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# President & CEO Yukikazu Myochin Joins Economic Mission Accompanying the Japanese Prime Minister on a Visit to Qatar

Middle East Chief Representative (in Dubai), Middle East Representative Office

Many of you may remember that the Japanese prime minister Fumio Kishida visited three Middle Eastern countries, Saudi Arabia, the United Arab Emirates and Qatar, on July 16-18, because newspapers and televised news programs heavily reported the story. On aspect of this visit was the accompanying economic mission. Representatives from many private Japanese companies participated in the tour of the countries where they do business. There were opportunities to interact with local businesses. Meetings between the prime minister and representatives of private firms also took place in the countries.

"K" Line was invited by Japan's Ministry of Economy, Trade and Industry to participate in the economic mission to Doha, Qatar. President & CEO Yukikazu Myochin participated together with Satoshi Kanamori, Managing Executive Officer, and Goichi Tsuruta, a Middle East representative. Sixteen private companies participated in the mission to Doha, including three major Japanese shipping companies, major general trading companies and LNG consumers. operators.

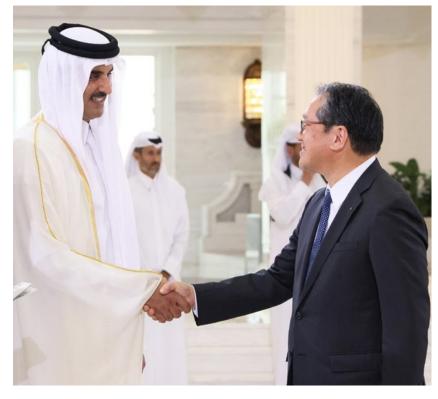
On July 18, representatives, one person from each the participating company, gathered at the Sheraton Grand Hotel, Dubai at 11:00 a.m. They then travelled to the Qatari royal palace, where a luncheon with governmental officials and private companies invited by the Qatari authorities took place. After



that, we they returned to the Sheraton hotel. At 2:30 p.m., all of the members of the mission and participants from Qatari companies attended an economic reception. Fumio Kishida, the Prime Minister of Japan, and H.E. Sheikh Mohammed bin Hamad bin Qassim Al Abdullah Al-Thani, Qatar's Minister of Commerce and Industry, spoke, greeting the attendees and confirming the cooperative relationship between the two countries in the economic area. This was followed by the presentation of the conclusion of a memorandum of understanding regarding business activities between the two countries' companies.

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At the end, the Japanese prime minister met with representatives from the private companies. Each company's representative was given an opportunity to make a statement. The main points of the speech by President & CEO Yukikazu Myochin were as follows. "K" Line began its ownership and operation of Japan's first LNG carrier in 1983. It has been involved in transport to and from Qatar since 1997 and now 35 LNG Carriers vessels including those decided, involved in the operations. "K" Line defines the LNG carrier business as one of its core businesses and its strive to serve the energy supply chain. Then he continued as a President of the Japanese Shipowners' Association, that the International Maritime Organization (IMO) set the goal of achieving net zero greenhouse gas emissions from ships by around 2050. Transitioning ships fuel from fuel oil to ammonia, hydrogen, synthetic methane and other fuels to meet this target cannot be implemented by a single shipping company and the shipping industry alone. It is necessary to combine the strengths of many different companies including the energy industry, the shipbuilding industry, trading companies and others and for benefit of Japan to work together as a nation to achieve this goal. As President of the Japanese Shipowners' Association,



I would appeal for continued governmental support to benefit the nation.

All of the official events finished around 6:00 p.m. President & CEO Yukikazu Myochin and Satoshi Kanamori, Managing Executive Officer, where busy during the 27 hours they were in Dubai. Including the exchange involving Qatari and Japanese government officials and business representatives from Japan, the economic mission to Qatar was a good grateful opportunity to increase "K" Line's presence.

# 17th Shipowners' Safety Measure Liaison Meeting Held in Person for First Time in Four Years

Inspection and Chartering Team, Safety & Quality Control Group, "K" LINE MARINE SOLUTIONS CO., LTD.

The 17th shipowners' safety measures liaison meeting was held on September 6. The purpose of this meeting is to improve the safety of the entire "K" Line fleet by sharing information with long-term chartered shipowners about safety in navigation and cargo operations. This year's meeting was held in person for the first time in four years following Japan's reclassification of COVID-19 as a Class V infectious disease. The event was held in a hybrid format, allowing online participation. The meeting was attended by around 120 individuals from 42 different companies, both in-person and online.

In his opening remarks, Kiyotaka Aya, Senior Managing Executive Officer, expressed his gratitude saying, "This meeting is being held in person for the first time after a four-year hiatus because of the COVID-19 pandemic. I am grateful that so many participants are here. I hope this will be a significant opportunity to think together about how to address the hot issues that concern you, overcoming issues and seeking to achieve safety in navigation and cargo operations."

In the presentations, the Inspection and Chartered Boat Team (ICBT) of the Safety and Quality Management Group (SQMG) of "K" Line Marine Solutions Co., Ltd. presented an analysis of PSC inspections on "K" Line operated vessels and introduced their findings. They discussed strengthening weaknesses by analyzing inspection results by region and categories of findings. Additionally, they introduced new initiatives to improve safety in navigation and cargo operations by showcasing "Good Practice" measures taken by shipowners and their vessels. Following that, the Marine Safety Team (MST) from the same group presented on the prevention and response to ship fires, sharing examples of general fires and car carrier fires. They emphasized the importance of early detection and effective firefighting methods for preventing fires on vessels. Additionally, they introduced the vessel monitoring support system and platform, which was demonstrated



Opening remarks by Kiyotaka Aya, Senior Managing Executive Officer



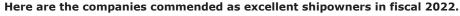
The seminar

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by a representative from NAVTOR, with a focus on enhancing the safety operation system. Then the RightShip provided a lecture on the purpose and overview of vetting, which greatly interested shipowners. The Corporate Sustainability, Environment Management, IR and Communication Group shared information about GHG reduction regulations. The focus was on the latest updates in GHG-related regulations for international shipping. They talked about revisions to the GHG reduction targets in the strategy due to MEPC80 and regional legislation in Europe and the United States. Finally, the Advanced Technology Group introduced the development of autonomous vessels, including the development of an integrated navigation support system for fully autonomous vessels and their participation in the unmanned vessel project MEGURI2040. They emphasized their commitment to further improving the safety and quality of transport operations on our operated vessels. In his closing remarks, Executive Officer Taguchi stated, "The environment is changing at a striking pace, but I believe that safety will continue to be the top priority and that it will result in competitiveness in any environment. I would like to exchange ideas and work with you to ensure safety and competitiveness."

After the seminar, a reception was held where awards were presented to the outstanding ship owners for the 2022 fiscal year and recognized Good Practices. The event included open discussions with ship owners, and it concluded successfully.

Finally, we would like to express our gratitude to those who cooperated in holding this meeting.



FUYO KAIUN CO.,LTD., Kawana Kaiun Co., Ltd., KUMIAI NAVIGATION (PTE) LTD, Sanasia Shipping Corporation, TAIYO KAIUN KAISHA, LTD., LIBERA CORPORATION, MITSUHAMA KISEN CO.,LTD.

#### The Good Practice prize winners are as follows.

SHOEI KISEN KAISHA, LTD., LIBERA CORPORATION, Sanasia Shipping Corporation, CIDO SHIPPING (KOREA) CO., LTD.



Awards being presented to excellent shipowners



Awards being presented to Good Practice prize winners



Closing remarks by Masatoshi Taguchi, Managing Executive Officer

# Start of Operation of Freezing and Refrigerating Warehouse No. 3 in Bangkok

Logistics and Affiliated Business Management Team, Logistics, Ports and Affiliated Business Group







"K" Line is pleased to announce that its Thailand-based Group company BANGKOK COLD STORAGE SERVICE, LTD. (BCS) commenced, on August 1, the operation of a new warehouse in the Bang Na district of Bangkok.

Before that, on Thursday, July 27, the grand joint opening ceremony for BCS Warehouse No. 3 and KCST Warehouse No. 5, which began operating this past April, was held in the cargo handling area of the BCS Warehouse. Keiji Kubo, Managing Executive Officer of "K" Line was one of 220 total ceremony participants.

This included 189 participants from the customers of the companies involved, builders and 31 KTL Group staff members. The ceremony was followed by a friendly luncheon attended by all participants.

The new warehouse, BCS Warehouse No. 3, is in a prime location 30 km from Bangkok's city center, the largest consumption area in Thailand, and it fulfills its functions as a storage and shipping base for foods, drugs and commodities that require freezing or refrigeration. By employing the latest version of ASRS (Automated Storage and Retrieval System) as a new storage facility in the freezing storage, storage, acceptance and delivery tasks are automated. Also, by employing mobile racks in chilled and constant temperature storage, it has increased





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the speed of loading and unloading operations. The warehouse also includes two processing rooms where fish and beef can be cut and other food processing can be performed to meet the diverse needs of customers.

BCS has obtained the ISO 9001, ISO 14001, ISO 45001 and HACCP & GHP certifications at its existing warehouses and it plans to obtain these same international standard certifications for the new warehouse by the end of this September.

Believing that environmental conservation efforts are a significant management issue, "K" Line designed and built this new warehouse based on the ultra energy-saving warehouse concept. The building is covered with two layers of non-combustible heat-insulating panels, including panels insulating the exterior walls. The interior walls are insulated with 200-mm-thick panels on their entire surface. The freezing system employs an energy-saving secondary loop method using ammonia and CO<sub>2</sub>, which are natural refrigerants, and only CO<sub>2</sub> circulates in the storage area as a safety consideration in the event of a leak. Furthermore, a 600 Kwh solar panel is installed on the roof, aiming to reduce power consumption during the day approximately 60% compared with conventional refrigerating warehouses.

"K" Line has been operating regular warehouses and freezing and refrigerating warehouses with close ties to the community in Thailand for over three decades. We have provided logistics services by situating each warehouse in a prime location, such as on the outskirts of Bangkok, within an industrial zone with a high concentration of Japanese companies, at Suvarnabhumi Airport and near Laem Chabang, one of Thailand's major ports.





From left to right: Mr. Wattana Charoenjit, Chief Officer, Bang Phli District; Kiyoshi Tokonami, Managing Director, "K" Line (Thailand) Ltd.; Keiji Kubo, Managing Executive Officer, Kawasaki Kisen Kaisha, Ltd.; Toru Otoda, Managing Director, "K" Line Container Service (Thailand) Ltd.; and Kenji Miyoshi, Managing Director, Bangkok Cold Storage Service, Ltd.

In its management plan, "K" Line has positioned the logistics business as a major business contributing to stable revenue.

Going forward, "K" Line will continue to provide high-quality logistics services and solutions to meet increasingly diverse customer needs and growing demand, with a focus on Southeast Asia, which will continue to show remarkable economic growth.

#### [Exterior View of the New Warehouse]



#### [Interior View of the New Warehouse]

ASRS







#### [Overview of the New Warehouse]

Name	Bangkok Cold Storage Service, Ltd. No.3 COLD STORAGE		
Address	199/9 MOO 9 TAMBON BANGCHALONG AMPHUR BANGPLEE SAMUTPRAKARN 10540.		
Service Launch Date	August 1, 2023		
Business	Freezing/refrigerated cargo storage, distribution processing, food processing, packaging, domestic refrigerated delivery, etc.		
Total Floor Area	7,000m <sup>2</sup>		
Storage Warehouse	Freezing -25°C		
Temperature	Chilled 0 - 15°C		
	Constant temperature +25°C		
Total Pallet Storage Capacity	10,591 pallets		

#### [Overview of Warehouses in Thailand]

#### **BCS Freezing and Refrigerating Warehouses**

	Area	Land Area (m²)	Total Floor Area (m²)
Warehouse No. 1	Outskirts of Bangkok (Bang Na district)	6,744	4,300
Warehouse No. 2	Outskirts of Bangkok (Bang Na district)	12,331	6,300
Warehouse No. 3 (new warehouse to commence operations in summer 2023)	Outskirts of Bangkok (Bang Na district)	17,741	7,000
Freezing and Refrigerating Warehouse Total		36,816	17,600

[Reference Link] Medium-term Management Plan (announced May 9, 2022) https://www.kline.co.jp/en/ir/management/strategy.html

[Related Press Release] Announced November 17, 2021: "K" LINE Group Companies Establish New Cold and Dry Warehouses in Thailand https://www.kline.co.jp/en/news/logistics/logistics4947569946710464310/main/0/link/211117EN.pdf

# Investor Relations (IR) Activity Report — In-person IR activities have resumed —

IR and ESG Team, Corporate Sustainability, Environment Management, IR and Communication Group

#### Very first business briefing for three businesses with role of driving growth and sustainability management was organized.

On Friday, May 26, a business briefing (IR Day) was organized mainly for Japanese analysts and institutional investors. It involved several firsts. It was almost the first time that "K" Line held a briefing focused on specific businesses, and it was the first IR event held in a hybrid format. Approximately 100 people, both offline and in-person, attended the briefing with its lively atmosphere.

Regarding the three businesses that play a role in driving growth, the unit head explained the characteristics and market trends of each business, as well as the goals and progress of each business. During the sustainability management session, President & CEO Yukikazu Myochin spoke passionately about four key points: "environment/technology", "safety/quality", "human resources" and "enhancement of corporate governance," which is the management base that supports three other points. The presentation by "K" Line personnel was followed by an active question and answer session. Many participants said that the explanations and answers provided directly by the president & CEO and the heads of units helped increase their understanding of sustainability management and the three growth-driving businesses: the car carrier business, the coal & iron ore business and the LNG carrier business. The IR Day materials and videos of the event are available on "K" Line's website. To view them, follow the link on the left.

#### Guided tour of front line of shipping!

We have also resumed our efforts to actually see the site.

The facility tours for analysts and institutional investors had been suspended for a long time during the COVID-19 pandemic, but they began to be held again at the end of June. The first tour after the suspension featured a visit to Yokohama Daikoku C-4 Terminal and a car carrier calling at the terminal. A total of five securities company analysts and investors participated in the tour held on Thursday, June 29.

The day had a lot to offer, including a presentation on overview of the Daikoku C-4 Terminal by Daito Corporation, followed by a tour of the terminal premises

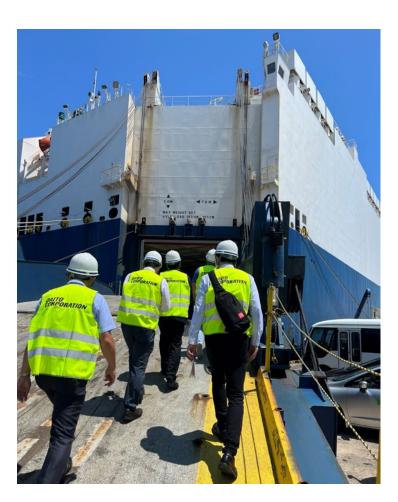


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by car, and finally a cargo handling operations tour on a vessel. The participating investors looked surprised at the scale of the H&H cargo and the vessel. They asked many questions about car carrier cargo handling operations and the terminal. In the survey after the tour, we received feedback that the tour helped increase their understanding of the car carrier business. We would like to take this opportunity to express our gratitude to the members of the Car Carrier Planning & Development Group who took the time out of their busy schedules to make various arrangements for the tour, and to the members of Daito Corporation who were attentive on the day. Thank you very much!

#### We will continue IR activities.

In addition to individual IR interviews, the IR and ESG promotion team has also resumed overseas roadshows (visiting and interviewing overseas investors) and face-to-face participation in investor conferences hosted by domestic and foreign securities companies from this year. Although the convenience of online meetings has been recognized during the COVID-19 pandemic, we have once again become aware of the importance of face-to-face dialogue. In order to improve our corporate value, we are conducting IR activities to deepen the market's understanding of "K" Line group. We will continuously improve and organize the business briefings and facility tours above as opportunities to deepen analysts/investors' understanding of "K" Line's businesses and engage in direct dialogue with the markets and directly provide on-site experience to them. Thank you for your continued cooperation and support.



Reference link: IR Day (business briefing)
https://www.kline.co.jp/en/ir/library/event.html

# Video Created with Educational YouTuber Lao Teacher Now Available!

Corporate Sustainability, Environment Management, IR and Communication Group



JSU & IMMA\* (First Engineer Takahashi currently on loan) widely communicate the wonders of seafarers' jobs to secure Japanese human resources for crews for international voyages through the J-CREW Project — *Yappari Umi ga Suki* — PR project. Cooperating in this PR project, our marine personnel created a video about ocean-going seafarers in collaboration with educational YouTuber Lao Teacher. The video was published on Lao Teacher's YouTube channel on Friday, July 7, 2023.

It was shot at the Machida Training Center and features Chief Officer Koei Irimiya and Second Engineer Kosuke Kobayashi. The video clearly describes the wonder of the jobs of ocean-going seafarers through a training experience in a navigational

simulator, the explanation of some instruments and Lao Teacher's interview of the seafarers. Be sure to tell others about the video, such as families that include junior high and high school students trying to find a future vocation or looking for a job.

The following is an excerpt from the talk in the video. For more information, go to the YouTube channel.

\*JSU & IMMA: The All Japan Seamen's Union and the International Mariners Management Association of Japan



## Special Feature

#### Navigational Simulation

Facilitator: Today, they are going to use a navigation simulator. Could you guide them? Lao Teacher, a junior high school student and a high school student enter the simulator.

Lao Teacher: Amazing! I'm tempted to press all of the buttons!

Mr. Irimiya: Today, you are going to take the helm. It is like the steering wheel of the car. And the radar is just in front of you. First, let me explain how to steer a ship.

Look at the green and red numbers. The right green one is for

starboard, and the left red one is for port. If I say "Starboard ten degrees," turn the rudder 10° to the right. Then, the helm repeats, "starboard ten degrees." Repeating the command is necessary to confirm that the helm understands the command properly. Make sure that the rudder is turned 10°, then say, "Starboard ten degrees, sir or ma'am." It will prevent errors.



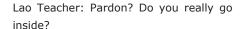
Lao Teacher: I see.

#### • Engine Room Maintenance

Mr. Kobayashi: First, I want to show you the model of the main engine in the vessel. This is 1/15 scale. It is as large as a small apartment.

Lao Teacher: Oh! Just the engine?

Mr. Kobayashi: Yes, it is. Can you see the pistons inside? The combustion chambers are large enough that two adults can fit inside them. We go into the combustion chambers to inspect the engine.



Mr. Kobayashi: Yes. We go into the combustion chambers, move the engine little by little, and inspect it thoroughly.

Lao Teacher: Seems a bit scary.

Mr. Kobayashi: This is the largest class engine in the world. It is a rare

experience. The radius of the piston is about 90 cm. The radius of the pistons in the engines of light vehicles is 8 to 10 cm. In ship engines, it is 90 to 100 cm. The volume of the combustion chamber in a ship engine is 1000 times greater than in a light vehicle.

Lao Teacher: That's big.

We will continue to support the J-CREW Project — *Yappari Umi ga Suki* — and implement the PR project so that more people can be more familiar with seafarers and more fascinated by them.



YouTube video link https://www.youtube.com/watch?v=hh0UsL3pMHI



Mr. Koei Irimiya, Chief Officer



Mr. Kosuke Kobayashi, Second Engineer



# **Summer without Masks Our Memories**

Corporate Sustainability, Environment Management, IR and Communication Group

The Japanese government reclassified COVID-19 as a class 5 infectious disease on May 8, 2023.

The government does not ask people to take basic infection control measures in their everyday lives any more. People who are infected or who have had close contact with infected people do not have to self-isolate now. This summer, there were no movement restrictions for the first time in four years. How did you spend the summer?

Eight employees told us about how they spent this summer without masks.

#### **Blueberry Picking**

#### Mr. Yoshinori Nishino Asset Management Team Leader, Drybulk Planning Group

Since the state of emergency was declared in 2020, I have visited the blueberry farm run by my uncle with my colleagues every August to enjoy outdoor activities.

Some talk to each other or taste berries while picking. Others concentrate on blueberry picking without uttering a word to fill their basket (it is a refreshing activity). One of them harvested nearly four kilograms of blueberries. This year, blueberries were a little smaller and there were fewer than normal. However, the berries you picked kept longer because they were not too ripe.

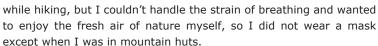
We played in the river nearby after picking blueberries to cool off. It was very refreshing. Join us next year if you are interested. Bring your children and friends.



#### **Mountains without a Mask**

#### Mr. Hajime Otsuda General Manager, Maritime Strategy Group

I must confess that I had stopped wearing a mask when hiking in the mountains, even during the pollen season, before the COVID-19 pandemic was over. I saw some stronger people who kept their masks on



This summer, people hardly wore masks even in mountain huts, unlike last summer. It was easier for me to chat with people I met in mountain huts or on the trail. I felt that the COVID-19 pandemic was finally over.



#### **Rich Nature in Tokyo**

#### Mr. Mizuki Ichihara General Planning Team, Corporate Planning Group

It has been four months since I came to Tokyo to work. I am gradually getting used to the living environment and my workplace. However, I miss nature because of the lack of close contact with nature here in Tokyo. I think about my parents' house which is at the foot of a mountain. Searching for a nearby place where I could interact with nature, I found Hossawa Falls in Hinohara, Nishitama. On a day off, I rented a car and drove there. I parked the car and walked about 20 minutes to a waterfall with a vivid green basin and a cool refreshing breeze. I happily enjoyed this magnificent natural area in Tokyo, with the refreshing wind cooling me better than an air conditioner. I felt that it was the end of the COVID-19 pandemic on a mountain trail with many hikers, including families, while appreciating nature.





#### Visiting the Countryside for the First Time in a While

#### Ms. Sakiko Hayashi

### Communication Team, Corporate Sustainability, Environment Management, IR and Communication Group

No movement restrictions anymore this summer. I took my oneyear-old daughter to my grandparents' house in Matsumoto, Nagano.

My grandparents who live in a faraway nursery home had not seen my daughter who was born in the middle of the COVID-19 pandemic. After a frustrating wait of more than a year, they finally saw their great-grandchild. I was very happy.

During the day, it is very hot in Matsumoto, like Tokyo. However, the air is very refreshing in the morning and evening. I was very refreshed. Visiting the city I had come to every year since I was a child for the first time in a while made the familiar landscape look new to me. We strolled the streets, had ice cream, and enjoyed Matsumoto's famous soba for lunch. It was a memorable trip for us.

The photo shows Tanabata festival decorations at Matsumoto Station. In Matsumoto, they display figures of Orihime and Hikoboshi every August.



#### **Freedom**

#### Mr. Ryusei Akashi Shipbuilding & Engineering Team, Ship Technical Group

I am Akashi from the Shipbuilding & Engineering Team in the Ship Technical Group. You must be having a very exciting summer this year. How are you doing?

Freed from masks for the first time in a couple of years, I am really enjoying summer. No more skin problems, cooped-up feelings, or discomfort in the summer. I visited Amami Oshima this year! My delightful summer is still ongoing.

I was excited and exalted before departure. Hearing there were many venomous snakes in the grass, I was scared during my stay. On Amami, the habu, a venomous snake, is at the top of the food chain. In spite of this, the trip was fabulous because I was surrounded by nature which was wonderful.

I am kayaking in the photo. It was the most memorable moment. Surprisingly, Japan is full of mysterious and touching landscapes. You can see this in my face.



#### **First Time in Four Years**

#### Mr. Yuto Hashi Information System Team, Digitalization Strategy Group

I went to a fireworks display and a summer festival for the first time in four years. COVID-19 was changed to a class 5 infectious disease. How did you spend this summer without movement restrictions? Did you enjoy barbecue on a beach or sit back and do nothing in an airconditioned room at home?

As an active person, I enjoyed summer for the first time in a while, including going to a summer festival and a fireworks display and travelling. Look at my suntan.

This summer, I enjoyed several firsts. It was the first time I went to Universal Studio Japan, the Gion Matsuri in Kyoto (I was moved by the crowd), and the first time I surfed (I was moved by the waves in Chiba). I appreciated the good company of the people who enjoyed this summer with me.

We are returning to our regular lives gradually. I would like to cherish this and value my days.



Author (Third from the left)

#### **Kurobe Dam in the Ummer**

#### Mr. Ryo Suzuki Europe Team, Car Carrier Business Group

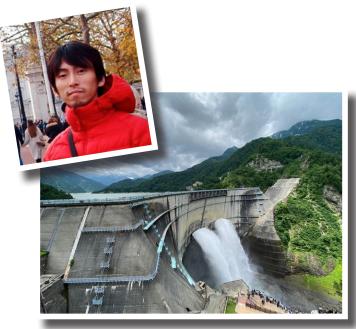
Hi, this is Ryo Suzuki from CEU.

(As I write this) The bon holiday has passed, and August is coming to an end soon. With no COVID-19 restrictions, I hope you all had a great summer.

In my case, I visited Tateyama in Toyama-prefecture in the middle of July to escape the summer heat of Tokyo. Tateyama is famous for the Kurobe dam. From the high altitude, the highest temperature was 77°F when Tokyo was hitting 95°F for consecutive days. I was able to travel comfortably without a mask.

Kurobe Dam discharges water every day until mid-October (15 tons per second!).

If you have the opportunity, I recommend it as a great touring spot.  $% \begin{center} \bend{center} \end{center} \end{center} \end{center} \end{center} \e$ 



#### **Girls Trip to Taiwan**

#### Ms. Mako Sato

### Coal & Iron Ore Team II, Coal & Iron Ore Carrier Business Group

I am Mako Sato from Team II of the Coal & Iron Ore Carrier Business Group.

I travelled in Taiwan together with my colleagues in mid-July this year.

They are many different nice foods in Taiwan, such as braised pork rice bowls, soup with dumplings, pepper meat buns, and castella cakes. We spoiled ourselves and ate too much of the nice local cuisine.

During the three-day trip, we visited tourist places that were representative of Taiwan, such as Jiufen, Shifen, Taipei Zoo, the Shilin Night Market and Taipei 101. The photo shows us seeing the sky

lantern in Shifen. We fully enjoyed the trip, eating many nice foods and visiting many places. However, I could have been stranded there, because I booked the wrong flight. Despite the events at the end, it was a very enjoyable trip.

I would like to say thank you to my colleagues who travelled with me.



Middle: Author

# Miho's Dream Journey Goes Across the Wilderness of the Sea About the air pollutants emitted by marine vessels

Corporate Sustainability, Environment Management, IR and Communication Group

The summer heat has died down. Eco Bridge is heading for its next port. Kantaro is thinking about something while looking at the chimney.



What are you thinking about, Kantaro?





Kantaro

I am just wondering how the exhaust gasses from marine vessels influence the environment.

I see. What is in the exhaust gases, other than carbon dioxide?



The exhaust gas from heavy fuel oil vessels include sulfide oxides (SOx), nitrogen oxides (NOx) and particulate matter (PM),\* in addition to carbon dioxide (CO<sub>2</sub>). These components have various impacts on the environment.



Eco Chief Engineer

\* Particulate matter (PM) are solid or liquid particles discharged by factories (soot), generated during the pulverization of things (coarse particulates), or included in the exhaust gases of diesel engines (black smoke). PM arise from natural phenomenon including dust lifted from the ground. A particle with a diameter of 2.5 micrometers or less is called PM 2.5 (1 µm = 1/1,000,000 meter or micron). PM 2.5 easily pass through human bronchi, reaching the deep parts of the lung such as the pulmonary alveoli. Thus, PM have been identified as a cause of respiratory diseases such as bronchitis and asthma.



How do PMs impact the environment?

One impact is acid rain.

Acid rain is a phenomenon where acid substances are included in rain, snow or fog increasing their acidity beyond what is normal. This adversely affects ecosystems by acidizing rivers, ponds, lakes and soil and it also damages architecture and cultural properties by causing the deterioration of concrete and the oxidization of metals.

It one cause of the loss of historic architecture, such as the damage to the Parthenon and the stone statues of Roman ruins.

In Japan, you can find green or white streaks of rust on the Great Buddha of Kamakura and copper statues placed outdoors. These phenomena are also attributable to acid rain.





Eco Captain



If PMs adversely effect the ecosystem and damage concrete, they may affect human bodies, too.

Yes. They can affect the human body, although it has not been reported yet in Japan that acid rain has clearly damaged the ecosystem. SOx and NOx cause photochemical smog as well as acid rain. This may cause eye irritation, difficulty breathing or even nausea.

However, there are a range of measures marine vessels can implement to reduce SOx and NOx.

One typical SOx countermeasure is the limit on sulfur in fuel oil which was made stricter in 2020. The major solutions for complying with this limit are using low-sulfur fuels and scrubbers that remove SOx from exhaust gases.



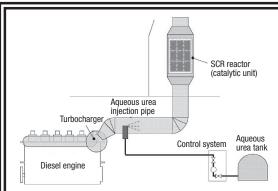
Scrubbers remove sulfur oxides from exhaust gasses by spraying seawater over the exhaust gasses that contain sulfur oxides. Closed-loop scrubbers separate and store the removed sulfur in a tank and bring it to shore. Open-loop scrubbers discharge the removed sulfur into the sea after neutralizing it using a neutralizer. Hybrid scrubbers enable vessels to switch between open-loop and closed-loop systems.

The scrubbers desulfurize the exhaust gases.



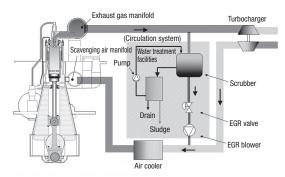


NOx countermeasures include selective catalytic reduction (SCR), exhaust gas recirculation (EGR), and an emulsion fuel that uses a mix of water and fuel.



#### [SCR]

SCR is a technology for binding NOx to ammonia (NH<sub>3</sub>) that is hydrolyzed using the heat of the exhaust gases and converting it into nitrogen (N<sub>2</sub>) and water (H<sub>2</sub>O) by spraying aqueous urea which is used as a reducer over the exhaust gasses.



#### [EGR]

In EGR, exhaust gasses are sent back into the combustion chamber of the engine, lowering the concentration of oxygen in the combustion chamber. The lower concentration of oxygen in the combustion chamber lowers the combustion temperature. The lower combustion temperature enables vessels to control NOx emissions.

#### [Water Emulsion Fuel]

When an emulsion fuel is burned, the oil is burned which contains water that rapidly boils. The evaporation of the water results in finely diffused fuel particles. This facilitates complete combustion because the very small fuel particles easily burn. This results in cleaner exhaust gasses.



Another solution is transitioning to a new fuel, LNG.

This enables vessels to reduce SOx and PM emissions about 100% and NOx about 80% at a maximum, when compared with burning heavy fuel oil.

#### I see!

LNG fuel can help reduce the emissions of air pollutants, including  $\text{CO}_2$ .

Recently, the world has been focused on many global warming issues. We need to take more actions to prevent air pollution, too.



To be continued in the next issue.

### The Community Where I Live ~Indonesia~

Contributed by Mr. Masao Nakayama, PT. K Line Indonesia

Indonesia is the fourth largest country in the world by population, with 270 million people.

Rich in resources including natural gas and coal, the country is expected to become the fourth largest economy in the world (larger than Japan!) in 2045 when the country will celebrate the 100th anniversary of its independence. Indonesia has developed favorably and is expected to continue to develop in the future. However, the capital, Jakarta, has not sufficiently addressed matters such as city planning and environmental action. What is more, there are few recreation facilities other than golf courses. I am very busy working on weekdays and I am at a loss as to how to spend my weekends. Jakarta is that kind of city.

#### 1. Traffic Conditions and Public Transportation

In Jakarta, the traffic makes business during the week more complicated.

The traffic congestion here is the worst level in the world. It often takes many of our employees two hours to commute. How do people use public transportation in a city with only one subway?

#### Suburban commuter trains

The trains connect the city center to the suburbs and carry commuters. They use rolling stock that was previously used in Japan. Previously, the suburban commuter trains were well known for the passengers that would get onto the roofs of the cars because they were too crowded. Now,

getting onto the roof of the train is prohibited. (The trains are still packed though.)

#### TransJakarta

The buses run in a dedicated lane in the center of the main roads connecting places within a 10 km radius of the city center. The dedicated lane is positioned at the center of the road. This means that cars can only turn right at grade separated crossings. If you want to go north, you have to go south first and U-turn at a traffic circle several kilometers down the road. The incomprehensible road system makes the traffic jams worse.



The view on my way to the office. The PT. K Line Indonesia building behind a crowd



My neighborhood (Don't misunderstand, my apartment is in the high-rise building in the back).



Mobile coffee shops are becoming more common in the city. They deliver coffee for less than 100 yen. "Would you like some coffee?"

### Letter from Overseas



Gado gado is my favorite. It is a dish with boiled vegetables seasoned with peanut sauce. Have gado with a drink tonight.



I'm going to make bumbu.

#### Angkot

Angkot are shared taxis that are essential for residents. A light van carries about ten passengers at a time. It is always packed. The fare is about 40 yen. The driver stops frequently to pick up and carry as many passengers as possible. It is one of the causes of the terrible traffic congestion.

#### Motorcycle taxis

Many people use motorcycles to commute, independent of public transportation. If you ask residents if they would rather buy a car or a house if they were to receive some money, a majority would choose a house. This is because cars are truly inconvenient, and motorcycles are sufficient. Motorcycle public transportation is available in addition to privately owned motorcycles.

Almost all of the company employees coming from other countries use company cars. They use motorcycle taxis when their car gets stuck in traffic unexpectedly to avoid being late for an appointment with a client, or they use buses to save time on busy weekdays, rather than wasting time with ridiculous U-turns.

#### 2. Daily Diet (1) — Dining Out

There are generally five types of place to dine:1. Restaurants for foreigners 2. Restaurants for locals 3. Diners for locals 4. Food courts 5. Food stalls There are a limited number of places that provide alcohol in Indonesia, a Muslim country. Therefore, we usually go to 1. However, we have recently started to try 2 and 3 because if you ask, they might allow you to bring our own alcohol. 4 and 5 are essential for breakfast and lunch. I take visitors from Japan there sometimes. You can eat bubur ayam from the food stalls. It is a porridge with chicken that I am sort of addicted to (however, I have recently become a bit tired of it).

#### 3. Daily Diet (2) — Home Cooking

Bumbu is paste that is a blend of spices. It is said to be the key ingredient for Indonesian cuisine. When making bumbu, I grind red onions, garlic and red hot peppers in a stone mill while watching live-streamed video. You fry it and then store it in a refrigerator. You can saute pork with bumbu instead of ginger and soy sauce. You can mix bumbu with miso, put bumbu on fish and grill it, or you can add bumbu to a soup stock containing soy sauce and put it on cold tofu. There are a variety of ways to use bumbu when cooking. This is the home cooking that you can enjoy here. Making bumbu is a useful way to kill time on the weekend.



While jogging - some people tell me to watch out for trains.

#### 4. Other Ways to Spend Days Off

Only a few roads have sidewalks and it is too hot during the day, so I don't go for walks in the city. I am not interested in golf, so I don't play it. Sometimes I go to Bogor (50 km south of Jakarta) which is little higher above sea level than Jakarta and therefore a little cooler. I walk or have lunch at a nice restaurant there. Unfortunately, there are only a few recreation options for me, including the morning jog that is my daily routine.



Children playing at Jimbaran Beach, Bali



On the street on Indonesian Independence Day At a ramen shop in the city. They have two A girl joining a competition in which participants carry a marble on a spoon in their mouth.



types of chopsticks for ramen, chopsticks for pork-bone-based soup and chopsticks for chicken-based soup, because Islam forbids the eating of pork.

#### 5. Extra — Bali

In conclusion, to fully enjoy weekends, you have to get out of the city. Fortunately, you can easily fly to various places because there are many domestic flights in Indonesia. I enjoy spending the weekend at my favorite hotel in Bali once every two or three weeks. In Bali, I begin the day with a slow jog along the 5 km promenade on Sanur Beach while looking at the rising sun. Hike the terraced rice paddies of Ubud. Enjoy seafood while watching the sunset in Jimbaran. The most appealing thing about Bali is that you can drink beer anywhere.

If someone ask me which of the countries I have worked in is my most favorite, unfortunately, I wouldn't currently say Indonesia. This may partly

be because I am bewildered by differences in people's values due to religion, but it has only been a little less than a year and a half since I came here. As I stay here longer, I will make more friends and more happy memories.



Kayaking in the mangrove forests. One of the few pastimes in Jakarta.



The street that appeared in the popular Japanese song, "To My Little Sister in Surabaya." Perhaps one of the few tourist places in Jakarta.



Inside Angkot (share taxi)

### **An Arabian Story: Episode 4**

Contributed by Mr. Goichi Tsuruta, Middle East Representative Office

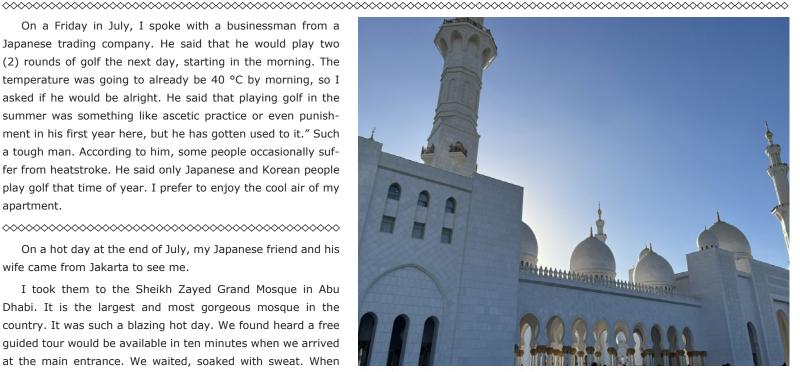
Hello, everyone.

This article will be in the autumn issue. In Japan, it will be the middle of fall autumn when you read this. I am writing this article late in August. The hot days will continue here in Dubai, with high temperatures exceeding 40 °C. You may think the days are hot year-round in Dubai. In reality, we do have a summer and a winter here. It is muggy in the summer, but the weather is comfortable in the winter when the temperature is around 20 °C. In the summer, it suddenly becomes hot in May. In July the highs stay over 40 °C for consecutive days, and the lows don't go below 30 °C. Everyday is humid, and the heat index often exceeds 45 °C. There are a very few people walking outside. Most of the people are going to stay in an air-conditioned room most of the time. Let me tell you about what happens on hot days like these.

On a Friday in July, I spoke with a businessman from a Japanese trading company. He said that he would play two (2) rounds of golf the next day, starting in the morning. The temperature was going to already be 40 °C by morning, so I asked if he would be alright. He said that playing golf in the summer was something like ascetic practice or even punishment in his first year here, but he has gotten used to it." Such a tough man. According to him, some people occasionally suffer from heatstroke. He said only Japanese and Korean people play golf that time of year. I prefer to enjoy the cool air of my apartment.

On a hot day at the end of July, my Japanese friend and his wife came from Jakarta to see me.

I took them to the Sheikh Zayed Grand Mosque in Abu Dhabi. It is the largest and most gorgeous mosque in the country. It was such a blazing hot day. We found heard a free guided tour would be available in ten minutes when we arrived at the main entrance. We waited, soaked with sweat. When



The Sheikh Zayed Grand Mosque in Abu Dhabi

the guide appeared, there were four people waiting: The three of us and one other person. The guide ushered us in the opposite direction of the regular tourist route. We enjoyed a detailed explanation on the mosque in a quiet place where there were no other tourists. For example, the tour guide explained how gorgeous mosque such as its pillars were decorated with mother-of-pearl inlay. We also received another special treatment — we were able to enter a main hall of place of prayer where tourists are generally not allowed to enter. At the main hall of mosque's prayer services thousands of Muslims can gather and pray together. It is rare to be allowed into places like this in other mosques if you are not Muslim. We stood on a unique carpet that was said the largest as one sheet in the world. Other tourists standing behind the rope barriers looked at us suspiciously. It was a precious experience.



Main hall

When I was a child, I heard or maybe read that you could make a sunny side up egg on the hood of a car when it was very hot in summer. Did you hear this? When I talk to my family and friends about this, they all remember reading or hearing it regardless of their age. It is something of a mystery that Japanese people know ambiguously but not clearly and they don't know the origin.

I really wonder whether it is true to make a sunny side up egg on the hood of a car? Dubai must be a perfect place to solve this question. So, I decided to performed an experiment. If it is successfully done, it will be the ultimate zero-carbon solar-powered dish.

Experiment one: One day in August

If I put an egg straight on the hood, I couldn't eat it even if it cooked. So, I took a frying pan and an egg to my apartment building's parking lot. It was two o'clock in the afternoon. The temperature was 43 °C. It was bright and clear. The sun was blazing. I put the frying pan on the ground and waited until it got hot. Ten minutes later I felt dizzy because I was not prepared for the heat. I could not wait longer. So, I cracked an egg into the frying pan. What happened? The egg did not cook at all. The white did not change color and even not become hard. The experiment failed.

I reflected on the experiment. Ten minutes may have not been long enough to heat the frying pan. The egg may have been too cold as it was just taken out of the fridge.

Experiment two: One day in August in two weeks.

It was two o'clock in the afternoon. The temperature was 41 °C. It was bright and clear. The sun was blazing. Remembering that the heat had affected me last time, I put a hat on, took a water bottle filled with cold tea with me, and I had selected a shady place beforehand. I went to the parking lot fully prepared for the heat. I had taken the egg out of the fridge in advance to get it to room temperature. Picking up the frying pan, I wanted to get the experiment started. This time, I tried to slowly heat the frying pan for an hour. I read a book in the shade during that time. I worried that someone would think I was suspicious.





The air temperature was 43 °C. It felt like 48 °C. That was not hot enough to cook an egg.

However, no one passed by because it was very hot mid-summer. One hour passed. The frying pan seemed to be heated enough. The egg was at ambient temperature. I cracked it into the frying pan, expecting success. What happened? What a shame! Nothing happened, just as last time. The egg did not cook at all.

Conclusion: Making a sunny side up egg on the hood of a car is a groundless rumor. 43 °C was not hot enough.

Two days later, a person from the agency in Kuwait visited us and said that it was not very hot in Dubai. The temperature was 50 to 55 °C in Kuwait. I might as well try it in Kuwait next year if I have the chance.



A big mahi-mahi (May 2023)

They say that ocean fishing is more successful in winter and you cannot have a good catch in the summer in Japan because of the water temperature is too high in summer. Here in Dubai, if you go to the beach and put your hand in the water, you will find the water is as hot as bathwater. Is it difficult to catch fish in the UAE in the summer? No, summer is the big fishing season.

One day in August, I went with a group of eight other Japanese expatriate employees to Fujairah to fish from a boat. Fujairah is on the opposite side of the UAE from Dubai. It is on the eastern side of the Strait of Hormuz, facing the Gulf of Oman. Iran is on the opposite shore. Fujairah is more popular than Dubai among fishers because you can catch large fish including tuna from boats. We left Dubai at four o'clock in the morning, fully prepared for the heat, including hats and sunscreen. We arrived in Fujairah at 5:30 am in the morning and we got on a ten-person boat. This was the first time for four of us to fish from a boat, and there was a mixture of anticipation and anxiety. The boat was operated

by Captain Wener and two assistants. Before dawn we went out to sea. The temperature was about 30 °C. It was cool and a gentle wind was blowing. The sea was very calm with little rolling or waves. We enjoyed a pleasant cruise in the high-speed boat with three Yamaha engines. Usually, some of us sits on the floor directly and their buts often violently struck floor of boat (it was very painful) because the boat bobbed up and down hard, driving through waves, but on this day, we were cruising comfortably. After cruising for a while, we saw a beautiful sunrise on the eastern horizon. After riding in the boat for about 30 minutes, we arrived at what is commonly called "the anchorage area" where there were many anchored ocean going vessels, including tankers. Then, Mr. TS, an experienced angler, spotted fish and said, "There are fish jumping there." When we approached them, they were dolphins, not fish. There were two or three groups of about ten dolphin each. When our boat approached them, some dolphins followed in the wake of our boat. They swam alongside close





Dolphins following a ship

enough that we could reach them. The dolphins were very entertaining, jumping here and there. It was the first time I saw dolphins in Fujairah, having visited there several times. While We got excited about the dolphins. Someone said that the fish will go away if there are dolphins nearby. That's right. We came here for fishing. We said goodbye to the dolphins and left for a fishing spot.

The fishing spot was near the anchorage area and about 100 meters deep. As soon as we started trolling to checked how the fishing was, we got something. Mr. HY landed it. It was a kind of five-ray yellowtail (called a rainbow runner) that was about 60 cm long. It was a good start. We began fishing individually using small horse mackerel as live bait. Those of us who were fishing from a boat for the first time started fishing, asking the boat staff for advice and learning by watching the others, although they were a bit puzzled at first. Then, Mr. YS, one of the people fishing from the boat for the first time shouted that he probably caught a fish. His fishing rod was bent severely. It must have been a big fish. After he struggled for ten minutes or so, we could see the fish in the water, with a beautiful green and yellow body. It was a mahi-mahi. After the struggle, he finally had caught a medium-sized 80 cm mahi-mahi. Fishing is interesting because, if you are lucky, you can catch a fish regardless of your level of experience. Actually, the beginners were catching fish one after another on the day. For a while I just watched them getting a good

catch without catching anything by myself. Ms. KS, a woman in her mid-20s, who used to enjoy fishing back home in Tsushima, also caught a big striped jack. It was gradually getting hotter, but the heat never bothers you if you are catching fish. We hydrated with cool soft drinks kept in the boat's cooler and some sports drinks. We all enjoyed the cruise comfortably, feeling the sea breeze while the boat was moving, regardless of what we were catching. None of us became ill due to the heat or seasickness. When the temperature reached almost 40 °C a little past eleven, the number of strikes we were getting went down. Time was up. That day, we caught a rainbow runner, a big striped jack, six medium-sized mahi-mahis, a needlefish, and several young fish of the same family as the Spanish mackerel.

Then, all of us gathered in my apartment. We cooked and enjoyed fish dishes while drinking a lot. We had sashimi of rainbow runner, striped jack, and mahi-mahi, mahimahi meunière, namero (minced sashimi with miso), salt-grilled needlefish, a hot pot with good soup from fish bones and other food. It was such a merry and pleasant summer day.



Fishing trip group photo

# Letter from the South American Andes, Part 11 Memories of Summer with My Family — at Pintados in the Atacama Desert —

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Contributed by Mr. Raul Araneda, "K" Line Chile Ltda



Cerros Pintados

Hello! I am Raul from "K" Line Chile.

Twenty-three years have passed since I joined "K" Line. I am very pleased to have the opportunity to tell you in other countries about Chile. Let me talk about Cerros Pintados in the Atacama Desert a distance from Iquique in northern Chile, an area I am in charge of as a salesperson.

It is comfortably dry and hot in the sun during the summer here in Iquique. When my family came to see me for summer vacation, I decided to take them to the Atacama Desert.

The desert is in Pampa del Tamarugal in the Tarapacá Region about 95 kilometers from Iquique. It is about 1035 meters above sea level. There is the special place called Cerros Pintados (painted hills in English) where there are as many as 450 geoglyphs. Indigenous people painted

the geoglyphs in Pintados on the barren hills between 700 and 1500. They painted them by removing the dark-colored sand on the surface of the soil and exposing the light-colored layer underneath to create a contrast. The geoglyphs in the shapes of animals or anthropomorphic patterns

connect valleys, mountains, and coastal areas. They are said to have been painted as guideposts for caravans crossing the Atacama Desert from the Andes to the Pacific Ocean, used in indigenous peoples' rituals or used to indicate social status.

It is assumed from the characteristics of the geoglyphs that the people that painted them had contact and a cultural relationship with the Tiwanaku (a nonliterate society/culture that influenced the Andes region between 500 and 1450).

Among the many geoglyphs, the one of a shark with its mouth open and the one of land animals performing something like a ritual captivated me and my children.

The footpaths in Cerros Pintados were a means of transportation across the vast desert, enabling the development of cultural and religious interactions that connected the many different peoples living before the modern era. The place was registered as a national monument on May 31, 1939 because of its historical background.

I was very inspired and could feel the negative ions in the air, visiting the vast area together with my family. The place is more and more interesting as I learn more about its background. It must have been a special day for my children, too. The day will stay forever in their memories, like the geoglyphs in Pintados.



My son Agustin and daughter Valentina



My wife Claudia and me