Norway-Asia Business Review

The Magazine of the Norwegian Business Associations in South and Southeast Asia

December 2023


YARA
Knowledge grows
Growing a Nature-Positive Food Future
Yara is the world's leading sustainable agricultural and digital farming solutions. Yara is committed to helping the world achieve a nature-positive food future through regenerative farming, climate neutrality, and farmer prosperity. In Thailand, Yara has been supporting local farming community to develop sustainable agriculture since 1972.
www.yara.com

Cover Story

Conserving the earth's environment, developing sustainable energy sources and securing safe food are among the most important tasks of our time. In this issue, you will meet a number of people, companies and institutions who are on the forefront of developing the tools needed for a sustainable future.

Editor: Axel Blom
Journalists: Anton Bentzon, Cheyenne Hollis and contributions from guest correspondents
Cover Photo: Shutterstock
Operational Management: Yanin Srathongnoi
Concept Design: Thor Jørgen Udvang

Published by: Thai-Norwegian Chamber of Commerce in co-operation with Norwegian Business Association (Singapore) and other Norwegian Business Associations in Asia

Editorial & Advertising:
Norway-Asia Business Review,
Thai-Norwegian
Chamber of Commerce
Mahatun Plaza, 14th Fl.,
888/142 Ploenchit Road, Lumpini,
Pathumwan, Bangkok 10330, Thailand

Norway-Asia Business Review reaches Norwegian-related business executives and decision makers throughout the region including the diplomatic missions as well as government ministries in Norway and Norwegian sector-based organisations.

Business Review is a quarterly business magazine and the contents reflects this. Each magazine has a main theme and the articles are centred around this theme. The magazine focuses on Norwegian-related stories from the region and issues that have impact or interest for Norwegian related businesses. Business Review is available in print as well as digital form through Issuu and Pressreader.

Norway Asia
Business Review
December 2023

Sexy, sustainable seafood

Go to page 49 to read about how Norwegian seafood producers work to maintain sustainable production methods in a growing market.

Building better digital lives

Telenor Asia enables progress in the region with connectivity and digital services for more than 200 million customers. For over 25 years, our telecommunications companies have accelerated mobile adoption in Asia.

Our diverse teams are dedicated to broadening access to life-changing innovations and advancing national digital agendas with a firm commitment to responsible business. Telenor Asia is headquartered in Singapore and part of Telenor Group

telenor asia

Norway-Asia Business Summit

I am pleased that we have joined forces with the Thai-Norwegian Chamber of Commerce to organise the Norway-Asia Business Summit (NABS) 2023 in Bangkok.

Business promotion is a key priority of the Embassy. The government of Norway has set ambitious targets to increase exports other than oil and gas by 50% by 2030 and at the same time cut overall greenhouse gas emissions by at least 55 %. In order to reach the export target, the government has launched an export reform programme in which the government and businesses are working closely together. Our Foreign Missions, Innovation Norway, Business Associations and various Chambers of Commerce are making collective efforts to facilitate Norwegian trade and investments worldwide. Hence, Team Norway cooperation is closer than ever.

NABS 2023 is the first summit since the Covid-19 pandemic where participants will have the opportunity to meet representatives from all Norwegian Foreign Missions in Asia as well as representatives from Innovation Norway and the respective Chambers of Commerce.

Free Trade Agreements (FTAs) are important tools for market expansion. In Asia, Norway has, as party to the European Free Trade Association (EFTA), FTAs with Hong Kong, Indonesia, Korea, the Philippines, and Singapore. We are also in negotiations with India, Malaysia, Thailand, and Vietnam. I would like to highlight the substantial progress achieved in the negotiations with Thailand and the shared commitment by both sides to successfully conclude the negotiations by 2024. Asia continues to be an attractive market for Norwegian exports, in particular Norwegian seafood, due to the different dynamics in economic landscape. FTAs and support to local SMEs could be key drivers for market growth. Besides accelerating economic growth and maximizing value creation, our FTAs also contribute to global growth and sustainable development throughout the value chain.

Norway is pioneer in technology and innovation. NABS 2023 will showcase Norwegian innovative solutions that could contribute to the green transition in Asian countries. With 60% of the global population, Asia is most impacted by environmental issues and climate change. Green transition in sectors such as agriculture, energy, digital economy, and transport would help the Asian region to meet net-zero targets. NABS 2023 will be a platform where Norwegian expertise could meet demands in Asia and help the region in achieving a successful energy and climate transition.

Besides accelerating business cooperation, NABS 2023 will also strengthen Norway - Asia partnership towards a sustainable future.

I wish you have a remarkable summit in Bangkok.

Sincerely,

H.E. Mrs. Astrid Emilie Helle
Ambassador of Norway to Thailand and Cambodia

PHOTO: YARA (THAILAND)

Fight for Food Security

Cheyenne Hollis

Progress towards global food security has stalled in recent years as the pandemic and geopolitical conflicts caused problems across the value chain. Yara is looking at ways it can help reverse the trend.

The 11th Global Food Security Index released by The Economist in 2022 showed a deterioration in the global food environment for the third consecutive year. According to the report, rising costs are creating food insecurity with countries in Asia particularly vulnerable to shocks.

As the world's largest producer of nutrient fertilizers, Yara understands that without this product, farmers cannot maintain optimal soil health, resulting in lower crop yields and greater food insecurity. Additionally, geopolitical instability and the pandemic disrupted the sourcing and supply chains for food and fertiliser.

When such disruptions occur, farmers might pay a higher price for fertiliser and will ultimately have to pass on that cost to consumers.

As a global company specialising in crop nutrition, Yara has witnessed the problem first-hand. "Fertilisers have not been as freely available as in years past. We have seen both prices and supply fluctuate significantly," Mr Beda Merkelbach, Senior Vice President for Yara Thailand & Myanmar, details. "This is a major challenge locally, regionally, and globally and it is going to impact food security in the future. One of our priorities is to ensure that farmers–especially smallholders–have access to high-quality, affordable fertilisers."

Risks of fertiliser shortages aren't the only thing standing in the way of food security. Record-breaking temperatures and a growing number of droughts across the Mekong River Basin have caused water shortages making it harder to maintain crops.

"As it relates to food security, creating awareness of the issue has become vital. We need to raise the profile of agriculture so everyone can understand food security volatility. It impacts everyone in one form or another. This is a time to be vocal about what's happening," Mr Merkelbach notes.

Sustainable Approach

Ultimately, sustainability will be key in the fight for food security. Yara is working hard to reduce its carbon footprint as it relates to both direct production (Scope 1) and indirect greenhouse gas (GHG) associated with energy purchase/use (Scope 2). Like many global companies, a critical focus for Yara is emissions generated by global supply chain customers and partners (Scope 3).

An example of this can be found in Yara's nitrate-based fertilisers, produced in Norway and the European Union, which have a carbon footprint that is more than 50 percent lower than most non-EU fertilisers as a result of a catalytic cleaning process developed by the company. Clean and green ammonia production will further reduce emissions in fertilizers.

On the farm, regenerative agriculture is a crucial aspect of sustainability. As access to water and even fertiliser becomes more volatile, there is a greater need to optimise soil health and improve nutrient use efficiency and water use efficiency.

Yara's line of specialty crop nutrition products and bio-stimulants are allowing farmers to increase their yields and improve crop nutrition, health and quality without increasing land use. The benefits of this are two-fold. First, food security is enhanced because soil health is optimized. This allows more food to be grown on existing farmland utilising less water. Secondly, crops are more robust and stress-resilient.

"We are working on specialty fertilisers to support regenerative agriculture. There is so much more we can do in this area, and we must be more proactive with empowering farmers with these tools," Mr Merkelbach reports.

There is potential for new innovations as well. The company has begun exploring how it can help incentivise farmers to use regenerative agricultural practices. One possibility is creating extra income for farmers via carbon credit.

"In Thailand, we are looking for a partner for carbon credit or carbon sequestration who can assist us with the local market. We are evaluating multiple companies who can record the correct measurements and measure the real change that is happening while having the capability to scale this innovation," Mr Merkelbach says.

There is hope that once farmers gain a greater understanding of regenerative agriculture and how best to achieve optimal soil and crop health, Thailand's domestic food security be enhanced while potentially increasing food exports.

"In Thailand, farmers sometimes use too much fertiliser. This doesn't necessarily produce the expected results of better crop yields and can sometimes cause damage to the soil," Mr Merkelbach states. "Our team of professional agronomists partner with farmers to help them increase their yield and promote precision farming and optimal resource use."

For Yara, soil mapping is critical to helping farmers develop optimal soil health as part of a comprehensive regenerative agricultural plan for them and for Thailand going forward.

"Currently, we are assessing how we can make soil analysis more accessible to farmers," Mr Merkelbach explains. "Being able to provide this would allow farmers to know their needs and use the correct fertiliser. We continue to conduct soil samples in hopes of having enough data in the future. In the long run, this will enable us to make soil mapping for Thailand and guide farmers using historical data".

Digital Knowledge

Digitalisation has a role to play in the fight for food security and sustainability. Yara has listened closely to farmers to better understand what they need and focused on building innovations to meet those requirements.

"The knowledge of farmers is what provides us with our knowledge. They have hyperlocal experience that allows them to test and provide us with feedback. This is invaluable in developing effective products," Mr Merkelbach says.

With the rise of smartphone usage, even in Thailand's rural areas, digitalisation has been emphasised at Yara. Empowering farmers with access to knowledge and information at all times can produce better results for all stakeholders.

"We launched our first app five years ago and have been striving toward digitalisation ever since. This can really change the way farmers work for the better. For example, our Farmcare app can provide hyperlocal weather forecasts as well as information on how much fertiliser should be used and what product is right for what they are doing," Mr Merkelbach details.

The next step for Yara Thailand, according to Mr Merkelbach, is to combine apps developed in previous years into one ecosystem for farmers where daily assistance is found at their fingertips – the Farmcare app.

Winning Partnerships

Boosting food security and reaching global sustainability goals requires collaboration. This is a reality not lost on Yara. While the company has a relationship with Thailand that spans more than 100 years, it believes even more can be achieved together.

"Yara has a long, storied relationship with Thailand. We believe that there are still opportunities to do more locally. For that to happen, we need value chain, government, and non-governmental organisation partners. We cannot reach our goals for regenerative agriculture on our own," Mr Merkelbach says. "Finding ways where we can support, collaborate, and innovate will ensure everyone wins."

Thailand has sworn in a new government, which makes it an ideal time for this to begin in earnest. Officials have made positive statements about issues such as improving farmer income, sustainable food production, and improving efficiency through better crop yields.

Additionally, Thailand's Prime Minister Srettha Thavisin has reiterated that he wants Thailand to achieve carbon neutrality by 2050. All of these are focus areas for Yara as well which potentially lays a foundation for greater collaboration.

"This is a very good direction and one that aligns with our goals at Yara. There are many projects we could potentially collaborate with the Thai government on. In the past, we have worked with them on certain issues. There is now a chance to do more to achieve our shared ambitions," Mr Merkelbach points out.

Beyond that, bilateral and multilateral integration and harmonization would allow for deeper, more impactful partnerships. Thailand is negotiating free trade agreements (FTAs) with both the European Union (EU) and the European Free Trade Association (EFTA). Mr Merkelbach notes that FTAs like those Thailand is negotiating will facilitate economic integration, and allow partner nations to build certain capacities, including sustainable development.

"These arrangements push partner countries to be more sustainable and see what can be done better. Digitalisation and food security are among the areas to potentially be supported," Mr Merkelbach explains. "These have a real long-term impact even if they may not cause much in the way of day-to-day change early on. The agreements set the right mindset for us to work. It fosters collaboration, dialogue, and a place where all parties grow together."

PHOTO: YARA (THAILAND)

Left page: Yara helps famers understand regenerative agriculture and how they can achieve optimal soil and crop health. Above: Mr. Beda Merkelbach, Senior Vice President for Yara Thailand & Myanmar, says fertiliser shortages can contribute to food insecurity.

Facts

- *Yara is a leading sustainable agricultural, digital farming solutions, and farmer liveli hood-enhancement company headquartered in Oslo, Norway*
- *The company has 18,000 staff in 60 countries and sales in more than 160 countries.*
- *Yara Thailand has operated for more than 40 years through its country headquarters in Bangkok*
- *Yara's nitrate-based fertilisers have a carbon footprint that is more than 50 percent lower than most non-EU fertilisers*
- *Risk of fertiliser shortages can contribute to food insecurity*
- *The company is exploring how it can help farmers adopt regenerative agricultural practices*

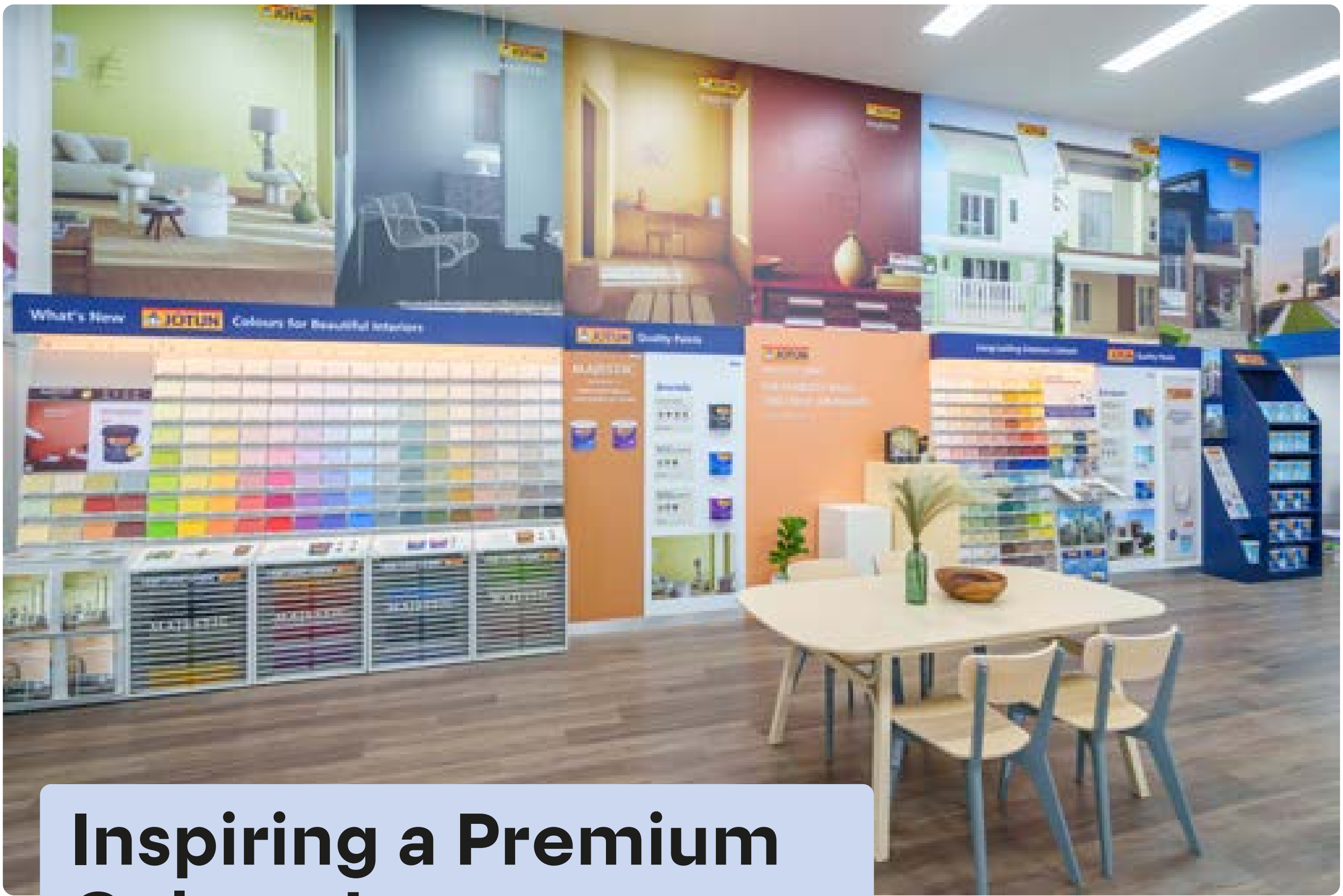


PHOTO: JOTUN THAILAND

Inspiring a Premium Colour Journey

Cheyenne Hollis

Jotun wants to elevate its decorative paint business in Thailand by focusing on colour inspiration and an innovative retail shopping experience.

Jotun has been operating in Thailand for 55 years now. The company initially focused on industrial coatings solutions before introducing decorative paints years later. With the local market evolving rapidly, becoming the country's leader in the latter means the brand must understand the role the home plays and what consumers require.

"These days, Thai consumers are looking for premium paint products. There is a higher awareness and understanding of the role a home plays in our daily lives. It's not just a roof over our heads or a place to sleep. People really want their homes to be beautiful and represent who they are. Very often paint is the starting point," Ms Kristine Anvik Leach, Managing Director at Jotun Thailand, says.

That desire of wanting a beautiful home is universal but how it is accomplished across regions is different. For example, in Norway, most people paint themselves. In Asia, many homeowners prefer to hire a painter. Jotun is witnessing an increase in consumers purchasing paint and then hiring someone else to do the painting.

Decorative paints at Jotun are the most regionalised and localised part of the company's business. There are different factors that go into one's decision in selecting paint so a singular approach simply wouldn't work. The journey often begins with colours, an area of constant development and change.

"The Jotun decorative paints colour bar contained 960 colours through the 1980s and 1990s. This was right at the time as we wanted to showcase all the colours in the world. Consumer insight told us people found it difficult to choose colours for their homes. To offer the best tool in the market, we wanted to simplify the journey, ensuring they found the colours they wanted," Ms Anvik Leach recalls. "Now, our interior colour bar contains 128 colours, all of which have been carefully tested to be great wall colours and curated for this region. We have done the research and testing to find out what are the most popular colours and works best here."

An inspiring shopping experience

Jotun is revamping the retail journey for customers. By understanding its role as a colour expert, the company began searching for ways it could offer the best and most inspiring shopping experience in the industry.

"Paint shops in Thailand and most of Asia are not as inspiring as we want them to be. Traditionally, a person who wants to buy paint is handed a can of it. We have learned the journey for a homeowner starts with colours and inspiration. This meant we had to change how a person finds paint," Ms Anvik Leach states. "We want them to spend time in a Jotun shop, be inspired to create the home of their dreams and be offered a high-quality paint to match their needs."

According to Ms Anvik Leach, even though a customer may not be the one doing the painting, they still want to go on the colour journey. Finding this inspiration is a crucial part of creating their dream home.

"Shopping for paint should be an experience. To that end, we also want to showcase Jotun's premium product qualities. Colour accuracy is paramount for us. A person needs to be 100 percent certain what they view in one setting is the colour their home will be. Seeing is believing," Ms Anvik Leach notes.

While the digitalisation of paint shopping may be pervasive in the industry, Jotun believes these efforts must be done carefully. There is a specific physical element of the colour experience screens cannot replicate. The goal is to support customers on their journey without cutting corners or removing key steps.

"We are developing consulting-focused online services. We can provide colour advice or information that helps a person on their way. But we prefer people to view Jotun paints for themselves," Ms Anvik Leach says. "We want them to see what the paint will look like out of the can. Screens or printed paper cannot replace a real-life visual experience."

For Jotun, once a homeowner has found the ideal colour, the next step is to locate the correct product. This is the best way to ensure a shopper gets precisely what they are looking for.

"After a colour has been selected, the focus shifts to the quality and benefits. Our products provide both. A person finds the perfect colour and then can choose the paint matching their unique needs," Ms Anvik Leach points out. "One thing we are noticing in Thailand is that consumers and homeowners are more willing to spend on premium paint products. What we must do is take them on a journey to find the right one."

Behind the beauty

Jotun has long been known for its innovation in the decorative paint space. And while an emphasis has been placed on colour, it hasn't come at the expense of quality. Far from it, in fact. The company recently launched two new products that provide an unrivalled standard.

First, there is Majestic Sense, a paint providing luxurious finishing and a healthy indoor living environment through its notable technological advancements. These include Jotun's Clean Air Technology which neutralises more than 90 percent of indoor formaldehyde to provide healthier and cleaner indoor air.

"Majestic Sense is a combination of beauty and health. No one wants a healthy paint that's ugly and no one wants a beautiful paint that is flawed. This is the perfect solution to the challenge," Ms Anvik Leach explains. "We believe you won't find an equivalent product in the market. Nothing can match the blend of beauty and health that Majestic Sense offers. We are proud that homeowners no longer have to choose one or the other when selecting a paint."

Ms Anvik Leach added that Majestic Sense has been popular in Thailand since launching. Another one of the paint's features, the ability to cover hairline cracks, has resonated well with the local market.

"Hairline cracks are a common issue for homes in Asia. Majestic Sense can cover these without any issues," Ms Anvik Leach says. "Not only does the paint make a wall look good by covering the unsightly crack but it also prevents bacteria from going into the crack which is a health and structural concern."

As for exteriors, Jotashield Ultra Clean is a product to have recently hit the market. This self-cleaning paint can protect against extreme rain, sun and pollution that causes dirty and unsightly dirt streaking marks on exterior walls in buildings throughout Southeast Asia.

"Jotashield Ultra Clean makes a visible difference, especially for home exteriors. Its AntiDirt Technology was exclusively developed by Jotun's regional laboratory. It is dirt streak resistant and features our low dirt pickup technology," Ms Anvik Leach reports. "There is a noticeable difference between using Jotashield Ultra Clean and other paints. It allows the exterior walls to stay clean and beautiful."

Jotun adopts a differentiated product development approach as it seeks to meet regional and local market needs. With this, the company remains committed to delivering the best quality paint of the same level globally.

"In Thailand, our paints meet international standards. At Jotun, we have a one global chemical policy because we believe that anything deemed unhealthy or unsuitable in Europe shouldn't be in any paints we offer across the world," Ms Anvik Leach notes.

The inspiring colour journey and launch of new innovations are the latest in a long line of advancements from Jotun. Improvement is a never-ending process, although this challenge is one the company embraces.

"There is constant change when it comes to paint. Finding these innovations and delivering the best to homeowners is what motivates us. The next step for us in Thailand is to elevate our network of shops and distributors to be more than a paint store. We want them to be able to guide customers on their paint journey and to inspire homeowners and professionals in selecting the colours which best represent them with the best paint," Ms Anvik Leach concludes.

Left page: Jotun is revamping the retail journey for customers to provide the most inspiring shopping experience in the industry.

Left: Ms Kristine Anvik Leach, Managing Director at Jotun Thailand, says Thai consumers want premium paint products.

PHOTO: JOTUN THAILAND

Facts

- *Jotun has been operating in Thailand for 55 years*
- *In Asia, lower labour costs mean consumers prefer to hire a painter for home projects as opposed to painting themselves*
- *The company is revamping its retail journey for customers to focus on finding inspiration and selecting the right colour*
- *Jotun's Majestic Sense Paint can neutralise more than 90 percent of indoor formaldehyde and cover hairline cracks*
- *The Jotun decorative paints colour bar contains 128 colours with each one tested for this region*

PHOTO: TELENOR

Bridging Asia's Digital Divide

Cheyenne Hollis

Two major mergers, along with the formation of an independent entity in Asia, has allowed Telenor to stay ahead of a rapidly changing telecom industry while fostering inclusive digital societies.

Data has become one of Asia's most important resources. For instance, mobile data consumption is 5-6 times higher in Thailand and Malaysia compared to Norway. This is simply a start. In Telenor Asia's Digital Lives Decoded 2023 survey, 70 percent of people asked said they expect to spend more time with their mobile phones in the coming years.

"For more than two decades, Telenor has witnessed firsthand how mobile connectivity has contributed to progress in the region. Asia has rapidly been catching up with its digital capabilities and now has a population that is fully connected, tech-savvy and avid users of digital services," Mr Ole Bjørn Sjulstad, Senior Vice President and Head of Investment Management Thailand for Telenor Asia, states.

As demand for mobile data in Asia increases, bridging the digital divide and building inclusive digital societies becomes crucial. For more than a decade, Telenor has assisted in the development of digital skills. According to Mr Sjulstad, nearly six million youths, teachers and caregivers have been trained under these efforts.

"As the societies we operate in become fully connected, a critical component of an inclusive digital nation is to ensure that no individual, community or business is left behind. Enhancing digital skills among citizens is an important step in narrowing the usage gap by making everyone comfortable with a digital-first approach, enabling them to participate as creators and consumers of digital content," Mr Sjulstad says.

An inability to bridge the digital divide can result in underserved portions of local populations being ill-equipped to deal with the risks that come with technological advances.

"We must recognise that new technologies also bring new challenges related to security, safety, ethics and inclusion," Mr Sjulstad reports. "These are areas where telecom and technology providers need to work together with governments to develop policies and regulations that deliver benefits for people, businesses and society."

Connectivity collaboration can unlock widespread growth in Asia as the digital transformation opens many opportunities for stakeholders at all levels.

"Asia is home to more than half of the world's population, and consumers across the region are very open to adopting new technology," Mr Sjulstad explains. "Telenor Asia is ideally positioned to lead the operating companies to deliver maximum impact and value to its customers."

Like all telecom companies, Telenor Asia has invested significantly in infrastructure to provide high-quality and reliable networks vital to these digital aims. That is hardly surprising given the company's first-mover spirit which saw it enter Asia 25 years ago.

"Telenor has been successful in Asia because we have managed to stay ahead of rapid changes in the region. In the beginning, it was all about providing mobile connectivity to the mass market," Mr Sjulstad details. "Our entry into Asia was built on the belief that mobile connectivity would benefit everyone, and in the early years, we redesigned the distribution model and product offerings to make sure voice and data services were available and affordable for all."

As markets matured in Asia, Telenor shifted its focus towards driving operational efficiency and delivering profitable growth. As a first mover, the company utilised new digital technology that introduced automation and touch-free operations, improving efficiency, lowering costs and providing better customer experiences in the process. The telecom landscape is changing again, and Telenor is ahead of the pack once more.

"When we saw the first signs of how new digital technologies would change the telecom industry, we entered new partnerships that would give us the scale and leadership positions necessary to bring new services and innovations to local markets," Mr Sjulstad points out.

Major moves

Telenor reshaped its operations through a series of key moves over a six-month period beginning in October 2022. This began with Telenor Asia setting up an independent entity with full oversight and responsibility for the company's operations in Bangladesh, Malaysia, Pakistan and Thailand from its headquarters in Singapore.

Next up was the completion of Southeast Asia's two largest telecom mergers in history. In Malaysia, a merger between Celcom and Digi was concluded in November 2022. Then in March 2023, True Corporation, a merger between True and dtac, was launched in Thailand.

"Having completed two major mergers in Thailand and Malaysia, Telenor companies now hold leading market positions in three of the four Asian countries we operate in," Mr Sjulstad says. "Our top priority this year has been to ensure the merged companies are integrating successfully and synergies are well executed. We are also working closely with Grameenphone in Bangladesh, where we already have the scale needed to further improve on our leading position, and with Telenor Pakistan to keep momentum in the local market there."

With the companies in Asia now organised under Telenor Asia, an emphasis has been placed on scaling a profitable business while managing risk more efficiently.

"The ambition is to drive digitalisation and run new innovative services for both businesses and consumers. We will do this together with partners. With scale, we are better positioned to work with large international technology companies and global internet giants," Mr Sjulstad explains. "Through leading local operations, we also play an important role in fuelling local ecosystems, enabling digital entrepreneurs and tech startups. A thriving digital economy will strengthen the region's position as a digital hub and destination for investment."

After a flurry of activity, most of 2023 has been spent ensuring the merged companies are integrating successfully with synergies being well executed.

While merger negotiations, preparation and planning had been ongoing for years, the real work started when the new companies were launched. Building a new common company culture combining the best from both parties was a priority since CelcomDigi and True Corporation involved what Mr Sjulstad calls "mergers of equals."

"This process has forced us to evaluate everything we have done in the past and make conscious choices on what identity, culture and way of work we want for the future. We are moving from a traditional telco to digital telco-tech companies, so the way we operate needs to change as well," Mr Sjulstad notes. "These processes are good, as they create a situation where everything can be questioned to find optimal solutions before a new culture and way of work is established."

Rapid transformation

The mergers and decision to allow Telenor Asia to operate as an independent entity have happened at a time when advancements are being made at a breakneck pace. Mr Sjulstad cites this as the beginning of the next growth wave for the telecom industry with multiple technologies coming together simultaneously.

"We are potentially facing the largest digital transformation the world has ever seen, as connectivity will not just be between people, but also between billions of devices," Mr Sjulstad states. "By bringing these technologies together we can create new opportunities for businesses and society. Whenever we talk about smart cities, smart homes, smart cars, smart factories or smart agriculture, a combination of connectivity and these other technologies are involved."

Mr Sjulstad acknowledges that most work in this area is still in the early stages but believes the potential is clear. Currently, Telenor companies are running multiple pilot projects as it explores ways to build new services or improve efficiency in key sectors.

Sustainability matters

Between mergers, rapid technology transformations and a host of other matters, something such as sustainability can get lost in the shuffle. That is not the case at Telenor, which sees responsible business as a cornerstone for the company.

"Being a sustainable company in practice isn't one or two things. It's everything we do. We recognise the transformative power of connectivity and digitisation. We are guided by international standards and operational experience. We work systematically to address risk and maximise the positive impact of our services," Mr Sjulstad emphasises.

He concludes, "We have set clear ambitions for 2025 to deliver on our science-based climate targets and be an environmental enabler for our partners; drive social and digital inclusion by promoting skill for the future and work diversity; upholding high standards of governance; and to be the preferred partner for digitalisation and corporate cyber security."

PHOTO: TELENOR

Left page: True Corporation, a merger between True and dtac, launched in Thailand earlier in 2023
Left: The merger between Celcom and Digi in Malaysia saw the country's second and third largest telecom companies join forces

Facts

- *In October 2022, Telenor Asia set up regional headquarters in Singapore with full oversight and responsibility for the company's operations in Bangladesh, Malaysia, Pakistan and Thailand*
- *Telenor completed Southeast Asia's two largest telecom mergers, launching CelcomDigi in Malaysia and True Corporation in Thailand*
- *Grameenphone in Bangladesh and Telenor Pakistan are also under Telenor Asia*
- *Nearly six million youths, teachers and caregivers have been trained by Telenor on digital skills*
- *70 percent of people asked by Telenor Asia expect to spend more time with their mobile phones in the coming years*
- *Telenor is committed to building inclusive digital societies that can bridge the digital divide in local markets*

Smarter Seafood

Cheyenne Hollis

Norwegian seafood is being served with a side of technology, although most consumers may not realise just how high-tech the industry has become.

Innovation has been at the heart of the Norwegian seafood industry since dried cod was first exported in the 11th century. The past 60 years have seen several innovations emerge that ensure consumers across the globe can enjoy salmon, trout and countless other products.

Norwegian brothers Karstein and Olav Vik being granted a United States patent for ocean-based fish farming in the 1960s and Ove and Sivert Grøntvedt launching the world's first successful salmon farm a few years later put the wheels in motion for Norwegian aquaculture to become a flag bearer in sustainability.

Today, modern tools such as Artificial Intelligence (AI), Internet of Things (IoT) and data continue to improve those early breakthroughs in sustainable fishing. For the Norwegian Seafood Council (NSC), telling the story of how the country's seafood is cultivated is as important as the taste people have come to know and love.

"Since the birth of the aquaculture industry in the late 1960s, innovation has been central to the fantastic development that we have seen ever since," Dr. Asbjørn Warvik Rørtveit, NSC Director South-East Asia, explains. "The quest for an effective way to produce tasty, healthy and sustainable food from the oceans has been driven by highly skilled people wanting to constantly improve the industry."

There has been some acknowledgment of these efforts over the years with Norwegian salmon farmers having topped the Coller FAIRR Protein Producer Index for four consecutive years. That helps since the public cares about the origin of what they eat more now than ever before.

"In a time where people now have more awareness and an increased consciousness about where their food comes from, it's important for the Norwegian seafood industry to embrace transparency and clarity surrounding the upbringing of seafood," Dr. Rørtveit adds. "This gives the consumer a clear idea about sustainable methods, craftsmanship and experience that allows for a high-quality product. The consumer has the right to know what Norwegian origin means. We are proud to give an insight into why origin matters and why you can trust our origin."

That is where the NSC comes in. The organisation's goal is to promote the importance of knowing where food comes from. Not only does that instil consumer confidence but it potentially changes mindsets.

"We aim to inspire the respect for nature and how to conduct a sustainable fishery so that there will be available ocean resources for generations to come," Dr. Rørtveit notes. "We want people to know how the country of origin can impact the food we eat. Transparency is something we are all about."

According to Dr. Rørtveit, being able to provide Asian consumers with the entire story of Norwegian seafood is vital given their view of food as an experience.

"Asian consumers enjoy spending time over a meal together and Norwegian seafood gives them a sense of indulgence," Dr. Rørtveit says. "Another factor is the growing use of online food platforms where consumers can enjoy the convenience of eating delicious seafood at home. These are some of the reasons behind the popularity of Norwegian seafood in Asian markets. Additionally, Asian consumers, particularly in China, South Korea, Thailand, Singapore and Malaysia, value its high quality, which is a strong characteristic of our seafood."

Seafood tech

AI would not be the first, second or even 30th thing that springs to mind for most people when they think about Norwegian salmon. However, it is being used to assist farmers in innovative ways.

"We have adopted a laser precision system supported by AI technology to control sea lice without harming the fish. The technology uses a data analysis system that can identify and monitor the fish with traces of sea lice on their body. In addition, the successful development of fish vaccines has almost entirely eradicated the use of antibiotics in salmon farms in Norway," Dr. Rørtveit reports. "As pioneers within the industry, we expect that AI will be another addition on our journey to drive the industry."

That is a boost to traditional net-pen farming which Dr. Rørtveit claims will continue to constitute the majority of the salmon production for the foreseeable future. That hasn't stopped work from continuing on new solutions for farming fish in the open seas. Another recent development that could improve processes is a massive sea vessel operating as an ocean farm and utilising IoT sensors.

"The sea vessel from a salmon producer is almost the length of four football fields, making it the world's largest floating structure. The vessel is designed to have a lifetime of at least 25 years and is home to potentially two million salmon. It utilises IoT sensors to monitor, analyse and broadcast data in real time," Dr. Rørtveit details.

He continues, "The data is then used to run a digital twin model of the vessel in a cloud-based solution enabling controllers to inspect and maintain activities in critical areas; measure the structure under adverse weather and sea conditions; and improve decision-making. Meanwhile, heat maps are leveraged to monitor feed output ensuring there is no lasting impact on the environment. All of this ensures operations meet the strict compliance regulations of the Norwegian seafood industry."

One of the most notable benefits of this approach is that it moves salmon farming areas out to the open seas away from maritime traffic. Additionally, the vessel's ability to be relocated allows the area's marine ecosystem to regenerate.

Of course, none of that would be possible without the Vik brother's first sea farm. Technology and innovation will keep building upon the aquaculture industry's foundations with Norway set to play a significant role in advancements.

"We are inspired by the innovation forces in play and are excited to see how technology can leverage even more growth and help to increase production volumes. At the same time, we are excited to see how innovation can benefit the global seafood industry and how Norway can continue to raise the bar," Dr. Rørtveit says.

Blue world order

Digitalisation has a role to play in thSeafood in all its forms can play a huge role in both food security and sustainability. This is something Norway cannot accomplish without assistance, though. The challenges are enormous and require industry-wide collaboration to be successful.

"With the rising food demand among global consumers and food security concerns in many countries, we see that protein from the sea can be an alternative source for the world population," Dr. Rørtveit states. "We prioritise creating our industry in a sustainable way to ensure there will be enough seafood for generations to come while conserving the oceans. Together, we need to drive this agenda as an industry because one player cannot do it alone."

Fish farmers invest approximately NOK1.8 billion on research and development of aquaculture which is in addition to state investment. The goal is to keep food prices affordable while ensuring seafood production is as sustainable as possible.

"There is, as mentioned, a constant effort to lower what is already benchmark-low emissions while maintaining the high quality that our seafood is known for," Dr. Rørtveit points out. "There is even more progress being made in reducing the overall footprint and making sure that the inevitable cost of producing food is being kept as low as possible. Additionally, the feed industry works to find new sources of ingredients for feed and has even eliminated the use of non-certified soy."

Norwegian aquaculture innovation shows no signs of slowing down. Smarter seafood production and the use of modern technologies are the latest in a long line of advancements all designed to make the world more blue.

"Norway takes huge pride in being seafood pioneers. The country will continue to strive for greatness and lead the global effort toward food systems where sustainable food from the oceans will be of the highest quality. We will continue to champion more blue food to the world," Dr. Rørtveit concludes.

PHOTO: NORWEGIAN SEAFOOD COUNCIL

Left page: NSC Director South-East Asia, Dr. Asbjørn Warvik Rørtveit, says providing Asian consumers with the entire story of Norwegian seafood is vital.
Above: New technologies, including AI, IoT and data, are being used across the Norwegian aquaculture sector

Facts

- *AI technology is being used at Norwegian salmon farms to control sea lice without harming the fish*
- *A massive sea vessel the size of four football fields is operating as an ocean farm and utilising IoT sensors*
- *Norwegian salmon farmers have topped the Coller FAIRR Protein Producer Index for four consecutive years*
- *In addition to state investment, Norwegian fish farmers invest approximately NOK 1.8 billion on aqua-culture research and development*
- *The NSC works to inform consumers about what Norwegian origin means as it relates to seafood*
- *Norwegian seafood continues to become more popular in Asian markets due in part to its high quality*

SCGC

SCGC GREEN POLYMER™

Created to Save the Environment

SCG GREEN POLYMER™ – innovative High Quality Post-Consumer Recycled Resin (PCR)

Reduce greenhouse gas emissions, reduce resource consumption, and maximize circularity

Chemicals Business for Sustainability, SCG Chemicals

Turid Elisabeth Solvang notes ESG is a driving factor for companies but many don't fully understand it

PHOTO: NORWEGIAN SEAFOOD COUNCIL

The meaning of ESG

Cheyenne Hollis

As reporting and consultants pour into the ESG space, are boards and companies losing sight of what it actually means?

Where did ESG come from? Many attribute a 2004 United Nations report called Who Cares Wins as the first mainstream use of the concept. It raised awareness for something many boardrooms had been working to incorporate, albeit under different names or forms.

"At first, there was Corporate Social Responsibility. Eventually, businesses adopted some of the United Nations' Sustainable Development Goals as part of that. These tended to be easy decisions for boards to make," Ms Turid Elisabeth Solvang, Founder and CEO of FutureBoards, recalls. "Currently, this has evolved into ESG. That covers how the company is affecting and being affected by environmental changes, social criteria and its governance structures."

Ms Solvang adds that despite criticism of ESG as being 'woke' capitalism, it is a top priority for large institutional investors as well as a rapidly growing part of the capital markets at large. Reporting has become a byproduct that allows investors to monitor and track efforts.

The challenge, though, is that even if ESG has been a driving factor for many companies and organisations, research found it is not always fully understood. In addition, ESG reporting has grown to such a level that it is now possible to lose sight of how the latter is being accomplished.

"Reporting is complex but a required component. Investors need to know what businesses are doing. Board members understand financial and annual reports, and for a long time, these reports have been separated from sustainability reports," Ms Solvang says. "Fortunately, both regulators and organisations are working to integrate financial and non-financial parameters in one understandable and comparable reporting framework."

She cites the adoption of the Corporate Sustainability Reporting Directive (CSRD), the interlinked European Sustainability Reporting Standards (ESRS) and the International Sustainability Standards Board as a paradigm shift for corporate reporting.

"Ultimately, everything is connected," Ms Solvang notes. "It is crucial not to devalue actions and impact, however. Reporting shouldn't be so overwhelming that it misses those. Boards need to have a mindset that sees the bigger picture."

At the end of the day, ESG needs to be sustainable. Ms Solvang believes this is not a new concept, but it hasn't stopped corporate sustainability from coming up short on certain occasions. That goes back to the meaning of ESG being lumped together as one entity instead of separated into three unique areas.

"ESG are very different things individually. The 'E' is well-known and probably the easiest for boards and companies to process. For example, if a company sells skis, they need snow. Less snow is bad for sales. This leads to discussions around environmental impact. Questions are then asked about what they are doing to cause this issue and if they could do anything to change the situation," Ms Solvang explains.

Meanwhile, the 'S' concerns people with issues such as workers' rights and conditions at the forefront.

"Are employees happy and how can their situation be improved? We have started to see more and more issues arise as it relates to working conditions. It is a global issue to respect worker's rights. Boards must understand local regulations and the societal standards of the countries where they operate. It is a challenging dynamic that can't be overlooked," Ms Solvang details.

She continues, "The 'G' addresses the decision-making process and the chain of command. Who is deciding what? Is your proverbial house in order? These are where discussions about competency, diversity and boardroom composition occur."

The pressure is on boards to decode each aspect of ESG and understand how a company works toward reaching its stated goals. A lack of diverse views and skills in the boardroom makes it difficult for them to put ESG in the proper context.

"Perspective is required in the boardroom and that means the involvement of different backgrounds and generations. It allows for an increase in core competencies and knowledge," Ms Solvang says. "The basic tenant of understanding challenges is to have diverse perspectives to provide a holistic view of current and future challenges. A board must be mindful of what is happening around us."

This has coincided with a shift in focus. According to Ms Solvang, institutional investors are pushing companies to move away from the traditional shareholder focus and embrace a stakeholder focus.

"The shift in focus is a major change from even a few years ago when shareholders were paramount. Board members are elected by investors, and they are chosen to carry out their wishes," Ms Solvang points out. "We are making small steps every day when it comes to ESG. Board members are hopefully looking for more information about the issues and stepping up their core competencies in line with shareholder expectations. That is crucial."

PHOTO: KILIAN MUNCH

Strength in Numbers

Cheyenne Hollis

For Norwegian businesses looking to enter Asia, a wide range of support, including the Foreign Service, is there to help companies take the first step.

Expanding into Asia is the logical decision for most businesses. It's the most populous continent on earth and will only keep growing. On the other hand, the region is complex and some ways away from Norway which presents a myriad of potential concerns.

"The distance, cultural differences and risk of the unknown are some of the challenges Norwegian companies face when entering Asia. These are not easy to overcome. Especially without assistance," Mr Fredrik Bjerke Abdelmaguid, Senior Advisor, Business Promotion and Green Transition, at the Norwegian Ministry of Foreign Affairs (MFA), shares. "There are also regulatory issues that can be difficult to understand, let alone navigate, for those new to a country."

Firms trying to go it alone when entering Asia are prone to making mistakes because they don't know any better. A seemingly reasonable idea on the surface can cause difficulties when implemented.

"One mistake you do see made by companies entering Asia is the setting up of an office in one country while trying to operate in another. Doing this can create an uphill struggle that would be avoided by being based on where you operate," Mr Abdelmaguid cites as an example.

Additionally, he urges companies to look beyond demographics and find the best fit. Doing research on this before you arrive can eliminate obstacles when it comes time to start. Perhaps the best place to begin is with the foreign mission operating in that country. They are able to share local knowledge allowing you to make an informed decision.

"If you are considering entering Asia, you should reach out to the local mission as soon as you're interested in doing business there. They can have information or insights that can assist you. It's also good for them to know you are coming or if you happen to be there already," Mr Abdelmaguid says.

That being said, it's important to understand what can and cannot be provided. Foreign missions don't have the capabilities to assist with minor details or the minutiae of operations. Early contact with the MFA should focus on the knowledge and information they have access to.

"One area the MFA can advise on locally is security and risk. They will know the geopolitics and local issues. They can provide updates on how you can avoid risk," Mr Abdelmaguid points out. "Most local missions have a contact person focused on trade and the local economy who will understand business in the country as well."

There are many other tools available that companies may not know about. Mr Abdelmaguid highlights the fact a firm can use the Ambassador's Residence in their respective countries to host events like opening an office, signing an MOU or big product launches.

However, it's not just the MFA and each respective foreign mission providing assistance. There is a vast network and access to support services that can be utilised by Norwegian companies planning to operate in new markets overseas.

Join the team

Ultimately, sustainability will be key inThe MFA and local foreign missions are one element of a larger resource pool companies wanting to set up operations abroad can access. An entire team of public and private sector entities promotes Norwegian business interests internationally. It's known as Team Norway.

"There is an emphasis on Team Norway with ministries and government agencies working as a team alongside the private sector to support the efforts of Norwegian companies working outside the country," Mr Abdelmaguid explains. "It is a system that has been in place for a long time and can be a valuable resource. In Asia, the offerings are very robust."

Team Norway has been built as an ecosystem to support the government's ambition of increasing exports and outbound trade. Every business can access this backing which includes the embassy, various organisations and other local groups.

"Team Norway acts as a hub led by the local mission. This is where the local strategy is developed. Innovation Norway focuses on business promotion and growth in select countries. It is hands-on with business-to-business functions on the ground," Mr Abdelmaguid details. "There are sector-specific interests in some countries and regions as well. These include Norwegian Energy Partners and the Norwegian Seafood Council. Then, on the ground, you have the local chambers of commerce who can provide a different level of assistance."

Mr Abdelmaguid hails Innovation Norway as a great resource in the countries where it's located while also emphasising the vital role local chambers of commerce play in supporting businesses entering new markets.

"The chambers of commerce contribute greatly to a business entering a new market. They provide networking opportunities and the sharing of experiences in a more informal setting," Mr Abdelmaguid says. "Here, you will find information on areas the MFA and Innovation Norway may not have. This is where you may find answers to legal or day-to-day business questions which can only be learned through experience."

In Asia, Team Norway has well-built operations in Singapore, China, Japan, South Korea and India while Vietnam and Thailand boast a strong presence as emerging markets. Additionally, companies that have already entered a country but didn't use these resources can still become involved.

"It is never too late to contact anyone in Team Norway. We want everyone pulling together. Regardless of where your company is in its journey, there is support on offer. Collaboration is vital to the success of Norwegian businesses abroad," Mr Abdelmaguid proclaims.

Green opportunities

When it comes to exports and outbound trade, Norway's strengths are prioritised as these can tap into built-in advantages. Shipping, oil & gas, aquaculture and seafood are among the key industries. Meanwhile, renewables and businesses supporting the green transition are gaining traction in overseas markets.

"There are many Norwegian companies that can contribute to the green transition worldwide and we want to help them bridge that gap," Mr Abdelmaguid points out.

The expansion of Tinfos in Indonesia shows how these efforts can be successful. The hydropower outfit has begun building a portfolio of run-of-river plants which can play a needed role in the country's shift away from coal.

Elsewhere, there has been an uptick in Norwegian companies providing circular economy solutions entering Asia. Some are focused on plastic waste and ocean plastics while others have keyed in on other areas.

For instance, Cambi's thermal hydrolysis solutions for sewage sludge and organic waste management yield more biogas than other treatment methods while transforming solids into a product that can be used as organic fertiliser on land. The company now has offices across the globe, including three in Asia–China, Singapore and South Korea.

"Both Cambi and Tinfos have done a good job of leveraging the tools provided to them through Team Norway and other sources," Mr Abdelmaguid states. "A challenge in Asia is that it can be difficult to receive government approval for a pilot project in the renewables or circular economy space. There can be a lot of obstacles. To this end, foreign missions can help companies better understand local regulations and clarify what may be required."

In addition to local regulations, financing is another essential element of the process. For firms operating in the green transition space, options may be available through Export Finance Norway (Eksfin) and multilateral banks.

"There are huge opportunities through multilateral banks that Norwegian businesses have been hesitant to access for various reasons, including the bureaucracy involved with applying. Eksfin may also be an option," Mr Abdelmaguid reports.

Entering Asia is not easy, but it can certainly be done. No matter what sector a business is in, Mr Abdelmaguid's message is simple, "Use all of Team Norway. That is what we are here for. There are many opportunities available."

PHOTO: EINAR ASLAKSEN/PUDDER AGENCY

Left page: Minister of Trade and Industry, Jan Christian Vestre, speaks during Eksportkonferansen 2022, an event to help firms understand export opportunities.
Above: Norwegian companies in the renewables and green transition sectors are gaining traction in overseas markets.

Facts

- *Team Norway is a team of public and private sector entities promoting Norwegian business interests internationally*
- *Companies entering Asia can reach out to the local MFA mission for information or insights*
- *In Asia, Team Norway has well-built operations in Singapore, China, Japan, South Korea, India, Vietnam and Thailand*
- *Businesses can use the Ambassador's Residence in their respective countries to host important events*
- *Companies focused on the green transition may be eligible for financing from Eksfin and multilateral banks*
- *Cambi and Tinfos are examples of companies that have successfully used Team Norway resources in Asia*

PHOTO: THOR JØRGEN UDVANG

Enforcing Free Trade Agreements

Deborah Elms, PhD

Officials spend considerable time and effort crafting trade agreements. Comprehensive trade deals increasingly run to hundreds of pages of legal rules accompanied by thousands of pages of country-specific commitments.

But once a deal is done, signed and enters into force, what happens?

The agreement is available for savvy companies in member countries to use. They can follow the rules and usually gain lowered or zero tariffs, have improved access for their services and more clarity on the conditions for investment. Depending on the deal, it may provide other benefits like better protection for intellectual property rights or facilitate faster, smoother trade at customs at the border.

However, actual implementation of the FTA by governments is often less robust than might be imagined. Governments tend to negotiate trade agreements and move on to the next big thing. Implementation is meant to be managed domestically by member governments and is always the weakest link for any trade deal.

Sometimes, this is less of a concern, as an FTA could provide relatively minimal adjustments to existing practices. Instead, it mostly binds them into place to prevent what is termed “backsliding” on commitments. Or the FTA might need to limit gaps between FTA commitments and existing practices, with the hardest, most sensitive areas in an FTA often including long timelines for complete implementation.

Why is effective FTA implementation so difficult to achieve? At least five reasons seem to apply. First, governments are all resource constrained. There are never enough staff to really focus on implementation. Officials are stretched and most have to cover multiple agreements or trade arrangements.

Second, the government ministries or agencies responsible for negotiating trade agreements are often not the same entities that should manage implementation. For example, trade officials, working with customs, may design rules for trade facilitation, but border matters are handled by customs and immigration. Similarly, trade officials are often not tasked with communication to businesses or providing any required training or capacity building.

Third, government attention spans can be limited. Hence, once a deal is done and dusted, it often falls into the “pending” file box on someone’s desk. As most people can appreciate, stuff in that box tends to remain unexamined unless the workload is really, really slow.

Fourth, particularly for complex negotiations, the process of getting an agreement in place can take years. Often the staff members working on a specific FTA are rotated after conclusion or leave government service entirely. It is extremely rare to have the officials in charge of negotiations be responsible for implementation, even if they are best placed to monitor the agreement as it comes into force.

Finally, the enforcement provisions of FTAs are a serious problem. Most comprehensive FTAs have a dispute settlement chapter. These are typically negotiated by excellent legal staff and the rules, policies and procedures in the chapter can be very solid.[1]

The problem is that governments are very reluctant to actually take advantage of the dispute settlement procedures in an FTA.

Instead, most disagreements over a presumed failure to fully or properly implement a trade agreement provision tend to be handled informally. All FTAs come with a built-in institutional structure, typically managed through a series of committees that often have regularly scheduled review meetings. Hence, these ongoing review consultations provide a convenient backdrop for discussions over implementation challenges.

More complicated or sensitive issues could be taken up by ministers or leaders at some other opportunity, such as on the sidelines of a regional meeting or as part of the normal diplomatic processes attached to state visits.

Some issues of concern could be tossed over to the WTO for adjudication. The WTO cannot, of course, look into the specifics of an FTA dispute based on FTA commitments. But some issues that flare up during an FTA implementation are also covered by WTO rules. In these circumstances, as long as it is possible to argue a case based on WTO provisions, governments could opt to take the argument to the WTO for resolution.

As Talking Trade readers undoubtedly know, the WTO dispute mechanism (the so-called "crown jewel" of the organisation) has not been functioning properly for several years. Parties can have the dispute heard before a panel, but if not resolved at the conclusion of the panel review, there is no appellate body review.

The point here is not to reflect on the sad state of the WTO dispute system, but simply to note that some governments have opted to manage what might otherwise be seen as FTA-related disputes by turning to the global body.

In general, FTA dispute provisions are almost never used. As Amy Porges notes in her excellent database of FTA disputes, there are exceptions, especially within North America under NAFTA and USMCA and a recent spate of enforcement actions taken by the European Union. But Asian governments, certainly, have a surprisingly poor track record of turning to FTA dispute procedures. In all the decades that ASEAN has been building greater economic integration through FTAs, not a single dispute case has been taken up in any of the ASEAN agreements.

Which makes the use of the dispute system in the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP) all the more surprising. Last year, New Zealand challenged Canada over the proper implementation and allocation of tariff rate quotas for dairy products. CPTPP members established the first-ever panel to review the case in March 2023.

The public hearing for the case is taking place this week in Ottawa, with a decision expected in a matter of weeks afterward. The case is expected to be publicly released in September.

This will give observers a first glimpse into how well or poorly the dispute system embedded in the CPTPP works. It could also provide an important impetus to future use of the dispute mechanism as a tool to prod members towards improved enforcement of various provisions.

Frankly, none of the current CPTPP members is likely to have fully implemented all their commitments. As a simple example, the agreement requires all members to update their government procurement thresholds at least every two years. This is necessary because the limits were written as Special Drawing Rights (SDRs) which are not typically top of mind for firms looking to compete for construction contracts. The SDR conversion rates and the adjustments to procurement are supposed to be published regularly but (as far as I know) not a single government has done so.

These sorts of implementation gaps appear across the agreement. Some may be relevant to businesses and others may be less so. But the basic point here is that, by relying on a dispute settlement mechanism built into an FTA to manage effective implementation, it requires such a mechanism to actually be used by participants. Otherwise, enforcement and compliance will always be weak.

The use of the dispute settlement provisions for the first time in the CPTPP, then, represents a potentially significant boost to the overall implementation incentives for this agreement. For companies that may be waiting for improved delivery of various CPTPP promises, stepped up attention to implementation cannot come soon enough.

Left page: Large ships loaded with containers depart and arrive at major ports around the globe on a continuous basis, like here in Laem Chabang, the busiest port in Thailand.
Above: Air transport allows export of fresh food around the globe.

PHOTO: MARIAKRAY/SHUTTERSTOCK

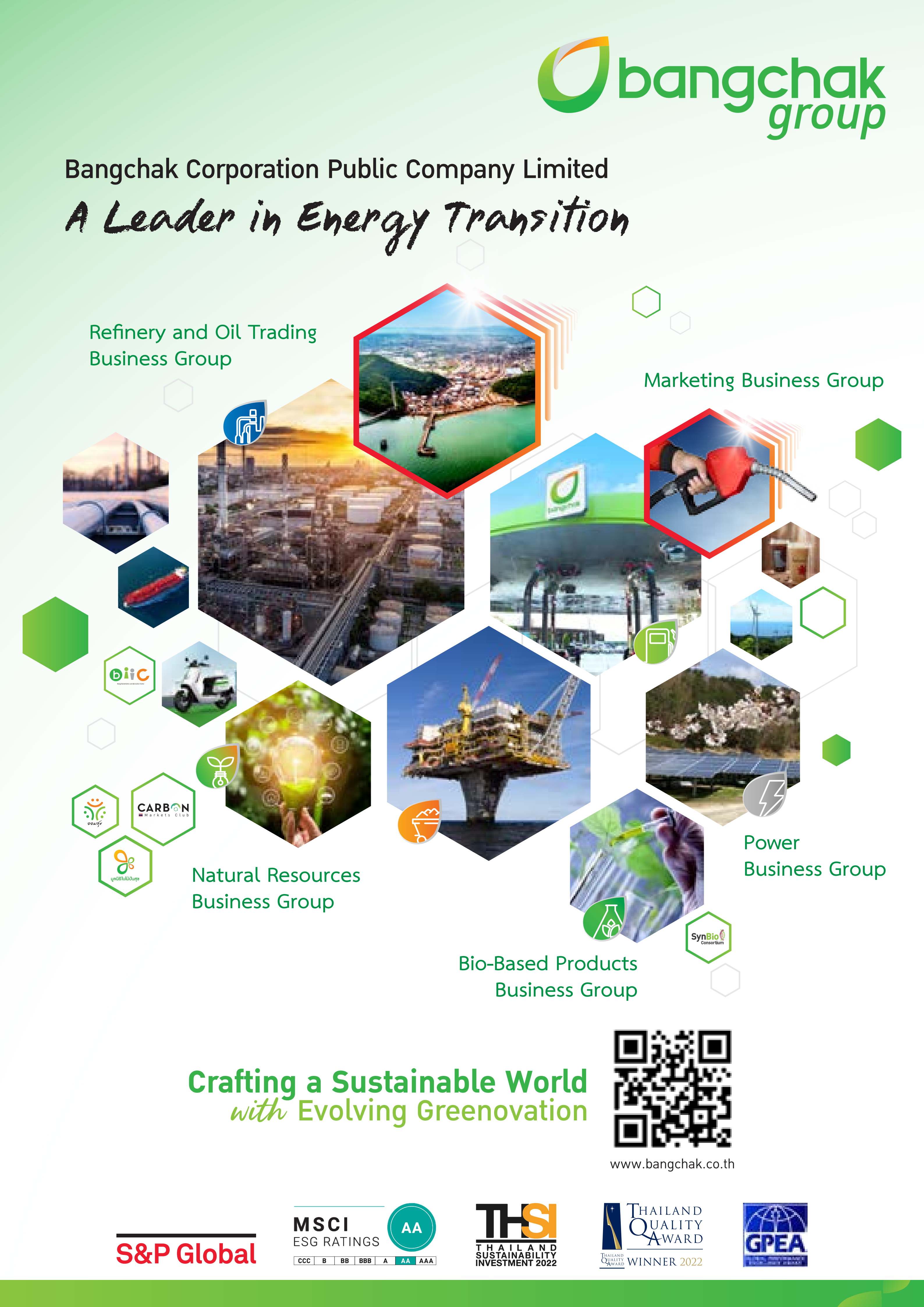

bangchak group
Bangchak Corporation Public Company Limited
A Leader in Energy Transition
Refinery and Oil Trading Business Group
Marketing Business Group
Power Business Group
Natural Resources Business Group
Bio-Based Products Business Group
CARBON Markets Club
SynBio Consortium
Crafting a Sustainable World with Evolving Greenovation
www.bangchak.co.th
S&P Global
MSCI ESG RATINGS
CCC B BB BBB A AA AAA
AA
THSI THAILAND SUSTAINABILITY INVESTMENT 2022
THAILAND QUALITY AWARD WINNER 2022
GPEA

PHOTO: KESS TORN

Transition Decision

Cheyenne Hollis

LNG is being used as a transitional fuel, but other options are gaining traction. As the shipping industry steps up greenhouse gas emission targets, a decision looms.

Widespread bunkering availability is one reason LNG is a popular transition fuel, although alternatives containing less carbon are being developed

Fuel was put in the spotlight once more when the International Maritime Organization (IMO) announced a revised strategy to reduce greenhouse gas emissions (GHG) created by shipping in July 2023. One aspect of this was the affirmation of the body's commitment to increase the usage of alternative zero and near-zero GHG fuels by the end of the decade.

Liquefied natural gas (LNG) has been seen as a transitional fuel for shipowners worldwide. That is unlikely to change, although it is far from a perfect solution. That's because carbon dioxide emissions are only 20-25 percent lower when compared to using marine diesel.

"LNG is used as a transitional fuel, but it is imperfect. The benefit of LNG over other fuels is that it is a widespread commodity that is easily available. It will be in demand and can be a transitional fuel for years to come even if other options with lower or even no GHG emissions are available," Mr Johan P. Tutturen, Senior Technical Advisor, Green Transition Group, at Clarksons, reports. "The issue with LNG is that it contains carbon. While the emissions are less than traditional maritime fuel, that may still be an issue. There is a reason we are seeing such a heavy focus on other fuels."

Those other fuels include ammonia and methanol. The former could have the largest impact as it may allow zero-carbon shipping operations. Before that happens, the risks of using ammonia must be fully addressed.

"The maritime industry is looking into ammonia, and this could potentially be something big since it doesn't contain any carbon," Mr Tutturen points out. "On the downside, it is toxic and corrosive on materials like copper, copper alloys and zinc, creating a set of challenges. While safety measures have been built in, more stringent and universal regulations will be needed."

Methanol is growing in popularity as an alternative to marine diesel since it is less toxic than ammonia and contains less carbon than LNG which places it in the middle. According to DNV's Alternative Fuel Insights database, there were 48 orders for methanol-fuelled ships compared to only 14 for LNG-fuelled vessels in July 2023.

"There are two challenges for those wanting to use methanol or ammonia as shipping fuel. The first is that they require larger tanks because the calorific is far less than marine diesel and LNG. Shipowners are forced to find ways to accommodate these with the most probable solution being less cargo space," Mr Tutturen explains. "The second issue is that the technology and value chains for both are being developed."

While dual-fuel ships capable of using methanol can be found on the open seas, ammonia engines are still in the development stage. Notable efforts include DNV's partnership with MAN Energy Solutions, Eltronic Fueltech and Technical University of Denmark on the AEngine project. Work on the first two-stroke ammonia-powered engine is close to the testing stages with a commercial-ready engine expected to be produced in 2024.

LNG will remain a transitional fuel in the coming decades. However, Mr Tutturen expects ammonia and methanol to grow simultaneously. Each one has its own pros and cons that shipowners should consider before making a decision. The value chains for each one also need to be built up and that is going to take time–something ship owners may not have.

"Predictability is paramount for ship owners. They are not in this business for fun and they hate surprises. Their decision will boil down to the cost, availability and stability. The industry knows fuel options are coming but many are waiting to see how this plays out before making a decision," Mr Tutturen says.

LNG, ammonia and methanol will play a role in the shipping industry's push to reduce GHG by 70 percent between now and 2040. The choice itself is not as important as the action to move away from marine diesel.

"The planet is more mature and there is greater awareness surrounding the damage CO_2 emissions cause. We can't use fossil fuels for an infinite amount of time, and we can't continue to release the same amount of carbon emissions. Going on as is isn't an option," Mr Tutturen concludes.

PHOTO: PRAETHIP DOCEKALOVA

An ASEAN Connected Energy Market?

Cheyenne Hollis

ASEAN has long wanted to create an interconnected energy market but the project has yet to get off the ground. Thinking smaller may hold the key to long-term success.

The Formal Agreement on ASEAN Energy Cooperation signed by the bloc's Member States in 1986 was the first attempt to build a framework that supported energy on a regional level. Efforts ebbed and flowed over the years. The establishment of the ASEAN Economic Community (AEC) in 2015 saw energy made a pillar of its goal to develop an integrated, competitive and resilient region.

An interconnected energy market is a potential solution. It can stabilise costs and allow for a greater reliance on renewable energy. With the 6th ASEAN Energy Outlook finding ASEAN's energy demand will increase 146 percent by 2040, regional concepts are finally picking up support.

"There is a desire for an interconnected energy grid in ASEAN and this is gaining realistic traction. Now, there is a need to lay some groundwork. In Southeast Asia, you don't always see collaboration between countries, especially in the energy sector. That approach is changing, however," Mr Hans-Arild Bredesen, CEO at CEO Bredesen Consulting, reports. "Now, many countries have goals to decarbonise and work towards the green transition. These can drive further work on a single energy market."

Collaboration is already being seen in some quarters of ASEAN. Commencement of the Lao PDR, Thailand, Malaysia, Singapore – Power Interconnection Project (LTMS–PIP) in 2022 allows 100 megawatts of hydropower generated in Laos to be supplied to Malaysia and Singapore.

Also in Singapore, Royal Group Power Company and Keppel Energy signed an energy purchase agreement that will see the city-state import renewable energy from Cambodia via submarine high-voltage transmission.

"The central region of Southeast Asia, including Thailand, Laos and Vietnam, has shown a willingness to start efforts on a connected energy grid. You also have projects such as the subsea cable between Cambodia and Singapore as another example of collaboration," Mr Bredesen says. "These are important projects which show an interconnected energy market is possible in ASEAN."

Mr Bredesen notes that the idea of the shared energy market is to maximise social welfare while meeting electricity demands in a region. That means there is a massive need for clean, affordable energy across Southeast Asia which must be supplied in a manner capable of minimising costs. He believes the successful implementation of an interconnected energy market can accomplish this along with providing greater stability to all participants.

"A shared energy market allows for a higher penetration for renewables. It is easy to absorb the clean energy generated over a larger area. This highlights another benefit for the region," Mr Bredesen reports. "Smaller countries without a huge demand for energy can attract additional investments when connected to a regional grid as they have access to more consumption."

Namibia is an example of the principle in action. The country, which is a member of the Southern African Power Pool, is seeing more investment in renewable energy because power producers have access to a regional market. He adds companies are confident they can tap into the country's renewable resources and export electricity to other countries.

Starting smaller

While the AEC envisions a single, connected power grid between all ten member states, that may not be a viable starting point. Instead, the LTMS–PIP offers an outline of what these efforts can look like at the onset.

"A regional market doesn't have to be one where all countries join simultaneously. All you need is a few interested countries to get things started and then others can be added when they feel comfortable. The priority should be starting," Mr Bredesen states. "There is a belief you must have everyone involved from day one. In reality, it is possible to start smaller and grow over time. Don't close the door on anyone who wishes to join in the future. Eventually, an ASEAN energy grid could be connected to China or India under the right circumstances."

When it comes to the technical and operational aspects of a shared energy market, it would take roughly a year to get the project off the ground, according to Mr Bredesen. The timeframe is unrealistic, though, as several other time-consuming obstacles would need to be sorted.

"The legal framework and political approvals are what takes the most time," Mr Bredesen explains. "It can be difficult to fully come to terms with just how a connected energy grid will work which isn't ideal when you have stakeholders wanting certainty. For instance, politicians always want to know about how it is going to affect energy prices. You can run models, but these can't always predict what will happen."

One way to expedite action is through pilot programs, such as the LTMS–PIP, that allow all stakeholders to see how a potential system would work. These won't solve everything but can be used as a reference point to build understanding. From here, the hard work begins.

"There is a need for a harmonised cross-border legal framework. Creating this is complex and takes time to develop. Then you have the operational aspect which requires coordination between countries," Mr Bredesen details. "Most importantly, a mechanism to address problems, disputes and other issues must be built alongside the physical grid. Creating a system that everyone will be happy with doesn't happen overnight, but this is how conflicts can be avoided in the future."

An international practice that has helped regional markets get off the ground is the use of various forms of shadow trading, also known as dry-run simulations. Today´s access to existing software enables an easy yet still comprehensive setup of a shadow market, allowing interested parties to engage, test and see the potential effects of a regional market.

A shadow market also allows stakeholders to see the impact of increased interconnectivity or implementation of new transmission or generation capacity. Seeing this makes the effect of the regional market more tangible for all parties. In addition to that, an interconnected energy market in ASEAN should look to Europe and Africa for some answers. Namely, the bloc should strive for a decentralised solution.

"There needs to be regional cooperation but local control similar to what has been established elsewhere. Countries can operate their power markets while having access to cross-border trading. You want to find a balance that works best for everyone," Mr Bredesen says. "It is a goal requiring everyone to work as they best see fit while agreeing to a regional framework which everyone abides by at the level."

Process, not project

A common misnomer is that building a shared, regional power grid is a project and should be approached as such. Mr Bredesen stresses this is not the case.

"Market reform is a process, not a project. This is not something you work on and complete in a few years. There is a need for continuous development, something requiring time and resources. It takes a willingness to adapt and evolve over time," Mr Bredesen notes. "Some see an interconnected energy market as an immediate revolution. You need to create and learn will approaching the process one step at a time. Stakeholders should have the ability to see how it works in a controlled manner. Power suppliers must be protected from any unintended consequences."

In ASEAN, Mr Bredesen points out that a lot of capacity building and training are required so everyone understands how the market will function successfully. The right mindset can help as well.

"One thing you must have during the process is persistence. You must be willing to push past the stumbling blocks because they will always appear," Mr Bredesen advises. "Additionally, it is advisable to possess a long-term strategy. Have a general idea of where you want to go. Don't focus on specifics because that isn't possible. Instead, chart a direction for the process."

ASEAN can learn from other shared energy markets in operation and even possibly avoid common mistakes. The Nordics, for instance, understand the process, especially as it relates to the integration of renewables.

"Nordic consulting and services companies may find opportunities to support efforts in Asia. There are similarities between this region and the Nordic market which can allow for ancillary services to be exported as well," Mr Bredesen says. "Ultimately, no two projects are the same though. It's crucial not to approach this as a copy-and-paste job. Every location is different, meaning there will be unique challenges that require a new approach."

PHOTO: ASEAN CENTRE FOR ENERGY

Left page: An interconnected energy grid in ASEAN may lead to more renewable energy investment in countries such as Thailand

Above: The 41st ASEAN Ministers on Energy Meeting saw stakeholders agree to collectively work towards the implementation of the ASEAN Power Grid Advancement Program

Facts

- *The ASEAN Economic Community made energy a pillar of its goal to develop an integrated region*
- *The 6th ASEAN Energy Outlook found regional energy demand will increase by 146 percent by 2040*
- *LTMS–PIP allows 100 megawatts of hydropower generated in Laos to be supplied to Malaysia and Singapore*
- *Shadow trading allows interested parties to engage, test and see the potential effects of a regional market*
- *Nordic consulting and services companies may find opportunities to support efforts in Asia due in part to market similarities*

PHOTO: THAI-NORWEGIAN CHAMBER OF COMMERCE

President of Thai-Norwegain Chamber of Commerce wishing participants welcome to the Norway-Asia Business Summit 2023

The Norway-Asia Business Summit

Anton Bentzon

The Norway-Asia Business Summit 2023, held in Bangkok from 30 November to 1 December at the Avani+ Riverside Bangkok Hotel, brought together distinguished speakers and experts across various industries.

The event fostered discussions on crucial topics ranging from environmental, social, and governance (ESG) practices to digital transformation and investment opportunities. The summit provided a platform for insightful discussions and presentations on critical issues shaping the business landscape in the region.

The summit kicked off with opening remarks by MC Natalie Bridgette Becker-Aakervik and welcoming remarks by Thai-Norwegian Chamber of Commerce President Axel Blom. Important Key-note speakers were H.E. Mr Tore O. Sandvik, Norwegian Deputy Minister of Trade and Industry, and Dr. Nalinee Taveesin, Thailand Trade Representative, who covered a varity of issues from the upcoming Free Trade Agreement between the EFTA States and Thailand to opportunities for Norwegian businesses in Thailand.

A notable keynote address was presented by Mr Beda Merkelbach, Senior Vice President Thailand & Myanmar at Yara Thailand, and Ms Marisa Soares Rebelo, Senior Vice President, Innovation and Impact – Africa & Asia, Yara International (Singapore), focusing on achieving food security and sustainable agricultural development. The energy transition was explored by Mr Samuel Low, Head of Consulting APAC at Rystad Energy, providing insights into opportunities in the evolving energy landscape.

Mr Ole Bjørn Sjulstad, Senior Vice President and Head of Telenor Asia's investment team for Thailand, delved into Asia's digital future, while Ms Gita Sabharwal, United Nations Resident Coordinator, shared the United Nations vision for sustainable progress in the context of environmental, social, and governance considerations.

A panel discussion on navigating the green transition in Asia was moderated by Ms Gita Sabharwal, featuring panellists including Ms Marisa Soares Rebelo, Mr Samuel Low, and Mr Ole Bjørn Sjulstad.

The summit also featured breakout sessions, such as "ESG for Boards: Getting Ready for New Realities," moderated by Mr Mattias Goldmann. Speakers and panellists included Ms Turid Solvang, CEO of FutureBoards, Ms Karin Greve Isdahl, Country Manager at Innovation Norway Vietnam, and Dr. Somjin Sornpaisarn, President of The Thai Bond Market Association.

Another breakout session, "The Low Carbon Energy Value Chain in APAC: Opportunities and Challenges," was moderated by Mr Reidar Grevskott, with speakers like Mr Andreas Nilssen Skorpen, Principal Consultant, Rystad Energy covering Development of grid infrastructure in APAC, Mr Das Na Songhkla, Country director, DNV Thailand exploring low carbon energy prospects.

The third breakout session, "Digital Transformation: Navigating the Digital Frontiers," was moderated by Mr Bhisidh Nardee. Head of Strategic Alliances and Communications, True Digital Group. The discussion featured speakers like Ms Manisha Dogra, Senior Vice President at Telenor Asia, and panellists including Mr Thanawat Watanarotkajorn, Senior Manager, Digital Growth and Commercialization, at Yara Thailand and Mr Arin Pruksanusak, Agriculture Vertical Lead, IoT & Digital Solutions, at True Digital Group as well as Mr Menno Keppel, CEO, Agri Solutions Asia Co.,Ltd. discussing the agricultural sector's digital transformation.

During Plenary II on Investment Opportunities, the summit delved into critical insights presented by key figures in the field. Dr. Luxmon Attapich, from the Global Partnership Program, Program Management Unit for Competitiveness, highlighted the broader landscape of investments into Asia. Following this, Ms. Tanita Sirisup, Executive Director of the Foreign Investment Marketing Division at the Thailand Board of Investment, shed light on the specific advantages and opportunities for investments in Thailand. Mr. Shi Datuo, a founding partner of DTL Law Office talked on advantages of investments into China. H.E. Mr Nagesh Singh, the Indian Ambassador to Thailand, presented fun-filled and humoristic perspectives on investment opportunities in India, contributing to the comprehensive understanding of the Asian investment landscape. H.E. Ms Hilde Solbakken, the Norwegian Ambassador to Vietnam, then shared insights into the promising investment climate in Vietnam. The session concluded with Mr Gard Madsen, Director of Investment in Norway, explaining the compelling reasons why Asian companies should consider investing in Norway.

Transitioning to Plenary III on Electrical Vehicles (EVs), the focus shifted to the transformative developments in the electric vehicle sector. Ms. Christina Bu, Secretary General of the Norwegian EV Association, shared invaluable insights from Norway, a leading country in EV uptake, providing a benchmark for sustainable practices. Mr Chantakorn Gridwitchayayarkarn, Vice President of the Electrical Vehicle Association of Thailand (EVAT), outlined the evolving landscape of electric vehicles in Thailand. The session progressed with Mr Allan Christensen, CEO of Enetek Power Group (Pixii), discussing innovations shaping the future of EV infrastructure. Further, Mr Rawee Boonsinsukh, Executive Vice President at Bangchak Corporation Plc, presented a case study on the successful implementation of electric vehicles in Thailand under the project “Winnonie.” The presentations collectively offered a comprehensive overview of the investment landscape in the region and the transformative potential of electric vehicles in Asia.

The day ended with a gala dinner, where two lucky winners were drawn among the guests for return air tickets to Oslo donated by Norse Atlantic Airways.

On the second day of the summit, Plenary I on Trade and Investment commenced with Mr Paul Sumner, Partner at PwC Thailand, providing insights into “New Paradigms in Free Trade.” Following this, Mr Ole Jørgen Henæs, Regional Director Asia at Innovation Norway, discussed strategies for empowering success for Norwegian companies in the dynamic Asian market. The plenary continued with success stories that exemplified the flourishing partnerships between Norway and Asia. Ms Kristine Anvik Leach, Managing Director of Jotun Thailand, shared the accomplishments of Jotun in the Asian market in the first success story. Dr. Asbjørn Rørtveit, Director of South-East Asia at the Norwegian Seafood Council, presented the second success story, highlighting the thriving seafood industry’s impact in the region. The third success story shifted the perspective, with Mr Komut Maneechai, Managing Director of BCPR Co., Ltd., illustrating the success of Asia in Norway. Concluding the success stories, Mr Jostein Aksnes, CEO of Seven Peaks, offered insights into building successful startups in Asia with a European perspective.

Following a brief coffee break, the summit transitioned into Breakout Sessions. Breakout IV focused on Business and Human Rights, delving into the nexus of Human Rights and ESG. Moderated by Ms Sara D’ Anzeo, Partnerships Specialist at the United Nations ESCAP, the session aimed to explore the realities of businesses’ human rights responsibilities. Speakers and panellists included H.E. Mr Espen Rikter-Svendsen, Norwegian Ambassador to Bangladesh, Ms Turid Solvang, CEO of FutureBoards, Ms Belinda Hlatshwayo, Monitoring and Evaluation Officer at UNDP, and Mr Jostein Kobbeltveit, Executive Director of the Rafto Foundation for Human Rights.

Continuing with Breakout Sessions, Breakout V focused on Startups in Thailand. Moderated by Mr Amarit Charoenphan, a Local Startup Ecosystem Builder, the session showcased Thailand’s potential for business expansion and what sets it apart in the Southeast Asian landscape. Key speakers included Mr Amarit Charoenphan himself, offering an introduction to the Thai market and opportunities for tech companies, and Mr Paul Srivorakul, Co-Founder & Group CEO of aCommerce, who shared insights into scaling and growing tech companies in Thailand.

Simultaneously, Breakout VI addressed ESG Climate Action, guided by Mr Robert C. Fox, Chair of the Digital Economy/ICT group and Head of the Climate group at the Joint Foreign Chambers of Commerce of Thailand (JFCCT). The session featured speakers like Dr. Tine Rørvik, Global Director of Climate Impact and Circularity at SCG and SCGC, Mr Johan Seland, Head of Sustainability at Telenor Asia, Mr Svein Stolpestad, Group Vice President Strategy and Sustainability at Jotun, and Mr Lars Svensson, JFCCT Sustainable Development Chair and Chief Executive at Sasin Sustainability & Entrepreneurship Center.

In the subsequent Breakout VII, themed “Feeding the Future World,” Mr Andras Thorud, China Director at the Norwegian Seafood Council, moderated a session tackling the global challenge of securing enough food for the future population. The panel featured speakers including Mr Micheal Keaney, Country Manager – Myanmar at Yara, Mr Maarten Geraets, Former MD Alternative Proteins at Thai Union, and Mr Bjørn Wallentin, Senior Vice President Qrill at Aker BioMarine.

After a lunch break, Plenary II, “Invest In Thailand,” took centre stage, focusing on Thai government investment support schemes. Moderated by Ms Vibeke Lyssand Leirvag, Chairwoman of the Joint-Foreign Chamber of Commerce, the panel included Mr Veeris Ammarapala, Governor of the Industrial Estate Authority of Thailand, Dr. Cholachit Vorawangso Virakul, Assistant Secretary General of the Eastern Economic Corridor Office of Thailand, and Ms Nathareekon Saesubak, Investment Promotion Officer at the Foreign Investment Marketing Division, Thailand Board of Investment.

The day concluded with Plenary III, a final panel discussion on “How can foreign companies succeed in Asia?” Moderated by Ms Natalie Bridgette Becker-Aakervik, the panel comprised Mr Beda Merkelbach, Senior Vice President at Yara Thailand, Ms Hsiao Mae Wu, Marketing Manager at Jotun Thailand, Ms Manisha Dogra, Senior Vice President and Head of External Relations at Telenor Asia, and Ms Kobkarn Wattanavrangkul, President of Toshiba Thailand. The insightful discussion provided a comprehensive overview of investment opportunities, startup ecosystems, climate action, and challenges in feeding the future world, offering valuable insights for businesses and stakeholders.

Facts

- *The Norway-Asia Business Summit, first organised in 1998, has evolved into a meeting place for Norwegian industry in the region, the support apparatus of the Norwegian government and the diplomatic missions in the region and as such it truly represents the recently revitalised “Team Norway” concept.*
- *The summit today is the most important meeting arena between Norwegian and Asian business leaders.*
- *The target audiences are business and industry leaders, government representatives, technology innovators, business support organisations, experts and academia, international organisations and media.*
- *The objective is to strengthen trade and investments between Norway and Asia, and enhance cross border cooperation between leading institutions, companies and technology clusters*

The Norway-Asia Business Summit, first organised in 1998, has evolved into a meeting place for Norwegian industry in the region, The summit today is the most important meeting arena between Norwegian and Asian business leaders.

The Norway-Asia Business Summit 2023

More than 200 participants including 65 speakers and 20 Norwegian heads of missions in addition to leading Norwegian companies, ministry officials and Asia business leaders were assembled in Bangkok from 29 November to 1 December 2023.


1


2

3


4


5

6


7

Snapshots

1 H.E. Ambassador Astrid Helle addresses guests at the summit opening reception.

2 Dignatoriories at the reception: Mr. Sanan Angubolkul, Chairman of Thailand's Board of Trade and Ambassadors Anne Kari Hansen Ovind (Korea) and Rut Krüger Giverin (Indonesia) listen to the summit welcoming speeches.

3 H.E. Ambassador Astrid Helle, Dr. Nalinee Taveesin, Thailand Trade Representative and H.E. Mr Tore O. Sandvik, Norwegian Deputy Minister of Trade and Industry.

4 Innovation Norway's Asia Team with representatives from China (Henning Kristoffersen), India (Cristian Valdes Carter), Regional Director for Asia (Ole Jørgen Henæs), Invest in Norway (Gard Madsen), Vietnam (Karin Greve Isdahl), Korea (Roger Martinsen), and Singapore (Dr. Per Christer Lund and Arne-Kjetil Lian (Singapore)

5 H.E. Ms Hilde Solbakken, the Norwegian Ambassador to Vietnam addressing the summit

6 Mr Jayesh Ramani Vice President – BD APAC presents Aker Solutions

7 A proud and happy organising crew lead by Ms. Yanin Srathongnoi, Executive Director of the Thai-Norwegian Chamber of Commerce (back frow, 4th from left)

8 H.E. Mr Tore O. Sandvik, Norwegian Deputy Minister of Trade and Industry presenting his summit opening remarks

9 Mr Beda Merkelbach, Senior Vice President Thailand & Myanmar at Yara Thailand delivering his key-note speech

10 Ms Gita Sabharwal, United Nations Resident Coordinator led the Mr Ole Bjørn Sjulstad, Senior Vice President and Head of Telenor Asia's investment team for Thailand, delved into Asia's digital future, while shared the United Nations vision for sustainable progress in the context of environmental, social, and governance considerations.

11 Three happy ladies at the summit: Helle Maria Wolstad, Seaman's Priest Thailand, Vibeke Lyssand Leirvåg, Chairwoman of Joint Foreign Chamber of Commerce in Thailand and Tine Rørvik, Global Head of Circular Economy at SCG.

12 Ambassador Astrid Helle's table at the gala dinner: Ambassador Kristin Iglum (Japan), MFA Deputy Director General, Regional Department Mattis Raustøl, Ambassador Helle, Ms Duangjai Asawachintachit (Thailand National Innovation Agency), Ole Henæs (Innovation Norway) and Ambassador Eivind Homme (Singapore)

13 Ms Marisa Soares Rebelo, Senior Vice President, Innovation and Impact, Africa & Asia, Yara International delivering her keynote speech.

14 FOMO headed by Rudi Clausen, brought a delegation from the Greater Stavanger energy region for the summit. They also had a stand at the summit.


Norway-Asia B
PwC Thailand
1


2


3


Grand Prize: 2 x 1 Premium Tickets
Bangkok-Oslo v.v.
NORSE
flynorse.com
4


JOTUN
5


6


ESG Deep Dive
– Business and Human Rights
7

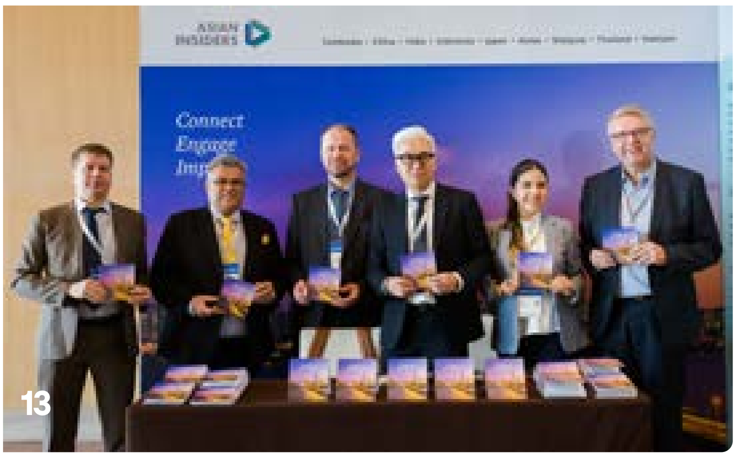

bangchak
8

9

10


11


12



13

1 Mr Paul Sumner, Partner at PwC Thailand opening the summit on day 2 drawing the big lines on enforcement of Free Trade Agreements.
2 Ms Natalie Bridgette Becker-Aakervik was our excellent MC and storyteller for the summit.
3 The Telenor team at the summit lead by Mr Glenn Mandelid, Vice President Communications, Mr Ole Bjørn Sjulstad, Senior Vice President and Head of Telenor Asia's investment team for Thailand, Mr Anders Ranchil, Vice President & Head of Legal and Ms Manisha Dogra, Senior Vice President, Head of External Relations Asia.
4 Dignitaries at the reception: Mr Sanan Angubolkul, Chairman of Thailand's Board of Trade and Ambassadors Anne Kari Hansen Ovind (Korea) and Rut Krüger Giverin (Indonesia) listen to the welcoming speeches.
3 H.E. Ambassador Astrid Helle, Dr. Nalinee Taveesin, Thailand Trade Representative and H.E. Mr Tore O. Sandvik, Norwegian Deputy Minister of Trade and Industry.
4 Norse Atlantic Airways recently started flights between Oslo and Bangkok. They generously gave away two return tickets Bangkok-Oslo for a lucky draw among the participants. Here are the two winners with Ambassador Astrid Helle and TNCC President Axel Blom.
5 Ms Kristine Anvik Leach, Managing Director of Jotun (Thailand) Ltd. inspired the attendees with details of how Jotun conquered Asia.
6 Mr Robert C. Fox of JFFCT lead the Climate Action breakout session.
7 The ESG Deep Dive on Business and Human Rights was lead by Ms Sara D'Anzeo, Partnerships Specialist, United Nations ESCAP.
8 Mr Komut Maneechai, Managing Director, BCPR Co., Ltd. told the inspiring story of how Bangchak, a Thai energy conglomerate, invested in the Norwegian energy sector.
9 At the end of the summit, TNCC President Axel Blom invited the organising team to come up to receive a heartfelt round of applause from the delegates. Axel Blom also highlighted each of the sponsors and particularly Yara, Jotun, Norwegian Seafood Council and Telenor Asia as well as the Norwegian Ministry of Foreign Affairs for the generous contributions.
10 One of the final sessions was a discussion on Thai Government Investment Support Schemes. Ms Vibeke Lyssand Leirvåg, Chairwoman of Thailand's Joint Foreign Chambers of Commerce moderated the discussion. Others on the panel were Miss Nalinee Kanchanamai, Deputy Governor, IEAT, Dr. Cholachit Vorawangso Virakul, Assistant Secretary General, Eastern Economic Corridor Office of Thailand, Ms Nathareekon Saesubak, Investment Promotion Officer at Thailand's Board of Investment, Ms Kobkarn Wattanavrangkul, President, Toshiba Thailand and Dr Veeris Ammarapala, Governor, Industrial Estate Authority of Thailand. Amb. Astrid Helle supported the group for the photo session.
11 Regional Director for Asia of Innovation Norway, Mr Ole Jørgen Henæs talked on how Innovation Norway can assist Norwegian businesses all over Asia.
12 Dr Asbjørn Warvik Rørtveit, Regional Director for South-East Asia for Norwegian Seafood Council inspired the delegates with the story of how Norwegian seafood and salmon in particular took Japan and the rest of Asia by storm.
13 Asian Insiders, a group of market entry specialists covering all markets in Asia attended the summit with a stand marketing the network.

PHOTO: NORTHERN LIGHTS

Carbon Capture Conundrum

Cheyenne Hollis

The world is racing against time to capture the carbon needed to meet global targets. The most pressing need is developing the CCS value chain.

Carbon capture and storage (CCS) is both possible and needed should the world have any chance of reaching the temperature targets set out in the Paris Agreement. It's estimated that six gigatonnes of CO_2 must be captured and stored annually from 2050 and onwards. This amount is equivalent to filling two million Olympic-sized swimming pools each year.

It's safe to say a lot of work remaining. There is some good news: the capabilities and storage space currently exist to reach this goal.

"Storage isn't an issue. It is 100 percent safe to store CO_2 underground. It does need some monitoring, but it can stay there in perpetuity. The process of offshore storage has been around for nearly 30 years. Equinor's Sleipner Vest field in the North Sea was the world's first offshore CCS plant with operations starting in 1996," Mr Johan P. Tutturen, Senior Technical Advisor, Green Transition Group, at Clarksons, said.

And now the bad news. CCS is expensive. Mr Tutturen added that innovations to make the process more efficient and hopefully cheaper are being developed but it is still a work in progress. A lot more investment in the value chain is needed.

"CCS needs to build up a new logistics chain because the emitter needs to capture, liquefy and condition CO_2 before either it is pipelined to final sequestration or transported by a CO_2 carrier to its destination. This creates a huge need for transportation infrastructure. Carbon is transported in a liquid form where it is cooled and pressurized to exact requirements. This requires specialised ships and equipment," Mr Tutturen noted. "While the process of transporting carbon has been around for 30 years, only four vessels currently operate with that capability."

The next step for CCS is to optimize the logistics chain. While work is carried out to improve efficiency across the board, the Northern Lights project just may provide a roadmap for future large-scale CCS efforts.

Northern star

The Northern Lights project features a partnership between European energy giants Equinor, Shell and TotalEnergies. It is a component of Longship, the Norwegian Government's full-scale carbon capture and storage project.

Critically, Northern Lights stakeholders are developing solutions across the logistics chain. That includes the construction of vessels capable of transporting liquified CO_2 and building terminals. Agreements are in place with capture facilities to ensure no gaps in the program.

"One of the most important lessons from the Northern Lights project is establishing a logistics chain. Many parts to this process must be figured out early," Mr Tutturen stated. "You must identify and agree with the CO_2 emitter on a capture plan. You need to have all the tools in place for transportation, including a vessel. There is a need for equipment when it comes time for storage."

Slated to begin in 2024, the Northern Lights project is billed as the first-ever cross-border, open-source CO_2 transport and storage infrastructure network. It will be able to receive CO_2 captured from across Europe. Importantly, the development of the CCS value chain now provides a foundation for similar projects elsewhere in the world.

"The Northern Lights project is something that can be duplicated. Those participating in the project deserve credit as building this value chain is cost-intensive. Those participating in the project can be an invaluable resource to other countries and regions thinking about trying something similar," Mr Tutturen said. "A lot of interesting work has been done and a lot more remains left to do. This is the tip of the iceberg."

There is also the opportunity for Norwegian firms assisting in the development of the Northern Lights logistics chain to take the lead on upcoming CCS projects elsewhere.

"The whole value chain of CCS offers opportunities for Norwegian businesses. Pump manufacturers, geological surveyors, sink owners, design companies and many other companies have in-demand capabilities to share with the world. Everything along the value chain has an important role and Norway is in the pole position to assist CCS efforts globally," Mr Tutturen concluded.

Carbon commodity

While there is a consensus about the value of removing CO_2 from the environment, global policies present an issue. Namely, CO_2 is classified as a waste. This was a large hurdle for the Northern Lights project to overcome.

"CO_2 is regarded as waste, meaning one country cannot ship it to another for disposal without an agreement. The Northern Lights project saw Norway reach agreements with the Netherlands and the UK to dispose of CO_2 capture elsewhere. This can provide a framework for other countries to work from," Mr Tutturen explained.

An amendment to the London Protocol which would allow transborder export of CO_2 has yet to be ratified which means bilateral agreements are still required. These are more time-consuming to complete and can deter potential partners from joining.

Countries have been slow to ratify the London Protocol amendment due in part to their own limited CO_2 transportation framework. Regulating localised CO_2 transport, addressing liability and providing incentives or subsidies are not fully developed across the globe.

Mr Tutturen argues that governments should expedite approval of the London Protocol amendments because it can allow them to accelerate and coordinate their domestic CCS policy efforts.

"CO_2 should not be seen as waste. It should be classified as a commodity since there is real value in removing it," Mr Tutturen pointed out. "There is a global understanding that something needs to be done as it relates to CO_2. This is our challenge. Ultimately, it should cost more to emit CO_2 than it does to capture and store it, but we aren't there yet."

The potential for CCS in Asia

As far as CCS projects are concerned, Asia is still in the preliminary stages. The consensus is that it will play a significant role in the region's decarbonisation efforts with several countries and energy companies trying to gain a better understanding of how everything will work.

In China, the first offshore CCS demonstration project began operations in June. Located nearly 200 kilometres southwest of Hong Kong, oil and gas company CNOOC Limited is capturing and processing CO_2 produced at its oilfield before injecting it into a saline water layer under the seabed.

Meanwhile, TotalEnergies, one of the Northern Lights partners, signed an agreement with Malaysia energy giant Petronas and Japanese firm Mitsui & Co. to explore the possibility of jointly developing the first integrated CCS project in Malaysia. All three companies touted the potential for this to support emitters throughout the Asia Pacific region.

At the start of 2023, the Japanese government set a target to increase CO_2 storage capacity by 6-12 million tonnes annually from 2030. The country's Ministry of Economy, Trade and Industry (METI) signed a memorandum of cooperation with the state-owned Japan Organization for Metals and Energy Security and Petronas that could see CO_2 shipped to Malaysia as soon as 2028.

The news came nearly two years after METI launched the Asia Capture, Storage, and Utilisation (CCUS) Network, an organisation focused on capacity development and knowledge sharing focused on Southeast Asia.

Earlier this year, Indonesia's Ministry of Energy and Mineral Resources announced new rules for CCS as it looks to provide clarity for those wanting to develop projects. It is one of the first countries in Asia to roll out legal and regulatory frameworks covering CCS projects.

Left page: The Northern Lights CO2 receiving terminal in Øygarden, Norway is slated to begin operations next year

Left: Mr Johan P. Tutturen, Senior Technical Advisor, Green Transition Group, at Clarksons, sees CCS logistics chain development as an important next step for global projects.

PHOTO: MR JOHAN P. TUTTUREN

Facts

- *In 1996, Equinor's Sleipner Vest field in the North Sea was the world's first offshore CCS plant*
- *Work on the CCS logistics chain is needed to reduce the cost and make it more affordable for emitters to participate*
- *Northern Lights is the first-ever cross-border, open-source CO2 transport and storage infrastructure network*
- *The Northern Lights project features a partnership between European energy giants Equinor, Shell and TotalEnergies*
- *An amendment to the London Protocol allowing transborder export of CO2 has yet to be ratified*
- *CNOOC Limited launched the first offshore CCS demonstration project in China this year*
- *TotalEnergies, Petronas and Mitsui & Co. agreed to explore the possibility of developing*
- *Malaysia's first integrated CCS project*
- *Norwegian companies helping to develop the Northern Lights logistics chain to take the lead on global CCS projects*

PHOTO: INFORMA MARKETS

Leading the EV Charge

Cheyenne Hollis

From cars to tuk-tuks and motorbikes, electric vehicles are becoming more commonplace in Thailand. The country needs to support these efforts while building EV infrastructure.

According to the Land Transport Department, there were 50,347 electric vehicle (EV) registrations in Thailand during the first nine months of 2023 which accounted for 9.7 percent of all new passenger car registrations. It is undoubtedly a far cry from 2018 when only 300 hit the road. The figure also highlights the sector's growth over the past five years. This progress is positive and can be attributed in part to the Thai government's incentive programmes.

On the buyer side, discounts have made EVs more accessible. However, it is the scheme for manufacturers of battery electric vehicles (BEV) that has allowed Thailand to take the lead in Southeast Asia.

"The previous government had a policy in place to support the purchase of these that involved subsidies and the lowering of import duties. In order to unlock these, companies had to commit to producing electric vehicles in Thailand," President of the Electric Vehicle Association of Thailand (EVAT), Mr Krisda Utamote, details. "The bold scheme not seen elsewhere. Some countries in ASEAN offered to lower or remove import duties for EVs but none have combined incentive programs with a commitment to local production. This ensures that the next generation of regional EV production is likely to happen here in Thailand."

Even though the country may not have access to the raw materials that a country like Indonesia does, Thailand can tap into actual demand and manufacturing capabilities to create a solid foundation even if hurdles remain.

"There is still some EV anxiety in the eyes of the public. People are concerned about if there are enough chargers or what happens when an issue arises. It is an obstacle we must overcome," Mr Krisda states. "Calls for non-monetary incentives that would encourage individuals buying a new car to go zero emission are being considered as well. These include things like special driving lanes and preferred parking zones. An alternative would be deterrents for purchasing a gas vehicle should also be considered."

An example would be the implementation of a low emissions zone in the Bangkok city centre requiring non-EV operators to pay a fee to drive in this area. That is an ambitious plan some way off, but those discussions can begin now.

Taxes have been the key topic to consider. Mr Krisda points out that Norway's sales tax exemption on electric vehicles is something that has driven the market successfully. Similar schemes on tax policies could be reviewed for Thailand as well.

"Thailand can reach its zero-emission vehicle targets set via the National EV policy. That being said, the country can't assume it will happen without any more work. There is a need to extend current consumer EV initiatives while looking at how the country can better build infrastructure," Mr Krisda says.

Powering EVs

Getting EVs on the road is one part of a much larger process. These need support from an infrastructure and that means charging stations. Mr Krisda notes the number of Plug-in Hybrid vehicles (PHEVs) and battery electric vehicles (BEVs) combined per public charging socket in Thailand sits at 21 to 1 which is well short of the global average which stands at 15 to 1. Investment in this area will sustain the country's growing demand.

"The ideal situation is to set the target at around ten EV cars per charger in Thailand, although that will take time. The benefits of doing so could be huge, however. That's because good infrastructure and convenience can boost demand and stimulate further investment in the sector," Mr Krisda reports.

Currently, EV charging station operators in Thailand are mostly private companies. What's more, the charging business doesn't make a profit and will not for the time being. Investment has come from various companies who understand that disruption is coming and want to be ahead of the game.

He adds, "Profitability for charging stations is the only way to encourage growth and investment in infrastructure. We hope a plan to offer operators incentives, either in the form of tax breaks or other subsidies, is adopted."

It's not just EV charging station operators who are facing challenges. The process of charging an EV in Thailand remains fragmented and user-unfriendly. Unlike going to a petrol station and paying cash, people must download apps and pay digitally. The experience can be overwhelming as the country has more than 13 different EV charging station operators.

"Change is coming through a concept called EV roaming. EV charging station operators are working together in the so-called "Charging Consortium" led by EVAT to streamline the system so car owners can pay to use any charging facility through their app of choice. If the charger is not operated by the company a person is paying through, a small roaming fee would be applied," Mr Krisda says. "The first pilot programme is expected to start in the fourth quarter of 2023 with three operators taking part before expanding to include more next year."

EV infrastructure isn't the only area that needs more development. Thailand must work on improving the value chain. Things are being done that must be built upon or made more efficient. Investment in this segment will ensure the commitments from manufacturers to build in the Kingdom can be fulfilled.

"EV manufacturers are committed to Thailand, but nothing can be built without parts. The country must also have the ability to produce the components these vehicles require," Mr Krisda notes. "Now we are a regional leader in internal combustion engine (ICE) parts, but it is time to pivot toward batteries, electronic drivetrains, and fuel cells."

More than cars

Passenger vehicles garner a lot of attention when it comes to the EV sector. In Thailand, that isn't the only area where the transition is taking place.

"We are seeing a large demand for electric motorbikes. Drivers from rideshare and delivery app Grab have gravitated towards scooters with removable batteries that can be swapped out since they can save a lot of money with this method," Mr Krisda states. "Meanwhile, electric pickup trucks are an open arena waiting for players to enter. Toyota announced it intends to build Hilux Revo BEV trucks in Thailand, but the market is still wide open despite the widespread use of pickups in the Kingdom."

Even the black smoke bellowing buses that are a source of much consternation in Bangkok could be phased out. Electric buses have begun making their way onto the crowded streets of the Thai capital. In 2022, there were 900 new registrations with the Bangkok Mass Transit Authority allowing private companies to operate these on certain routes. Mr Krisda believes change is coming but it will take time for the pollution-emitting buses most residents are familiar with to be taken off the roads.

People also play an essential role in the transition. Skilling up and retraining the workforce of Thailand's automotive sector is something Mr Krisda believes is urgent.

"With so much of the focus still being on ICE activities, those employees need to be retrained so they can contribute to zero-emission vehicle manufacturing. The creation of training and learning programmes are the only way to ensure we have enough skilled workers to keep up with demand," Mr Krisda says. "It takes time and effort to do this. Ideally, a synergy between the education and private companies to accomplish workforce training goals can be established."

For EVAT, Norway is seen as a potential partner in the development of the entire EV ecosystem. Everything from policies to infrastructure expansion could be areas where collaboration is possible.

"There are so many things the Thai EV sector can learn from Norway. Both in terms of technical abilities and policy implementation. One thing we are excited to see is how the country achieves its goal to have all new cars sold by 2025 be zero-emission. Additionally, Norwegian companies boast know-how in other areas, such as value chain development. That could be beneficial here," Mr Krisda concludes.

PHOTO: PEA

Left page: EVAT President Mr Krisda Utamote believes partnerships can help Thailand reach its EV ambitions.
Above: The Provincial Electricity Authority (PEA) collaborated with Bangchak on charging stations. They're one of more than 13 charging station operators in Thailand.

Facts

- *There were 50,347 EV registrations in Thailand during the first nine months of 2023*
- *The previous Thai government offered lower import duties for EV manufacturers that committed to producing electric vehicles in Thailand*
- *In Thailand, the number of PHEVs and BEVs combined per public charging socket is 21 to 1*
- *There are more than 13 different EV charging station operators in Thailand*
- *"Charging Consortium" led by EVAT is expected to a pilot programme in Q4 2023 to streamline charging payments*
- *The Bangkok Mass Transit Authority has allowed private companies to operate electric busses on certain routes*

PHOTO: FOMO

Revealing Renewable Energy Secrets

Cheyenne Hollis

While everyone claims to be leading renewable energy efforts, Norway is doing the work. So much so, that they forgot to tell anyone. The secret is out now and that's a good thing.

When it comes to renewable energy, Norway may be the world's best-kept secret. In fact, it can be surprising to hear just how far ahead the country is regarding the green transition. Innovations within floating wind; hydrogen and ammonia production; electrical vehicle and ferry infrastructure; and power grid optimisation would not be possible without the efforts of Norwegian companies and government support.

Norway still boasts a robust oil and gas sector despite this work. The country contains the largest oil reserves in Western Europe and has become the biggest supplier of EU gas. Championing renewables while simultaneously being dependent upon oil and gas isn't the easiest position to be in. Still, it provides a unique perspective and knowledge base which others can learn from.

"Norway continues to prepare for a future without oil and gas. Even though the country is still a large exporter, we also have a wealth of renewable energy technology and knowledge that can be exported as well," Mr Rudi Clausen, CEO and Co-Founder at Funky FOMO says. "If the world commits to the green transition now, the benefits of this can be realised much sooner."

For example, all electricity generated in Norway is derived from renewable sources. Hydropower accounts for the lion's share of power, filling gaps with wind and thermal sources. That hasn't stopped the country from continuing to explore other opportunities. The development of renewable energy technology is being led by Norwegian companies who are contributing across the value chain.

The green transition can be seen in other areas as well. The Norwegian parliament has a stated goal to have all new cars sold by 2025 be zero-emission. In 2022, electric vehicles accounted for more than 80 percent of new car sales. There has been a simultaneous focus on the infrastructure. Clean power charging stations can be found up and down the country.

Another aspect of Norway's renewable energy secret can be found in developing these innovations. Global startup tracker StartupBlink ranked the country as the ninth best in the world for energy and environment startups.

The secret's secret location

While Oslo is the official capital of Norway, the Stavanger Business Region along the western coast is the country's energy capital. In 1965, the area saw a flurry of activity after the announcement of Norway's first offshore drilling licensing round, and it's only grown from there.

Eventually Statoil, or what is known today as Equinor, the national energy company, the Norwegian Petroleum Directorate and countless other contributors to the oil and gas sector set up shop here. In less than 50 years, the Stavanger Business Region went from a canning centre to an energy powerhouse. And now, it must pivot even quicker to a green future.

"At the moment, the Stavanger Business Region is an oil and gas hub. That needs to change and fast. The green transition is well underway with the emphasis on renewables

สมิติเวช
SAMITIVEJ

SAMITIVEJ COLORECTAL CANCER CENTER

Using AI* technology from Japan

GUARANTEED BY

Colorectal cancer service provider of the year in Asia Pacific 2022

*AI-Assisted colonoscopy first utilized in 2021

Data courtesy of Samitivej Sukhumvit Hospital (2017–present)

Don't wait for symptoms...

Colon polyps can turn cancerous in 3-5 years. If you're 45+ or have a family history, reduce your risk with a colonoscopy at Samitivej Sukhumvit Hospital. AI technology used by our specialists surpasses adenoma detection rate standards set by the American Society for Gastrointestinal Endoscopy.

Appointments please contact :

info@samitivej.co.th

Samitivej | Samitivej Children's Hospital | Samitivej | Samitivej Hospitals | 0-2022-2222 only growing. With its status as Europe's energy capital and Norway's investment in the energy transition, all the ingredients are there for this to become the world's green energy capital," Mr Clausen proclaims.

There is competition for that title. Cities from Aberdeen to Vienna have all staked a claim to being the green energy capital. Even in Norway, there is a focus on Oslo ahead of the Stavanger Business Region. According to Mr Clausen, this is an issue of publicity, not competency.

"We are spearheading the green transition here. We are a place where everything is already assembled in one place. It is a place where global companies can learn more about what is happening and find opportunities that don't exist anywhere else in the world," Mr Clausen explains. "When people visit, it opens their eyes to new possibilities."

Speaking of people, the region also has something other locations cannot match–talent and a lot of it. The Stavanger Business Region has roughly 46,000 people working in the energy sector. Many of them are currently employed in the oil and gas sector, but that's going to change.

"There are a lot of skilled people working in the Stavanger Business Region's energy sector. Not all of them can stay in oil and gas forever. And not all of them want to work in oil and gas forever," Mr Clausen points out. "We are a talent and knowledge centre when it comes to energy. We have solutions supporting the green transition and are developing innovations that can accelerate efforts in the coming years."

The goal now is to not keep these a secret. Promoting both Norway's robust renewable energy capabilities and the Stavanger Business Region's aims to be the world's green energy capital can be beneficial to all.

That is what led to the creation of RENEW HUB, a renewable energy ecosystem in the Stavanger Business Region. The space is located in the beautiful municipality of Sandnes, a destination known at various times for pottery, bicycles and now, technology development. Its location is well suited for the organization's main objective of bringing together stakeholders, investment, expertise and innovation in one place so the green transition can be scaled and shared.

"Seeing is believing. We want people from around the world to visit the Stavanger Business Region and RENEW HUB so they learn more about what's happening here as well as the opportunities for collaboration that exist," Mr Clausen says. "Instead of talking to 15 different people in 15 different places about 15 different topics, it can all be done here. And we encourage any parties interested in the green transition to see it themselves."

PHOTO: FOMO

Previous page: RENEW HUB is bringing together green transition stakeholders, investment, expertise and innovation in one place.

Above: Norway's green transition innovations aren't well known but Mr Rudi Clausen (centre), CEO and Co-Founder at Funky FOMO, is helping share the secret.

From Stavanger to Asia

Asia is seen as the next frontier for renewables and the green transition. Many countries have both the appetite for change and a general framework to do so. Taking the next step is now the challenge. This requires a higher level of knowledge that typically comes through experience or working with an experienced partner.

"Asia is the future. It is where the change is happening," Mr Clausen states. "But Asia needs knowledge. The region has made a lot of progress when it comes to green energy but there is still fine tuning and optimisation that can be done. This is an area where Norway excels."

That is what makes the Stavanger Business Region such an interesting destination. Why go anywhere other than the place leading the world's green transition?

"We have already overcome many of the same challenges Asia will face as they transition to renewables. We can share that knowledge to ensure the same missteps aren't repeated," Mr Clausen notes. "Having proven technology, expertise and a partner is more favourable than trying to navigate the green transition solo."

Ultimately, no one has all the answers regarding the green transition. What's more, there isn't a lot of time to waste if various climate goals and clean energy targets are to be reached. The answers are out there but they won't be discovered if no one is willing to ask for help searching for them.

"We need to stand together. The green transition won't be completed if everyone is working alone. Collaboration is possible if you know where to find partners," Mr Clausen explains. "Collaboration opportunities exist even if we don't know they exist yet."

Facts

- *Norway has notable renewable energy technology and knowledge that can be exported worldwide*
- *Global startup tracker StartupBlink ranked Norway as the ninth best country in the world for energy and environment startups*
- *The Stavanger Business Region is Norway's energy capital and home to many companies in the oil and gas sector*
- *Efforts are underway to transform Stavanger Business Region into the world's green energy capital*
- *The Stavanger Business Region has roughly 46,000 people working in the energy sector*
- *RENEW HUB is a renewable energy ecosystem in the Stavanger Business Region assisting green transition efforts globally*
- *Norway faced many of the same green transition challenges Asia will face as the region transitions to renewables*

PHOTO: FELICIA DESIGN

Sustainable Jewellery

Cheyenne Hollis

The jewellery industry has entered a new era in which consumers prioritise sustainability over price. For manufacturers, a measured approach; transparent policies and practices; and a network are needed to keep up.

Felicia Design began operations in Thailand 28 years ago. From day one, the company integrated Norwegian business ethics into its operation with sustainability an important element. A recent move to a new factory allowed the jewellery manufacturer to ramp up its efforts but there was also a realisation that the company has more work to do.

"Our environmental efforts can really get underway with the opening of this new factory. We have focused on what's most important for us to be a sustainable business and will continue to add to that foundation over time," Mrs Vibeke Lyssand Leirvag, Founder and Managing Director at Felicia Design, notes: "However, as an SME, we financially cannot do everything at once. The required investment is costly, but we can take steps until we gradually get there."

This is a challenge many small- and medium-sized enterprises (SMEs) face. While large multinational corporations have the resources to implement various aspects of ESG principles faster than SMEs, Mrs Leirvag urges that the latter be held to a different set of expectations.

She adds that it would be good to see government tax incentives offered to SMEs that take steps towards sustainable actions. This would encourage and support further investment in sustainability. It would also allow jewellery manufacturers to be more competitive at a time when consumer concerns over these issues are shifting.

"In the jewellery industry, the focus used to be on price and quality. Today, jewellery brands want to know about sustainability and the sourcing of materials, because that is what the end consumer will ask them. It is a new way of doing business. The younger generation is more informed and cares about this," Mrs Leirvag says.

Of course, there must be an understanding of what is and isn't possible when it comes to sustainability. For example, there is an unrealistic expectation that all manufacturers can use recycled or traceable materials.

"In volume production, it's not possible to guarantee the use of 100 percent recycled materials. There simply isn't enough of these to go around. Therefore, we must use a mix of recycled and non-recycled materials in our jewellery. This is the case for most companies" Mrs Leirvag reports.

She continues, "The industry has evolved over the years and is increasingly responsible overall. One reason for this shift is an increased availability of tool kits and greater education on how to best manufacture."

In Thailand, there is no governing body monitoring sustainability efforts. This means the onus is on the companies themselves to find guidance and support.

"Each industry in Thailand should have clear policies in place to reach the country's sustainability commitments. For jewellery, there is no local guidance available, but internationally, we have the Responsible Jewellery Council (RJC)," Mrs Leirvag details.

Part of something bigger

The RJC is playing a crucial role as the sustainability standard setter for the jewellery and watch industry across the globe. In order to become a member, companies must pass an independent third-party audit on the organisation's Code of Practices, a robust set of guidelines covering all areas of operations, including the entire supply chain.

Qualifying as a member of RJC was not easy, but it has elevated Felicia Design's sustainability efforts while giving them a competitive edge as a trusted OEM supplier.

"The RJC required us to be more structured as a company, and the audit assures we have the right policies in place. Passing is a huge accomplishment" Mrs Leirvag says. "When you are an RJC-certified company, those you work with expect you to maintain those standards at all times. It has made us a more responsible company, not only in our manufacturing but throughout our supply chain."

Additionally, Felicia Design has supported the UN Global Compact since 2017. The initiative was launched for companies to follow universal sustainability principles covering human rights, labour, the environment and anti-corruption, among others.

"In many ways, the ten principles in the UN Global Compact were principles we already practiced. We wanted to publicly state our support for them, and it's something more SMEs should consider. It is a platform that we are contributing to even though we aren't a large business," Mrs Leirvag notes. "This gave us a network and platform to achieve results. You gain both opportunities and knowledge while collaborating with other companies toward a common goal."

Another notable milestone for Felicia Design was gaining membership in the Thai Collective Action against Corruption (CAC), a leading platform fighting graft in the country. This allowed the company to demonstrate its Norwegian ethics to clients in a meaningful way. This is not the only Norwegian standard Mrs Leirvag would like to see Thailand and the jewellery industry aim for as a whole.

Gender balance at the leadership and boardroom levels is another value the company is committed to upholding.

"From day one, Felicia Design has been providing equal opportunities. We employ more women than men, not by choice, but by equal opportunities," Mrs Leirvag says. "In my role as Chairwoman of the Joint Foreign Chambers of Commerce in Thailand (JFCCT), I do not feel I have less respect because I am a woman. Diversity is positive for any organisation."

Critical network

It is not just industry and global networks that have helped Felicia Design over the years. As a foreign-owned business in Thailand, local networks were instrumental in the company's growth through knowledge building, support and meeting others who can provide assistance.

"Being part of a local network as a foreign-owned business is invaluable. That can be anything from joining a local foreign chamber of commerce to a group that's related to your company's industry," Mrs Leirvag advises. "Here in Thailand, networking is a big part of doing business. Knowing or simply being introduced to the right people makes all the difference."

For Mrs Leirvag, her decision to join the Thai-Norway Chamber of Commerce (TNCC) in 1996 proved to be rewarding. Being a part of this network opened doors and provided insights that Felicia Design would not have otherwise had as a Norwegian start-up operating overseas.

"There are a lot of business leaders at the TNCC on whom I can rely on for support. They share resources and an understanding of regulations I may not be experienced in. It can help you avoid mistakes," Mrs Leirvag notes. "Simply signing up isn't enough, though. You must be active and utilise the membership. You can connect with people and even customers in some cases."

A misconception SMEs may harbour about joining a foreign chamber of commerce is that these are reserved for bigger corporations only. In reality, start-ups, entrepreneurs and smaller firms are the ones who have the most to gain by signing up and being active.

Joining the TNCC opened up the opportunity for Felicia Design to be a part of the Joint Foreign Chambers of Commerce in Thailand (JFCCT) which consists of 34 chambers and business associations representing more than 9,000 companies.

"When you join a local chamber, you're also able to be a part of the JFCCT. This is another way to expand your network and seek out information or support from those who are more experienced," Mrs Leirvag says. "There are a lot of opportunities available for Norwegian businesses overseas but having a network will help you find them."

PHOTO: FELICIA DESIGN

Left page: Mrs Vibeke Lyssand Leirvåg, Founder and Managing Director at Felicia Design, launched the company in Thailand 28 years ago
Above: Felicia Design uses a mix of recycled and non-recycled materials in the jewellery it manufactures

Facts

- *Felicia Design is an OEM jewellery manufacturer that began operations in Thailand 28 years ago*
- *In 2023, the company moved to a new factory allowing it to increase sustainability efforts*
- *Felicia Design is a certified member of the RJC, the sustainability standard setter for the jewellery and watch industry*
- *The company began supporting the UN Global Compact in 2017 and is also a member of the Thai Collective Action against Corruption*
- *Felicia Design utilises a Norwegian business model, Italian technology, French guidance and Thai artisans*
- *Mrs Leirvag currently serves as Vice President of Thai-Norwegian Chamber of Commerce, Chairwoman of the Joint Foreign Chambers of Commerce in Thailand and Advisor to Board of Trade Thailand*

PHOTO: TURID ELISABETH SOLVANG

Refreshing Boardroom Composition

Cheyenne Hollis

When Norway introduced a 40 percent gender quota on the boards of listed companies in 2006, it was seen as a much-needed step toward equality. Now private firms are on the agenda.

The Norwegian government submitted a proposal earlier this year that would require large- and mid-size private firms in the country to have women comprise at least 40 percent of the board. It's an extension of regulations governing the composition of boards at listed companies and is another step toward improving gender parity at the boardroom level.

"The new regulations will impact board composition, and it should see an improvement as it relates to gender balance at the medium and small business levels. It should have a similar impact to what happened at the high levels in Norway," Ms Turid Elisabeth Solvang, Founder and CEO of FutureBoards, says.

While listed companies swiftly adapted to the regulations when they went into effect in 2008, there has been no trickle-down effect. The Norwegian government cited the fact the proportion of women on boards in private firms has increased by only five percent over the past two decades as a reason the new bill is required.

Ms Solvang adds the new bill must contain a reason for private businesses to comply. For listed firms, those who failed to appoint women to their respective boards faced being shut down.

"Regulations alone are not enough. Sanctions are also required to ensure companies follow through on these. Without consequences, there will be no reason for businesses to comply," Ms Solvang states.

The new regulations will eventually extend to private firms with 30 or more employees and yearly revenues above NOK50 million when fully implemented in 2028. Approximately 20,000 companies are set to be affected.

"The problem won't fix itself. It has been a slow process in terms of increasing the number of women on boards. There are a lot of arguments against women, such as they are not competent or don't want those positions. Those are not true," Ms Solvang notes. "We now have a better understanding of everything, including the benefits. Companies risk falling further behind if they don't take action on this."

Finding candidates

With Norwegian companies now needing to increase the number of women on their boards, finding candidates is a priority. Unfortunately, old profiles and a lacklustre recruitment process hinder these efforts.

"We must redefine the criteria of what it takes to be a board director in general. Current profiles aren't necessarily modern. We should look forward and bring different mindsets aboard," Ms Solvang explains. "The recruitment process is also an issue. Good positions are not always advertised. Companies need to do more to find female candidates and recruitment agencies need to expand their candidate pool."

Recruiters are working to build a more diverse candidate pool, but greater effort is needed. Private companies, in particular, need to have additional nominations for their empty board seats. It is also vital they consider women who express interest directly.

"We are seeing women reach out to join boards, but it is not unusual for a company to ignore these efforts. Hopefully, networks can be expanded, and the process continues to improve over the next few years so these are not ignored," Ms Solvang details.

Of course, companies are not the only ones involved in this process.

"Shareholders and shareholder values are a part of this equation as well," Ms Solvang says. "They must understand the value of different perspectives and mindsets. Are they asking the right questions and searching for the right abilities?"

Speaking of abilities, women must have the necessary skills to serve on a board once appointed. This is a position that requires in-depth knowledge that isn't always available.

"Board training and education are other aspects of this. Women, as well as men need experience and understanding of how the boardroom works and how to make money.," Ms Solvang points out.

Finally, women may be concerned about being seen as a quota appointee. This may even prevent some from applying for board open seats. However, being on a board is far more important than any perceived optics.

"No one wants to be a quota appointee. They don't want to be seen as simply a number or requirement. But I would say don't worry about that. Focus on getting there because that is what matters most," Ms Solvang says.

Global change

The issue of gender diversity in boardrooms is not unique to Norway but the country's gender quota approach may not work in other countries. For Ms Solvang, government intervention should not be required as this is a business-driven decision.

"This is not a country-specific or regional issue. It is an issue of corporate culture and not looking at the bigger picture. Companies with boardroom diversity see a better return on investment and better results," Ms Solvang states. "Firms and shareholders not changing the culture and expediting diversity efforts are only harming themselves."

In Asia, the message has struggled to gain traction. A report by BofA Securities found that female participation on boards in the region sits at 20 percent on average. This total has only grown by seven percent since 2010. There are some success stories to highlight, however.

As part of the Tenth Malaysia Plan released in 2011, the Malaysian government set a goal of having women hold 30 percent of all boardroom seats at stock exchange-listed companies. This target has not been achieved in any year, although the Malaysian Securities Commission noted the percentage of female representation in board positions currently stands at 29.7 percent with the quota likely to be reached in 2023.

Singapore's listed companies, statutory boards and institutions of public character set a voluntary target of 25 percent female representation on boards to be reached by 2025. The only group to have not surpassed this threshold already are the top 100 listed companies where women account for 22.7 percent of board members as of June 2023, according to data from the Council for Board Diversity.

While progress is being made in the region, diversifying boards of publicly traded firms with no female representation has become a pressing issue. The MSCI All-Country World Equity Index found the majority of these were located in the Middle East or Asia.

The organisation's research for 2022 revealed that 44 percent of publicly listed Indonesian companies had an all-male board, the highest figure in Asia. Taiwan at 27 percent, China at 25 percent and South Korea at 21 percent also had a large total of all-male boards. The latter is down 42 percent from the previous year.

Meanwhile, the number of all-male boards in Japan fell from 15 percent in 2021 to 7 percent in 2022. Expediting those efforts took on more significance after Norges Bank Investment Management announced it would vote against board nominations of Japanese companies it invests in that do not include any female directors earlier this year. According to Ms Solvang, this may be the start of a trend.

"Investors are becoming more willing to act when they see a lack of diversity on boards. They will no longer sit waiting for change to happen as they have their own ESG targets to meet. They have also seen that change is taking too long to happen in the boardroom," Ms Solvang concludes.

PHOTO: BLUESKYIMAGE/SHUTTERSTOCK

Left page: Ms Turid Elisabeth Solvang, Founder and CEO of FutureBoards says companies lacking boardroom diversity will fall behind. Above: Singapore and Malaysia are a few of the Asian countries to have set boardroom diversity targets.

Facts

- *Norway introduced a 40 percent gender quota on the boards of listed companies in 2006*
- *A proposal requiring large- and mid-size private firms in Norway to have women comprise at least 40 percent of boards was submitted*
- *The number of women on boards at private firms has increased by only five per cent over the past two decades in Norway*
- *Improving the recruitment process is one way to increase the number of women elected to boards*
- *Malaysia is close to reaching its goal of having women hold 30 percent of all board room seats listed companies*
- *More than 20 percent of publicly listed companies in Indonesia, China, Taiwan and South Korea have all-male boards*
- *Some institutional investors are voting against board nominations put forth by companies without any female directors*

PHOTO: SAMITIVEJ HOSPITAL

Here's How Tech Is Reshaping Medicine

Cheyenne Hollis

Technology and innovation are improving the overall health experience. In Thailand, Samitivej Hospital continues to lead these efforts by focusing on preventive care.

Disruption is synonymous with technology. Numerous industries over the past decade were upended almost overnight due to innovation. That approach doesn't necessarily work for medicine, though. Patients and doctors are wary of the impact new technologies may have as they do not wish to take unnecessary risks with their health and well-being.

For Samitivej Hospital, balancing these concerns with the potential of technology to reshape medicine was crucial. The key was to adapt before disruption could even happen.

"When it comes to technology, you want to adapt before you are disrupted. It was necessary for us to bring technology into healthcare in meaningful ways as it can improve several areas, such as preventative medicine. We don't want to wait for a person to become sick," Dr Parit Plainkum, Assistant Hospital Director at Samitivej Srinakarin Hospital, says. "A lot of the focus on medical innovations goes toward sick care which is extremely important. For Samitvej, it is equally important to develop risk care, early care and self care. We want people to be empowered to take care of themselves and be invested in their health."

The technological journey at Samitvej Hospital has seen it implement and explore a number of exciting innovations. In 2019, Samitvej became the first private hospital in Thailand to launch a telemedicine platform. Artificial Intelligence (AI) assisted colonoscopies colonoscopy using the EndoBrain-EYE and EndoBrain programs aiding in the diagnosis of colorectal polyps were put into use in 2021.

More recently, an emphasis has been placed on risk factor prediction and genetic testing. Additionally, the hospital is exploring baby cry identification technology, AI-assisted imaging and augmented reality surgery, among other innovations.

"Technology has the greatest impact in preventing individuals from getting sick. For example, the hospital currently uses predictive algorithms to forecast when individuals may suffer cardiovascular event or stroke. This is integrated into the hospital information system so a doctor can identify increased risk," Dr Parit states. "Early detection makes it possible for individuals to take corrective actions."

Meanwhile, improvements in genetic testing allow individuals to have a better understanding of their health. While a person likely knows their family history, this information may not always provide the whole story.

"Treatment protocols are for the average person and not personalised. Genetic testing early can allow an individual to make more informed treatment decisions," Dr Parit explains. "Interestingly, it can also allow people who may have a family history of cancer or cardiovascular issues to consider preventative measures. You and your doctor can take specific actions using this extra information."

The use of predictive algorithms and genetic testing are just a few of the innovations reshaping the relationship many people have with medicine. Instead of being reactive, patients can be proactive in making health-related decisions.

"The hospital's efforts and whatever the future may hold for medical technology are all part of Samitvej's commitment to helping people live their best. Technology is vital in improving not only a person's quality of life but the quality of care doctors are able to provide," Dr Parit reports.

AI partnerships

There has been a concern in some quarters that AI will replace doctors one day. Dr. Parit insists that won't be the case as humans remain essential to the medical experience. Simply put, there are some things humans can do that innovation is unable to replicate.

"AI is not something that can be used as a standalone solution. For starters, people don't trust AI by itself. Second, AI may have hard skills, but it lacks the soft skills, such as empathy, that a doctor has," Dr. Parit says. "It is important to think of AI as a tool that allows doctors to solve more complex problems, reduce the trial-and-error period, bring better care to patients and lower costs."

Instead of seeing AI as a potential replacement for doctors, it should be viewed as a partner to improve their accuracy, speed and quality of care.

"The relationship between doctors and AI is a partnership. Having them work together is more effective than one trying to do something without the other," Dr. Parit states. "Those in the medical field who are not leveraging AI will be left behind. The key is understanding how it can be most effectively used by doctors as a tool to improve patient quality of life."

An example of this in action at Samitivej Hospital is the use of AI technology to assist in colon cancer detection and surveillance. Innovations, such as the EndoBrain-EYE and EndoBrain programs, alert doctors to potential complications during colonoscopies, either in real time or during recordings.

In addition to this, AI is also being used to analyse imaging from MRIs and other scans. It can assist radiologists in locating issues by identifying patterns from similar patients which allows them to make a more informed diagnosis.

Choosing the right technology

Dr Parit notes that technology can also play a notable role in improving productivity. It is allowing hospitals to work more effectively and make more accurate diagnoses which ultimately leads to better disease prevention. However, the process is not as simple as picking one, running a test and implementing it. Choosing the right technology requires Samitivej Hospital to carry out a comprehensive, three-step approach.

"The first step is identifying the disease or area a technology can assist with. Ultimately, we want to focus on one of two areas. First are high-intensity diseases, such as cardiovascular diseases, stroke and cancer, that have higher mortality rates. It's important to reduce these. The second area is high-volume diseases that are common. Solving these would allow us to care for more people," Dr Parit details.

He continues, "Once a technology has been selected, it is tested by doctors who can gain an understanding of how it works. It can take 9-12 months to go from consideration to pilot project. If this phase goes well, the technology will be approved for use in the hospital, and it is then integrated into our systems."

It takes approximately two years for a technology to be fully implemented at Samitivej Hospital, although the timeline varies depending on what is being considered. There are quite a few obstacles that must be overcome during the process with the largest coming from doctors.

"The most difficult challenge is to get doctors to trust the technology. They have the most rigorous standards. They will not use something until they are sure it works. At Samitvej, doctors are not required to use innovations until they feel comfortable with them," Dr. Parit points out.

Waiting for a technology focusing on a specific issue to be developed can be restrictive at times. The hospital is in constant communication with all stakeholders to better understand their pain points. To address these in a timely manner, Samitivej Hospital Group launched an innovation and venture arm, DHV (Digital Health Venture), to develop customer-centric healthcare-related solutions.

"DHV allows us to drive change through innovation. It allows us to develop in-house capabilities in a startup-like setting. Importantly, it gives us a platform to fix the challenges we feel needs to be fixed as opposed to waiting for a solution," Dr. Parit says. We have labs to test changes inside our ecosystem. We can even scale up to unlock collaboration with universities or make the innovations widely available."

PHOTO: SAMITIVEJ HOSPITAL

Facts

- *Both predictive algorithms and genetic testing can allow for early detection of cardiovascular diseases and other issues*
- *AI-assisted colonoscopies aiding in the diagnosis of colorectal polyps have been in use at Samitivej since 2021*
- *AI is unlike to replace doctors and should be viewed as a partner to improve their accuracy, speed and quality of care*
- *Samitivej launched an innovation and venture arm, DHV, to develop customer-centric healthcare-related solutions*
- *It takes approximately two years for a new technology to be fully implemented at Samitivej Hospital*
- *Samitvej looks to develop innovations covering risk care, early care and self care in addition to treatment-focused solutions*


PHOTO: GCMD

Guiding Maritime's Path To Net Zero

Cheyenne Hollis

In 2021, the Global Centre for Maritime Decarbonisation launched in Singapore with the aim of helping international shipping decarbonise along a trajectory that meets key targets including Net Zero.

At the Marine Environment Protection Committee meeting (MEPC 80) in July 2023, member countries pledged to reduce shipping emissions by 20-30 percent in 2030 and 70-80 percent by 2040 compared to 2008 levels. The goal is to reach net-zero greenhouse gas (GHG) emissions from international shipping around 2050.

While the goal of Net Zero in 2050 has been in place for years, this pledge is the firmest commitment from the maritime sector to meet the target. Reaching it will require significant collaboration and innovation across the industry. One organisation assisting with those efforts is the Global Centre for Maritime Decarbonisation (GCMD).

Creating this body was one of the recommendations the International Advisory Panel for Maritime Decarbonisation submitted to the Singapore Government in 2021. The non-profit organisation's mission is to support decarbonisation across the industry as it looks to meet or exceed the IMO goals for 2030, 2040 and 2050 by shaping standards, deploying solutions, financing projects and fostering collaboration across sectors.

GCMD has a number of initiatives ongoing, including facilitating ammonia use as a marine fuel, developing an assurance framework for drop-in green fuels, unlocking the carbon value chain through shipboard carbon capture and closing the data-financing gap to widen the adoption of energy efficiency technologies. Tackling obstacles of this size is a significant undertaking that requires a measured approach.

"Recognising that there is still significant work to translate 2D projections on paper to 3D solutions, we draw reference from the many reports out there that examine both optimistic and conservative scenarios of the energy and fuel transitions," Professor Lynn Loo, CEO of Global Centre for Maritime Decarbonisation, says. "These pilots involve key industry players on both the ship and shore sides, financial institutions, regulators and port authorities making them complex and extended endeavours. Our approach therefore is to divide our pilots into several key phases, and curate a consortium of critical partners for each, with efforts marked by shorter-term milestones."

With GHG emissions targets rapidly approaching, GCMD finds itself needing to strike a balance between speed and rigour. According to Prof. Loo, this ensures meaningful progress can be achieved without compromising quality, effectiveness and applicability of the organisation's efforts.

"This is why we conduct our pilots under conditions that closely mirror commercial operations conditions so that we can capture actual pain points and work towards addressing them. Only then can we ensure that the learnings gained from these experiments are directly translatable to lowering the barriers for the adoption of these solutions and not become one-off experiments," Prof. Loo states.

A major breakthrough

A major reason seafood can play The first initiative launched by the GCMD was understanding the viability of ammonia for use as a marine fuel. Ammonia doesn't have any carbon, making it a potential solution for Net Zero shipping operations. However, the toxicity and corrosiveness of ammonia, among other issues, required an industry-wide look at safety.

"The first phase of the ammonia as a marine fuel initiative thus involved us commissioning a safety study, conducted by DNV, Surbana Jurong and the Singapore Maritime Academy which was supported by an industry consultation and alignment panel of 22 partners that have experience handling ammonia across its supply chain, with inputs from a regulatory working group," Prof. Loo states. "Given the parties involved, this safety study is as much the industry's safety study as it is ours. It assessed four different concept designs for bunkering and breakbulk in the port waters of Singapore, and highlighted over 400 locational and operational risks, all of which are deemed mitigable by our study partners."

This was seen as a significant milestone for the industry as it provided additional confidence that ammonia can be transferred safely as a marine fuel with proper risk mitigation procedures in place. GCMD has since embarked on the second phase of this initiative.

"The goal of the second phase is to conduct ship-to-ship cargo transfer of ammonia in port waters at key ports around the world to help ready the ecosystem for ammonia bunkering when ammonia-fuelled vessels become available," Prof. Loo notes. "So specific to this initiative, the shorter-term goals include articulating the emergency response plans and conducting environmental impact assessments in the event of an ammonia leak, completing detailed and quantitative site-specific hazard and safety assessments, and ultimately conducting at least one such transfer pilot in close partnership with the relevant port authority within a year. Of course, the ultimate timeline would depend on us securing regulatory approvals for our pilots."

Stakeholder support

The next step is increasing consuGCMD's ammonia as a marine fuel initiative highlights the importance stakeholders have in the process. Ultimately, bringing together partners across the maritime value chain has the greatest positive impact on decarbonisation. Of course, there needs to be a coordinating body fostering this collaboration.

"Individual companies–especially well-resourced ones–can go about trialling different technologies and solutions on their own. They can move fast and may be able to reduce their own emissions, but this action does not effect change at a global level. Governments and regulators can effect change on a macro level through incentives and policy interventions, but they are often slower to move," Prof. Loo explains. "Decarbonisation centres, like GCMD and others around the world, sit in the sweet spot between these two levels. By bringing partners across the ecosystem together, we can be big enough to effect change and still small enough to be nimble."

To help shape standards, the GCMD is committed to building and sharing knowledge on maritime decarbonisation. The organisation shares learnings from projects at international conferences and technical committee meetings of standards development groups while also openly publishing study findings and reports.

"The need for deep investments and a regulatory framework are hurdles that can delay the commissioning of pilots and trials," Prof. Lynn points out. "GCMD is uniquely positioned to help overcome these roadblocks by co-funding these projects, and opening dialogue with relevant government agencies to accelerate the framing of regulatory sandboxes."

Managing a multi-stakeholder consortium is not always straightforward. That's why GCMD operates with guiding principles, including broadly engaging the ecosystem, listening intently to stakeholders, and openly sharing knowledge with partners.

These guiding principles have been vital in the organisation's effort to bring partners onboard. Currently, GCMD has more than 100 centre- and project-level partners, all of whom share the common goal of accelerating the deployment of scalable low-carbon technologies while lowering the adoption barriers by closing the gaps in infrastructure, safety, operations and financing.

"Some of these partners provide funding, others share their knowledge and expertise and yet others give us access to their ships so we can conduct our pilots and trials. It is with this all-of-ecosystems approach that we have been able to move as quickly as we have in the past two years," Prof. Loo reports. "It is also with this mindset that we have been able to bring stakeholders in adjacent sectors as well as nominal competitors in the same space on board. Decarbonisation will require us all working together."

As the number of partners increases, so does the diversity of voices, opinions and feedback. For GCMD, the path to Net Zero in the shipping industry requires carefully listening to all stakeholders before choosing a pilot project.

"We balance stakeholder inputs and involvement by ensuring that we provide a platform for them to provide feedback and take it into consideration when scoping our projects," Prof. Loo states. "We also ensure that we are transparent and accountable to our stakeholders by regularly communicating our progress through our published reports."

PHOTO: GCMD

Left page: Prof. Lynn Loo delivers a co-keynote address at the 2023 Nor-Shipping Ocean Leadership Conference 2023 in Lillestrøm, Norway
Above: Prof. Lynn Loo christens the Logan Explorer, Eastern Pacific Shipping Pte. Ltd.'s first very large gas carrier

Facts

- *GCMD was established in August 2021 as a non-profit organisation with a mission to support the decarbonisation of the shipping industry*
- *The organisation was co-founded by the Maritime and Port Authority of Singapore, BHP, BW Group, Eastern Pacific Shipping, Foundation Det Norske Veritas, Ocean Network Express and Seatrium*
- *More than 100 centre- and project-level partners have been brought onboard by the GCMD since its launch*
- *GCMD's first initiative was understanding the viability of ammonia for use as a marine fuel with the project now in its second phase*
- *The ammonia as a marine fuel initiative involved a safety study conducted by DNV, Surbana Jurong and the Singapore Maritime Academy*
- *Other initiatives from the GCMD include work on an assurance framework for drop-in green fuels and unlocking the carbon value chain among other efforts*

PHOTO: BJØRN EIRIK OLSEN

Big in Japan

Cheyenne Hollis

Japanese restaurants worldwide proudly serve Norwegian salmon these days. That wouldn't have happened without some innovative marketing 35 years earlier.

The Norwegian government and the country's seafood industry launched Project Japan in 1986, focusing on doubling exports to Japan over a three-year period. It would be easy to assume these efforts were a rousing success given how prominent salmon has become. The journey, however, was filled with many twists and turns.

Mr Bjorn Eirik Olsen was along for the ride. He joined the newly established Project Japan as a market analyst and strategist when it launched. Having studied the Japanese language and culture as well as boasting a background in seafood marketing studies, the position was a great fit.

When Project Japan started, salmon wasn't a prioritised product. This decision wasn't related to consumption as salted, dried and grilled Pacific salmon was a staple of Japanese diets at the time.

"Those who have eaten the traditional Japanese breakfast of rice and miso soup cannot have avoided having a small piece of grilled Pacific salmon with the meal," Mr Olsen recalls. "Norwegian salmon could have been brought in as a competitor to this, but it would have meant we were nothing more than chicken of the sea."

Mr Olsen's fondness for sushi and studying the market led him to a different and more ambitious opportunity for Norway's salmon exports.

"Instead of grilled salmon, I felt we should focus on getting Norwegian salmon into the exclusive market for raw fish used for sushi and sashimi. Bluefin tuna dominated this high-class segment, but there were also a large number of other types of fish and shellfish that were sought after," Mr Olsen says. "In general, the prices were three to ten times higher than for the fish that ended up on the grill or in a casserole."

There was one tiny problem with this plan. Japanese consumers had no appetite for raw salmon and making this popular required changing long-held beliefs about food.

Changing perceptions

Project Japan did not come up with the idea of topping a piece of vinegared rice with raw salmon. In Northern Japan, small amounts of king salmon had traditionally been eaten raw as a seasonal dish, but it never gained a following. Making Norwegian salmon popular for sushi and sashimi would require changing longstanding eating preferences along with clarifying misconceptions about salmon. The marketing endeavour started with a new name.

"To differentiate the Norwegian salmon from Pacific salmon, I suggested not calling our salmon by its Japanese name. All other Norwegian fish species had been translated into Japanese, but here there was a point to mark a difference," Mr Olsen explains. "We, therefore, introduced a new brand by 'Japanizing' the Norwegian Salmon name into 'Noruee saamon', written with Japanese katakana characters. Nobody had heard of it, and nobody believed in it, but we still launched supermarket promotions for raw salmon marked as 'Noruee saamon' fit for sushi and sashimi."

A new name was the beginning. Next was to get salmon sushi and sashimi into the hands of consumers which produced some interesting results for the Project Japan team.

"We discovered that the less knowledge a person had about the seafood industry and trade, the better they thought the Norwegian-farmed salmon tasted raw. Those who worked in the industry claimed for their part that the farmed salmon smelled like river fish, it had the wrong colour, and the consistency was not good," Mr Olsen recounts. "This provided important experiences; we had to get closer to the consumers, then perhaps the industry would follow."

Influencer marketing also played a role in spreading the word. Mr Hiroshi Niwa, then Head of the Norwegian Trade Council, contacted innovative chefs willing to try Norwegian salmon. One of these was the legendary Mr Yutaka Ishinabe who is best known for starring in the popular Iron Chef cooking show. This helped raise the stature of Norwegian salmon in the country, but its profile was still modest.

With Project Japan winding down in 1990, Mr Olsen was offered the newly created position of Fisheries Attaché at the Norwegian Embassy in Tokyo to follow up this initial push.

Crisis & Opportunity

Norwegian production of farmed salmon increased significantly at the start of the 1990s and Europe and the USA could not cope with the sudden influx. Prices fell dramatically which saw the Fish Farmers Sales Association (FOS) store large quantities of frozen salmon.

As the cost of salmon continued to sink into 1991, the FOS and many companies in the salmon fishing industry went bankrupt, along with a bank lending to the sector. This spiralling crisis led to a government intervention that sought to quickly offload the frozen salmon and stop the entire industry from going under.

Japan was identified as a potential destination, although it would have been used for grilled salmon, not sushi. For Mr Olsen, this short-term fix would erase all the hard work done in building the Norwegian salmon brand.

"In Project Japan, we had started long-term work on building a new brand aimed at the sushi and sashimi market. Dumping large volumes of salmon for grilling would most likely destroy what we had built up. It would also put us in direct competition with the Japanese seafood industry and Japanese companies could suffer financial losses," Mr Olsen states. "At Project Japan, we promised to cooperate, not compete, with the Japanese industry. If we carried out this sale, we would lose face."

After much deliberation, a deal was agreed upon with respected Japanese frozen food company Nichirei who promised to label each package as 'Noruee saamon' for raw use. This would raise the product's profile while calming the mood in Norway.

At the same time, the bursting of Japan's real estate bubble was a crisis that offered a new opportunity for Norwegian salmon in Japan.

"Businesses and people suddenly found themselves much worse off. Sushi and sashimi had been expensive, and it was primarily eaten out in restaurants since preparing it at home took a lot of work. Conveyor belt sushi restaurants were the solution," Mr Olsen explains. "The motorized belts reduced the need for labour meaning prices could be lowered. The children thought train carriages with sushi were fun, and these became very popular with Japanese families within a few years."

More importantly, it allowed Norwegian salmon to reach consumers unfettered. The younger generation gravitated toward the product at conveyor belt sushi restaurants since no one was around to dissuade them. Those in the Japanese seafood industry may not have been believers but their role as gatekeepers had been minimised.

"The children could pick what they thought looked tasty when the various sushi platters drove past. The children had no prejudices. They saw that salmon had a nice colour and picked it from the belt. They liked it, and consequently, their parents also had to try it. As a result, the attitude to raw salmon started to change," Mr Olsen says. "However, most of the industry, including importers, wholesalers and chefs, were still pessimistic."

A product of marketing

"The children could pick what they Mr Olsen concluded his time as Fisheries Attaché in November 1994 with Norwegian salmon in the ascendancy. Some 35 years after he helped first introduce salmon usage for sushi and sashimi in Japan, it was named the country's most popular type of fish for those dishes for the 12th straight year. The product was essential but none of this would have been possible without marketing.

"Our salmon for raw consumption in Japan was not a product innovation. It was a marketing innovation. Putting a piece of salmon on top of some vinegared rice is easy. The challenge, however, was not in the product, it was in people's minds," Mr Olsen says. "To change the perception of the importers, wholesalers, supermarket chains, chefs, seafood journalists and consumers was the job we set out to accomplish. Changing the perception of 120 million conservative Japanese seafood lovers was bound to take time."

The journey also highlights the need for patience and perception across the Norwegian seafood industry. Opportunities exist that may not even be realised because people only see things one way or don't want to invest the time needed for success.

"Personally, I learned a lot from this experience. That one must have patience is obvious. Likewise, you should not let other people's opinions stop you if you believe in something. But the important thing I learned was the value of perception. Perception can be said to be the filter of habitual beliefs and patterns, learned preferences and thoughts by which sensory impulses," Mr Olsen proclaims.

PHOTO: BJØRN EIRIK OLSEN

Left page: Mr Olsen (second from left) and a Norwegian seafood delegation enjoy sashimi during a trip to a Japanese restaurant in 1988.
Above: The then Minister of Fisheries, Mr Bjarne Mørk-Eidem, visits a Norwegian seafood fair organised by Project Japan.

Facts

- *Project Japan began 1986 in order to increase Norwegian seafood exports to Japan*
- *Prior to the 1990s, Japanese salmon consumption was primarily salted, dried and grilled Pacific salmon*
- *Influencer marketing and a new name helped raise the profile of Norwegian salmon in Japan*
- *The growth of conveyor belt sushi restaurants in the 1990s increased interest in Norwegian salmon*
- *Norwegian salmon has been named Japan's most popular fish for sushi and sashimi for 12th straight years*

PHOTO: WIRESTOCK

Sexy, Sustainable Seafood

Cheyenne Hollis

Securing the world's future food chain will be no easy task but Norwegian aquaculture may have answers. The task starts with changing how people perceive seafood.

Seafood has an image problem. There are countless vegan champions insisting a plant-based diet is the only way to secure the world's food chain. Meanwhile, beef, pork and other traditional protein sources are far more visible when it comes to advertising and being in stores globally. The voices supporting sustainable seafood are few and far between.

When there is talk about aquaculture outside the industry, it's not always in a flattering light. For example, the 2021 Netflix documentary Seaspiracy called for an end to fishing altogether. While numerous scientists, journalists and NGOs debunked the conclusion, it didn't help the image of seafood in the eyes of the public.

"The world needs to eat more sustainable seafood if we are to meet the dietary needs of a growing world population, but we still have a job to do as an industry to get our message across in a meaningful way and to inspire younger consumers to become seafood lovers," former Norwegian Seafood Council CEO, Ms Renate Larsen, told the North Atlantic Seafood Forum in 2021. "We also see many young people are looking to veganism in the belief that it is the only sustainable choice."

Dr Gunhild A. Stordalen, Founder and Executive Chair at EAT, a non-profit founded to catalyse a food system transformation, noted that going vegan is not the sole choice for consumers since replacing meat with fish and seafood generally lowers a person's dietary footprint.

Of course, how the seafood is produced and sourced matters. And that is where Norwegian aquaculture enters the picture. It is a leader in sustainability and continues to work on advancements capable of assisting in securing the world's future food chain. This process starts with promoting seafood so it will be seen as part of the solution. In other words, it's time to make seafood sexy.

"As an industry, we all have a responsibility to make sure we communicate clearly and confidently about sustainability credentials as well as challenges. Through knowledge and inspiration, we will win over a new generation of sustainable seafood lovers," Ms Larsen added.

Starting with sustainability

A major reason seafood can play a role in securing the world's future food chain is sustainability. While aquaculture traditionally has a significant environmental footprint, firms in Norway continue to develop and launch innovations that allow fish to be farmed sustainably and with a smaller environmental impact.

Off the coast of Norway, SalMar has constructed and installed the world's largest offshore fish farm, Ocean Farm 1. The facility reduces the build-up of parasites and pollution that can occur in coastal waters while simultaneously eliminating other issues, such as interbreeding.

Another innovation came in the form of an autonomous offshore fish farming vessel developed by Environmental Vision Norway. The ship provides a safer environment for fish while boasting the ability to anchor in unsheltered areas.

Keeping fish healthy is another aspect of sustainability which needs to be addressed. The World Health Organization previously recognised

Norway's efforts to reduce the use of antibiotics in fish farming. Overall, the Norwegian aquaculture industry uses fewer antibiotics than any other form of animal farming. These efforts are most evident in the salmon industry where approximately 99 percent of Norwegian salmon have never been treated with any form of antibiotic.

Combating sea lice is another area where Norwegian companies excel. If left unchecked, these parasites can stunt the growth of fish and make them susceptible to disease and predators. Firms are now leveraging artificial intelligence, machine learning and other technologies to eradicate and prevent sea lice from negatively impacting farms.

Norwegian aquaculture companies continue to place highly on the Coller FAIRR Index which ranks the world's most sustainable protein producers. Mowi has topped the list for five consecutive years. However, they were not alone on the index.

Additionally, Grieg Seafood and Lerøy Seafood have routinely finished in the top ten of the Coller FAIRR Index since it was first launched. Ultimately, Norwegian aquaculture businesses are not only the leading sustainable protein producers, but they are making a strong case for seafood's inclusion in the world's future food chain.

"Being responsible, transparent and innovative is part of the Norwegian seafood industry's core values. As the largest producer of the world's favourite seafood–the salmon–we have important responsibilities we take very seriously," Ms Larsen said. "A responsibility not only towards consumers who enjoy our delicious and healthy premium quality fish but also to the communities and the environment in which the companies operate."

Eat more seafood

The next step is increasing consumption. In its 2019 Blue Paper, the High Level Panel on the Sustainable Ocean Economy cited the importance of marine aquaculture in producing enough healthy and sustainable food for a growing population.

Meanwhile, a paper published by Blue Food Assessment found blue foods could reduce certain nutrient deficiencies, lessen the risk of cardiovascular disease in populations with excessive red meat consumption, cut food consumption-related carbon footprints and protect against climate change in several areas.

Despite this widespread acknowledgment, seafood hasn't come close to reaching its full potential. That can be attributed in part to its image problem. In an age defined by convenience, the public sees fish as too cumbersome to prepare. The stigma is out there even if it may no longer be an accurate assessment.

"It is a myth that fish and seafood are harder to succeed with in the kitchen, but it is an unfortunate result of several factors, including perhaps that the industry initially was a bit slow to jump on the convenience trend, providing quick and delicious seafood products that fit with a modern lifestyle," Dr Stordalen mused.

A business in Thailand has proven just how true that is. Thammachart Seafood imports salmon from across the world, including Norway, with consumers in the Kingdom having made it the company's best-selling product. Interestingly, how it is used has changed over the past few years.

"Everyone is aware of the health benefits salmon contains, and the price point is perfect for Thailand," Ms Yeeran G. Davies, Thammachart Seafood Chief Marketing Officer, told the Norway Asia Business Review in a previous interview. "One trend we are now seeing is people infusing salmon into new dishes or creations."

The desire for something new has seen Thammachart Seafood launch several innovative new products that were once unfathomable. Most notably, Salmon Wellington and salmon bacon have become a hit among consumers. The latter was even recognised at The International Innovation Awards in the Product Category.

That work may be another critical piece of the puzzle when it comes to seafood fixing its image problem. Not only are products convenient and innovative but the public can be confident in the sustainability of what ultimately arrives on their plates–a tasty protein with a lower dietary footprint. Now, the industry needs to get this message out there in a growing sea of noise.

"Not long ago, sustainability and transparency were potential selling points for our seafood, but not essentials; now it is a whole different ball game. In a world where consumers are constantly inundated with messaging about what they should and shouldn't do, it is becoming ever more difficult for people to make informed choices about the food on their plates," Ms Larsen stated.

PHOTO: NORWEGIAN SEAFOOD COUNCIL

Left page: Norway's salmon farms have nearly eliminated the use of antibiotics while adopting several other sustainable practices. Above: H.E. Gunn Jorid Roset, Norway's former Ambassador to Malaysia, tries her hand at making a local dish using Norwegian seafood.

Facts

- *Seafood generally lowers a person's dietary footprint when replacing beef, pork and chicken*
- *Norwegian aquaculture companies have topped the Coller FAIRR Index for five straight years*
- *The World Health Organization has recognised Norway's efforts to reduce the use of antibiotics in fish farming*
- *SalMar has constructed and installed the world's largest offshore fish farm which is located in Norway*
- *Blue Food Assessment found blue foods could lessen consumption-related carbon footprints and protect against climate change*
- *The High Level Panel on the Sustainable Ocean Economy cited the importance of marine aquaculture in producing sustainable food*


SEAFOOD FROM NORWAY
Did you know salmon sushi is a Norwegian invention?
The proud traditions of Japanese raw seafood eating becoming a global mega-trend was not really feasible until a clever, and possibly slightly bonkers, group of Norwegians introduced the Japanese to the delights of eating raw Norwegian salmon. It was an eye opener to chefs and consumers alike, as the local Coho salmon found in Japan needs to be cooked before eating. The rest is history, a very tasty one.
This isn't salmon. This is Norwegian salmon.
Scan for more information
Origin matters


สีโจตัน
JOTUN
PERFECT BEAUTY
HEALTHY HOME
เพื่อความสวยสมบูรณ์แบบ
พร้อมอากาศบริสุทธิ์ภายในบ้านคุณ
NEW
JOTUN
MAJESTIC
SENSE
เทคโนโลยี ฟอกอากาศบริสุทธิ์
ไร้กลิ่นฉุน
สัมผัสเรียบเนียน หรูหรา
ปกปิดรอย แตกร้าวดีเยี่ยม
SENSITIVE CHOICE
LIVE BETTER WITH ASTHMA AND ALLERGIES