory by cutting through red tape that's holding up projects. Moves to extend the national grid to accommodate more clean power and expanding storage won't be ready until the middle of next decade.

Germany is counting on its status as a net exporter of power to help it brace it for potential shortfalls as nuclear and coal power wind down in stages. It transmitted about 53 terawatt-hours of power to its European partners in the nine

months through September, compared with 31 terrawatt-hours of imports, monitoring group AG Energiebilanzen reported Monday.

Yet with manufacturing and construction responsible for producing a quarter of all German goods and services, the country can’t afford to bump into security of supply issues, according to the country’s Mechanical Engineering Industry Association VDMA, which wants the government to be more assertive in warding off potential blackouts.

Heading off blackouts and securing electricity “hangs on just how much power is available and when,” VDMA spokeswoman Beatrix Fontius wrote.

“Renewable power will in the near future shoulder the job of supplying power – for that reason it’s hard to understand why the government is dragging its feet,” she said.

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# Shellto Buy French Offshore Wind-Power Developer

Shell to buy floating offshore wind energy developer EOLFI

Shell has agreed to buy French floating wind power developer EOLFI for an undisclosed fee through its subsidiary Shell New Energies.

EOLFI was founded in 2004 and has a current portfolio of 145MW solar and 1GW onshore wind power. Since 2012, the company has focused on floating offshore windfarms in France and is part of a project with MHI Vestas to develop the pilot Groix & Belle-Ile windfarms off the coast of Brittany.

The deal is subject to the standard regulatory and ministerial approvals and should be completed by the end of December 2019.

Shell vice president for offshore wind Dorine Bosman said: “EOLFI has been a pioneer of floating wind development. We believe the union of EOLFI’s expertise and portfolio with Shell’s resources and ability to scale-up will help make electricity a significant business for Shell.”

Shell’s stock price currently stands at 2333p a share on the London Stock Exchange, lower than its 2019 peak of 2612p on 30

July.
EOLFI founder Alain Delsupexhe said: “EOLFI joins the Shell group at the time when the market of floating wind is taking off globally.

“EOLFI’s heritage in floating wind combined with Shell’s offshore expertise and global footprint will enable us to expand offshore, but also onshore with our wind and solar projects as part of the Shell New Energies division.”
Shell New Energies

Shell has moved into the renewable energy sector since it announced that it would invest $2bn a year into new energy schemes in 2018.

In 2019 it rebranded its energy supply business from First Utility to Shell Energy and switched its UK energy customers to 100% renewable energy, whilst Shell New Energies invested in a 20% in Indian solar company Orb Energy in October 2019.
Floating offshore wind farms

Floating offshore windfarms see wind turbines mounted on a floating buoyant structure, which require fewer materials to build and offer the ability to build offshore windfarms where water depths are as much as 50m to 60m.

The first operational floating offshore windfarm was the Hywind Pilot Park off the coast of Aberdeenshire in Scotland.

Several companies have signed agreements to develop and build more floating offshore windfarms. Equinor will invest $550m to build the 88MW Hywind Tampen windfarm to power its oil and gas operations in the Norwegian North Sea, whilst Ideol and Taisei signed a memorandum of understanding (MoU) in February 2019 to develop a floating windfarm in Japan.

# Amid climate worries, Mexico doubles down on fossil fuels

On the same September day that activist Greta Thurnberg gave a fiery speech in New York demanding world leaders tackle climate change, Mexico's president was touting achievements of a wholly different kind: increasing funding for oil production.

"We're investing in refineries. It hasn't been done for a long time," President Andres Manuel Lopez Obrador told reporters at a news conference in Mexico City.

"What was invested this year is going to be repeated next year," promised Lopez Obrador, noting that the government had already funnelled more than 12bn pesos ($600mn) towards revamping oil production.

The leftist leader, who was elected in a landslide last July, has framed the investment as a way to wean Mexico off its dependency on foreign energy supplies, as well as fuelling economic development through increased oil production.

But at a time when countries are facing mounting pressure to curb emissions and stave off threats from a warming climate, environmental experts say the Mexican government is moving in the wrong direction.

"While Mexico should be abandoning (oil) production, they're rehabilitating refineries … under a logic of national sovereignty," said Leon Avila, a professor of sustainable

development at the Intercultural University of Chiapas.
“It’s an archaic perspective, based on production in the 70s during the oil boom, and they think they can do the same thing – when really we’re in another context,” he told the Thomson Reuters Foundation.
Last Monday, Mexico’s government announced it would expand the rules of its “clean energy certificates” (CEL) programme to make them available to older hydroelectric plants operated by state utility company CFE.
The programme previously applied only to new projects, creating an incentive for local and foreign firms to invest in green energy.
The CEL-certified energy can be sold to big companies that are required to obtain a percentage of their electricity from clean sources.
But in a statement on Tuesday, CFE director general Manuel Bartlett Diaz said that, in line with the president’s vision for energy sovereignty, there was “no reason to subsidise private (electricity) generating companies”. Industry leaders and environmental experts said the move weakens incentives for renewable energy investment, and risks Mexico’s compliance with the 2015 Paris Agreement to fight climate change.
The Mexican CCE business council said on Tuesday that the change could jeopardise up to $9bn in foreign and local clean energy investments tied to the original CEL rules.
“The decision detracts from the only mechanism considered by law to drive Mexico’s energy transition and meet the mandatory national clean energy adoption goals,” the CCE said in a statement.
The Lopez Obrador administration has emphasised its commitment to tackle climate change and adhere to the Paris accord.
At a UN climate conference last December, Sergio Sanchez, then undersecretary for environmental protection, said the government would implement “concrete policies and actions focused both on reducing emissions and adapting to climate change”.
The Mexican senate last week also called on the federal

government to declare a “climate emergency” and take necessary steps to address climate threats.

Those can range from wilder weather and rising seas to more crop-killing droughts that can drive worsening poverty and migration.

But at a press conference the following day, the president shied away from recognising climate change as a crisis.

“We have already considered a series of measures to face the climate change phenomenon in the Development Plan,” Lopez Obrador said.

But the president’s description of the plan – listing conservation efforts but omitting any policies to reduce emissions – irked environmentalists.

“There is a lack of understanding for the climate crisis we are confronting,” said Claudia Campero from the Mexican Alliance Against Fracking, an advocacy group.

According to Avila, the university professor, the president has prioritised ending Mexico’s entrenched poverty but is using oil as the primary engine to drive prosperity.

“He should care about climate change, but between climate change and going down in history for ending poverty…

well obviously he prefers that,” Avila said.

Among Lopez Obrador’s most important projects is the construction of a new oil refinery in his home state of Tabasco.

The project is set to cost $8bn, and the government says it would generate up to 23,000 jobs.

But besides boosting Mexico’s carbon footprint, the refinery, at a coastal site, is vulnerable to climate threats, environmental experts said.

Local media reported this week that the property had flooded due to heavy rains.

Environmentalists also point with concern to the government’s proposed 2020 budget, which would see fossil fuel funding continue to increase.

Under the proposal, the energy ministry’s budget would jump more than 70% compared to last year, to 48.5bn pesos ($2.4bn),

following a budget increase this year of over 900% compared to 2018.

According to an analysis of the budget published in September by a coalition of environmental groups, 96% of the money is intended to support oil and natural gas related projects.

“There is no room for more development of fossil fuel extraction,” said Campero, the fracking opponent.” (But) that’s far from being the vision of this government.”

The budget does include about 56bn pesos ($2.8bn) for “adaptation and mitigation of the effects of climate change,” but of this, 70% is being set aside for transporting natural gas, a somewhat cleaner fossil fuel, Campero said.

A spokeswoman for the Mexican environment ministry did not respond to numerous requests for comment.

Conspicuously absent from the budget, advocates say, is funding for expanding renewables, despite the country’s potential to adopt clean energy.

According to a 2017 study from the Friedrich Ebert Foundation, which focuses on promoting democracy and social programmes, 80% of Mexico’s energy currently comes from fossil fuels.

But the country’s landscape and weather conditions mean it could supply its electricity needs entirely from renewable sources, the study noted.

The Lopez Obrador administration has appeared reticent to capitalise on this potential, however.

In January, the government cancelled a public auction for companies to bid on clean energy contracts.

“Mexico is a very rich country in terms of its potential in renewables,” said Pablo Ramirez, a campaigner at Greenpeace Mexico.

“But since the arrival of the new administration, that’s been completely scrubbed off the map.”

Mexico’s 2020 budget is awaiting final approval by congress this month. — Thomson Reuters Foundation.

# Qatar stresses role of natural gas in meeting economic and environmental challenges

Qatar has stressed the importance of natural gas in meeting the economic and environmental challenges facing energy consumers around the world.

Many countries around the world are searching for the right balance of reliable and secure sources of energy, which can drive their growth, while addressing environmental concerns at the same time, HE the Minister of State for Energy Affairs Saad bin Sherida al-Kaabi told the 21st ministerial meeting of the Gas Exporting Countries Forum (GECF).

“In this effort, many are discovering the versatile, flexible, economic, and environmental qualities of natural gas as a key enabler in the journey to achieve a lower-carbon economy,” he said.

He stressed on Qatar’s commitment to ensuring the continued availability of reliable LNG (liquefied natural gas) supplies to world markets, and to promoting greater growth in the LNG industry, as well as to serving the growing needs of its

clients.

“We all have the same objective: To place natural gas at the heart of the energy industry as a fuel of the future to affirm our true belief that natural gas is a cornerstone in the energy transition and a destination fuel, not merely a transition fuel,” he said.

Drawing attention to unprecedented recurrent climatic conditions, including mean temperatures, turbulent seasonal cycles and extreme events, al-Kaabi had recently said it is time to take another look at natural gas and the number of advantages it has to make it a pivotal element in any strategy to tackle environmental challenges.

Qatar has highlighted the efforts to reinforce its position as the world’s leading LNG producer, which include the North Field expansion to increase the LNG production capacity to 110mn tonnes per annum by 2024, and a major ship-building campaign to build up to 100 LNG carriers over the next decade.

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# Musk Says Tesla Has Finally Made a Ready-to-Deploy Solar Roof

Almost three years after Tesla Inc. Chief Executive Officer Elon Musk unveiled solar roof shingles as part of his push to buy SolarCity, the automaker says it finally has a version of the tiles that it can mass produce.

“It’s been quite hard,” Musk said on a conference call late Friday. “Roofs need to last a long time. When you add electrification to the roof, it’s a fair bit of complexity.”

The sleek roof is a key part of Tesla’s push to revive its struggling solar business. Musk unveiled the product in 2016, but the company hasn’t been able to bring production up to full scale. The photovoltaic tiles are designed to resemble regular shingles, unlike solar panels atop a roof.

The latest version of the shingles was introduced after Tesla lost its status as the biggest U.S. rooftop solar company. It’s also been sued by Walmart Inc. over fires at a half-dozen of the big-box stores that had Tesla solar systems, and the company still faces litigation from shareholders over the controversial SolarCity acquisition.

## Signs of a Bounce Back

Tesla’s quarterly solar installations increase for first time in a year

Tesla initially said it would have a slow roll-out of the solar roof. But issues with aesthetics, cost and manufacturing process have dogged production. At one point in 2018, Tesla was making enough solar-roof shingles for just three to five homes a week.

Earlier this year, Musk declared 2019 as “the year of the solar roof.” In July, he tweeted that Tesla was “spooling up production line rapidly,” and that he hoped to manufacture about 1,000 roofs each week by year-end.

On the call Friday to discuss the third version of the roof, he reiterated the goal of getting to 1,000 roofs per week in the next several months but acknowledged that there might be setbacks.

“It’s an odd and weird product,” he said. “Why would anyone make a solar roof? How strange. But it just is a thing that should be. So we’re going to make it.”