

Joining forces at Gastech 2023



BW LNG
BW LPG
BW Offshore
BW Epic Kosan

Gastech Booth B132
Singapore Expo
5 – 8 September 2023



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01 About BW

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Delivering energy for the world today, and finding solutions for tomorrow.

BW Group is a leading global maritime company involved in shipping, floating infrastructure, deepwater oil & gas production, and new sustainable technologies. Founded in 1955 by Sir YK Pao, BW controls a fleet of over 490 vessels transporting oil, gas and dry commodities, with its 200 LNG and LPG ships constituting the largest gas fleet in the world. In the renewables space, the group has investments in solar, wind, batteries, biofuels and water treatment.

BW Affiliated Companies

BW LNG
BW LPG
Cadeler
BW Epic Kosan
Navigator Gas
BW Solar
Hafnia
BW Dry Cargo

BW Water
BW Offshore
BW Energy
BW Ideol
Corvus Energy
BW Digital
BW Energy Storage Systems

5
FSRUs

29
LNG Vessels

162
LPG Vessels

13
Dry Bulk Carriers

252
Product Tankers

24
Very Large Crude Carriers

6
Offshore Vessels

2
Windfarm Installation Vessels



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03 BW LNG

BW LNG creates floating solutions for LNG to support progress towards a low-carbon society.

[Visit Website →](#)

The world urgently needs to move to a low carbon society. LNG is a part of the solution, and BW LNG creates floating solutions for LNG to support this development.

We are a global company with over 40 years of experience owning and operating LNG assets from offices around the world. After an expansion in the early 2000s which secured us a number of longer-term charters, we now own a fleet of over 30 LNG carriers and Floating Storage and Regasification Units.

We strive to be a true long-term partner for responsible growth, delivering a positive impact for our customers, our communities, our planet, and ourselves, beyond providing competitive solutions for our clients' gas infrastructure and shipping needs.

32
LNG Carriers and FSRUs in our Fleet (inclusive of 4 newbuilds)

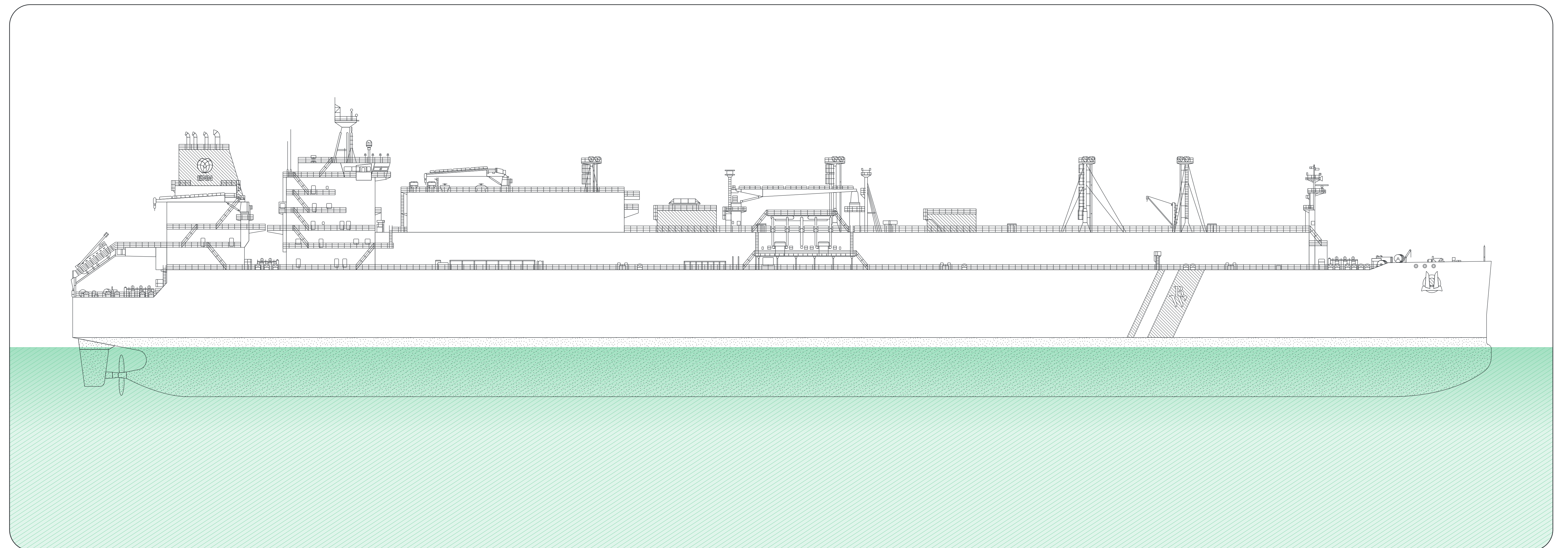
3%
Reduction in CO2 emissions per nautical mile in 2022

9.32%
Improvement in Carbon Intensity (EEOI) in 2022

1641
Employees

30
Nationalities

7
Offices across the Globe





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03 BW LNG

BW LNG creates floating solutions for LNG to support progress towards a low-carbon society.

LNG Shipping

[Read about LNG Shipping →](#)

A global pioneer in next-generation, high-tech greener shipping

At BW LNG, we take pride in the design of our vessels and operational standards to achieve best-in-class safety statistics and environmental performance. Since acquiring our first LNG vessel in 1973, we have a long history on operational excellence, maximising fuel and emission savings.

BW's newest generation ME-GI LNG carriers are equipped with the latest technology to address environmental issues. With an updated hull shape, this is expected to reduce fuel consumption by an additional 4% on a roundtrip voyage and 6% on a laden passage. The vessels are also fitted with the latest ME-GI engines that have much lower methane slip (4 – 8 times less) than other LNG vessels. The engine emits 2.71 tons of CO2 equivalent per hour, contributing considerably less to global warming than vessels with X-DF propulsion. This latest-generation design of LNG vessels results in approximately 5.5% higher efficiency.



Integrated Gas Solutions

[Read about Gas Solutions →](#)

Floating LNG import solutions towards a low-carbon future

Floating storage and regasification units (FSRUs) play a key role in the global transition towards a low-carbon future. Berthed alongside an LNG import terminal, these provide lower-cost, flexible import solutions to strengthen the local gas supply. BW LNG's floating LNG solutions empower people and communities by increasing their access to natural gas and enabling them to be part of the energy transition.

BW LNG owns five out of 48 FSRUs worldwide, deployed in Brazil, El Salvador, Egypt, Pakistan, and the Philippines. The latest one, BW Batangas, will commence her charter of up to 10 years in the Philippines.





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Reducing our Environmental Footprint

[Read about Greener Shipping →](#)

Route and speed optimisation

In addition to regular maintenance of our existing fleet, BW LNG optimises vessel efficiency by ensuring our ships travel on the most efficient routes at the most efficient speeds. Through harnessing technology and meteorological data to conduct weather routing and regular voyage prognoses, BW ensures the scheduling of our fleet is effective and accurate.

In 2020, our weather routing capabilities were enhanced by the addition of the Total Fuel Oil Consumption (TFOC) system. The system provides an algorithmic calculation and calibration of equipment onboard to optimise speed and routes. BW also endeavours to arrive in ports just in time to avoid rushing to arrive, followed by near-shore idling and resultant emissions.

In 2022, BW LNG and its charterer, oil major TotalEnergies, partnered with Nautilus Labs to improve boil-off gas optimisation and voyage optimisation services for the lowest LNG consumption per voyage. The Nautilus platform leverages integrated vessel data to build a ship-specific machine-learning performance model, to determine the optimal speed over ground based on the set ETA and corresponding shaft speed. The platform then estimates the total expected LNG consumption against the reliquefied gas to meet the temperature and pressure arrival requirements.



Safety is our highest priority

[Read about Zero Harm →](#)

Zero Harm to people, the environment, cargo and property

BW is committed to a safe working environment. We do this through a culture of constant communication, active sharing of best practices, learning from near-miss incidents and numerous other safety tools and processes. We aim to ensure that every employee, both onshore and at sea, can work in the safest work environment possible.

Since our Zero Harm programme was introduced in 2013, our Total Recordable Case Frequency (TRCF) has decreased by 80% (2021: 55%) and the Lost Time Injury Frequency (LTIF) has decreased by 82%. Even as we focus on prevention, we remain committed to emergency response preparedness. In collaboration with external stakeholders such as our Qualified Individuals (QI), P&I Clubs and crisis communications agency, we conduct regular drills to stress-test our processes, train crew and colleagues, and refine our response as a team. In 2022, we conducted several drills with scenarios of allision (contact with a stationary vessel), oil spills, suspicious craft (piracy), as well as Covid-19 response.





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04 BW LPG

BW LPG is the world's largest owner and operator of Very Large Gas Carriers (VLGCs).

[Visit Website →](#)

BW LPG is the world's leading owner and operator of LPG vessels, owning and operating Very Large Gas Carriers (VLGCs) with a total carrying capacity of over 3 million cubic metres (CBM). The company transports LPG safely and sustainably to world markets, using its scale and maritime expertise to help propel the world's transition towards cleaner energy.

With five decades of operating experience in LPG shipping and experienced seafarers and staff, BW LPG offers a flexible and reliable service to customers. BW LPG uses its global footprint to champion competitive, sustainable solutions to secure enduring value for its stakeholders and society. From spot voyages and time charters to Contracts of Affreightment (CoAs), BW LPG's flexible and reliable service has earned the trust of leading oil companies as well as trading and utility companies.

The company is headquartered in Singapore and listed on the Oslo Stock Exchange under the ticker code BWLPG.

BW Group owns 40% of the shares in the company.

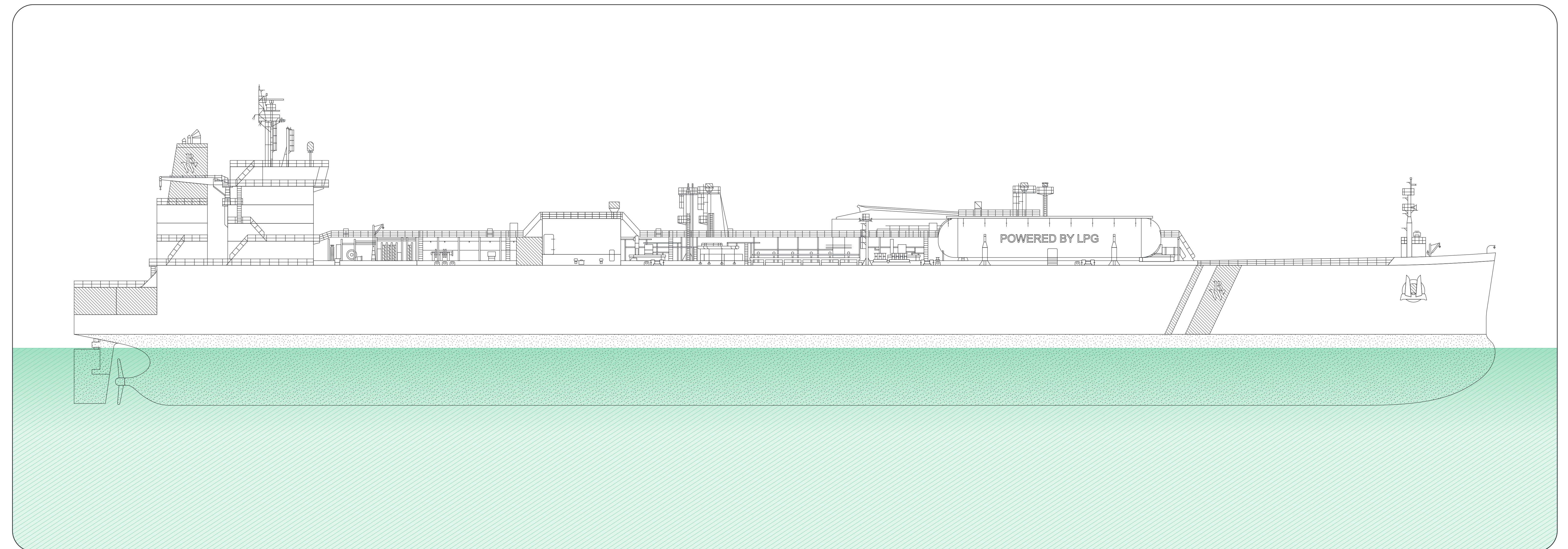
46
Very Large Gas Carriers (VLGCs)

3
Million CBM Capacity

50+
Years of Operating Experience

7.6
AER (Grams of CO₂ /
tonne-nautical mile)

2000+
Employees and Crew





04 BW LPG

BW LPG is the world's largest owner and operator of Very Large Gas Carriers (VLGCs).

LPG Dual-Fuel Propulsion

[Read about LPG propulsion →](#)

Making a power move on climate change

We invest significant resources in R&D and technology to drive energy efficiency and reduce emissions to air. One of our most significant initiatives is to pioneer the use of LPG dual-fuel propulsion engines. LPG is a long-term sustainable marine fuel, and LPG propulsion has significant environmental, economic and operational benefits.

Owning and operating these vessels grounds our decarbonising efforts, and ensures we provide stakeholders with an ambitious but practical decarbonisation roadmap towards a zero-carbon future. As we navigate our way forward, our LPG-powered vessels ensure we are well-placed for the markets now, where against a background of new and increasingly stringent regulations, we continue to serve customers without the need for speed reductions or equipment upgrades.

We will continue to evolve to meet the needs of global trade, and offer safer, more efficient and environmentally friendly vessels, to deliver cleaner energy to world markets.



Sustainability

[Read our Integrated Annual Report →](#)

Towards a Better World

What drives us to do what we do? A vision to be Best on Water. A purpose of working towards a Better World. A conviction that LPG is part of the solution for global energy security as we transition towards a zero-carbon future.

As a company, our vision and purpose remain steadfast, but our definition of success has expanded. To be successful, we must perform to meet stakeholder needs in the present, and ensure long-term profitability and sustainability of our business. As we grow and protect our long-term profitability as a business, we will act for the environment, make a positive impact on society, and uphold responsible and transparent business practices.

LPG is a cleaner-burning fuel that can help meet the world's energy needs while addressing concerns on climate change. As we continue to pursue good shareholder returns to ensure the sustainability of our business, we also act to ensure the sustainability of the planet.





04 BW LPG

BW LPG is the world's largest owner and operator of Very Large Gas Carriers (VLGCs).

BW LPG India

[Visit our Website →](#)

India's largest owner and operator of Very Large Gas Carriers

India is the world's second largest importer of LPG, and long-term demand trends together with strong government support for the use of LPG are expected to sustain growing domestic demand. Significant infrastructure investments into new pipelines, port expansions and storage facilities have encouraged high LPG imports. The country's investments in propane dehydrogenation plants also bodes well for potential LPG import demand for the petrochemical sector.

Since our establishment six years ago, BW LPG India has grown to become India's largest owner and operator of VLGCs, and we aim to be our customers' preferred shipping partner with our strengths. Our fleet is Indian-flagged and Indian-operated to facilitate business transactions in alignment with the Atmanirbhar Bharat scheme (translated as domestic self-reliance). We added ~400,000 MT to Indian shipping with our fleet which carries approximately 20% of LPG imports into India, and commands approximately 30% share of the time-charter market. Vessels in BW LPG India are maintained to the highest standards and can trade internationally, and are managed by Synergy Ship Management, a leading ship manager.

As the team grows its presence in India, it also commits to uplift communities. Initiatives include scholarships for female cadets from the Indian Maritime University to encourage women to join the shipping industry; support for ProtoVillage, a local organisation improving rural resilience in India; and support for Nourishing Schools Foundation as they empower children to take charge of their nutrition and health.



BW Product Services

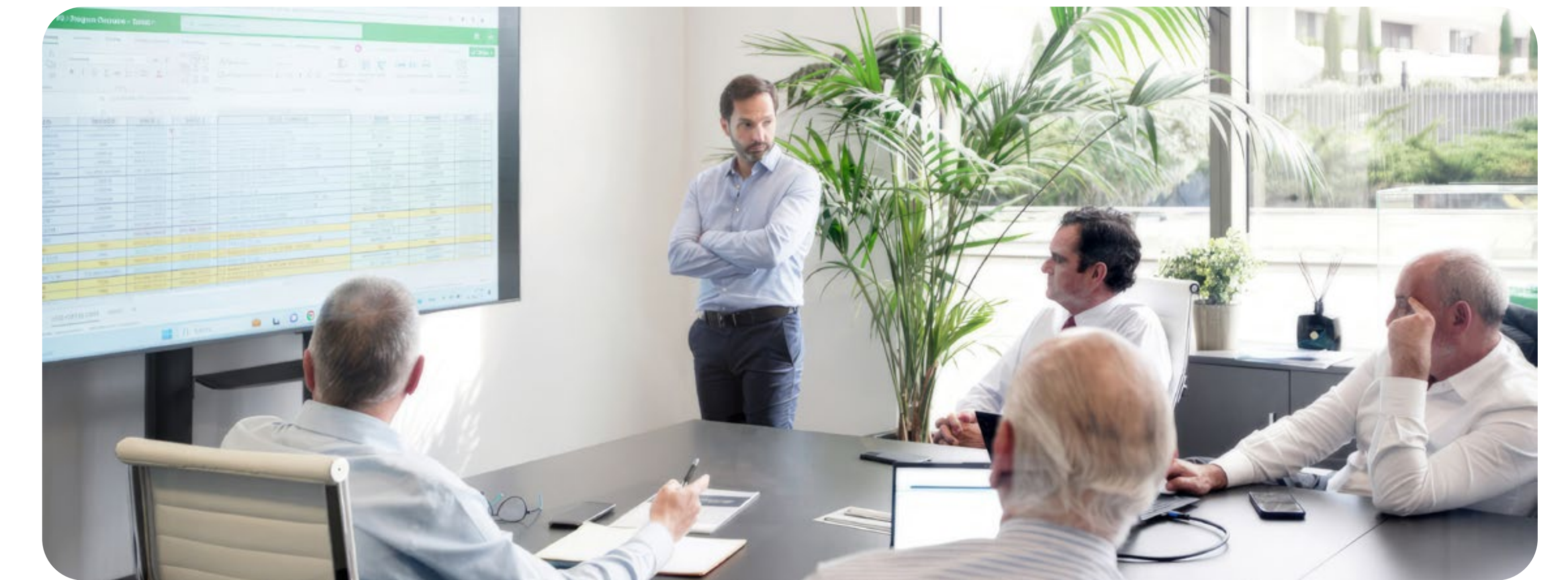
[Visit our Website →](#)

In-house trading expertise at BW LPG

BW Product Services is the in-house trading division of BW LPG. The team provides customers with reliable, integrated LPG delivery services, by purchasing LPG and offering it delivered directly to buyers and receivers. Through years of operating and trading experience, we have built a strong network in and a deep understanding of the LPG industry. We trade LPG worldwide, sourcing cargoes from the US and Middle East and deliver cargoes to key import markets. We currently have offices in Singapore, Madrid, Oslo and the US to provide global coverage for our customers.

Our combination of shipping, derivatives and market analysis allows us to respond quickly to changing dynamics and seize market opportunities while operating within disciplined capital requirements and defined risk thresholds. The Far East will remain the highest consumer of LPG for retail demand, with China accounting for most of the demand. The Middle East is a key growth area for gas plant production – as new projects come onstream around 2025 / 2026, they maintain the region's dominance as a key LPG supply source for India and Asia markets.

At BW Product Services, we work with leading trade finance banks. Key partners include Banque Cantonale de Genève (Switzerland), BIC-BRED (Suisse) SA (Switzerland), BNP Paribas (Singapore), Credit Agricole Corporate and Investment Bank (Singapore), Citibank N.A. (Singapore), OCBC Bank (Singapore) and Societe Generale (Paris). Read more about how BW Product Services is supporting customers with market insights, operational flexibility and maritime expertise.





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05 BW Offshore

BW Offshore engineers innovative floating production solutions to progress the future of energy.

[Visit Website →](#)

We are committed to contributing to the energy transition by developing low-carbon offshore energy production solutions.

We have a fleet of core FPSOs, and our goal is to create tailored energy solutions for evolving global markets.

With more than four decades of experience in operating advanced offshore production systems and executing complex projects, we have cultivated a culture of thorough engineering, trust and teamwork throughout the organisation.

We have an extensive track record of project execution and operations, as well as a robust balance sheet and strong financial capabilities. BW Offshore has executed 40 FPSO and FSO projects.

BW Offshore have main offices in Singapore and Oslo and are listed on the Oslo Stock Exchange under the ticker code BWO.

BW Group owns 49.9% of the shares in the company.

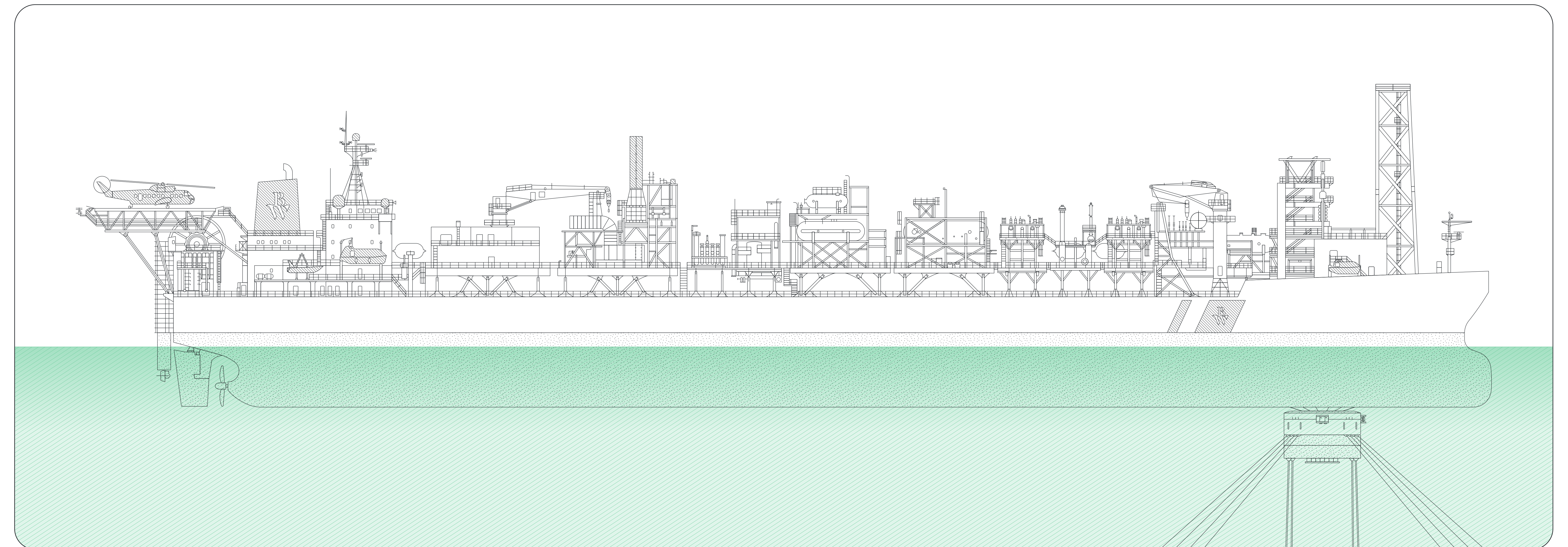
6
FPSOs

40
Executed Projects

1500+
Employees

54
Nationalities

0.22
LTI Rate





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05 BW Offshore

BW Offshore engineers innovative floating production solutions to progress the future of energy.

Progressing the Future

Building a large gas FPSO

Watch videos of RapidFramework® and other concepts →

In 2021, BW Offshore signed a contract to build an FPSO to be operated on the Barossa gas field, which is located 300 kilometres offshore Darwin in northern Australia.

The unit for the Barossa gas field will be a large FPSO with processing capacity for up to 800 million standard cubic feet per day (MMSCFD) of gas and design capacity of 11,000 barrels per day of stabilised condensate. The FPSO will be turret moored with a newbuilt hull based on BW Offshore's RapidFramework® design.

The innovative Rapid Framework® concept is based on experience from the development of the Catcher FPSO in 2017, allowing for concurrent hull construction and topside integration by removing interdependencies during construction phase. The robust design can accommodate the most advanced topsides. For Barossa, the topside weight is expected to be approximately 35,000 tons.



Safe, Sustainable and Highly Efficient

Sustainability at BW Offshore

Download our Sustainability Report →

BW Offshore aspires to achieve sustainable development by striking a fair balance between value creation, sustainability, financial results and corporate responsibility. At every stage of every process, a systematic approach to risk management is taken, to identify, assess and mitigate these risks.

BW Offshore takes part in a value chain providing safe and affordable energy supply – an important factor for economic growth in both developed and developing economies.

We have an established framework for risk management, ensuring safe and effective operations by adhering to a Zero Harm policy and by minimising environmental impact and unnecessary use of resources. As a responsible and inclusive employer, BW Offshore makes a positive contribution to local job creation and development.





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05 BW Offshore

BW Offshore engineers innovative floating production solutions to progress the future of energy.

New Ventures and Technology

[Read more on our Website →](#)

Building a substantial and growing position in offshore renewable energy infrastructure

BW Offshore is committed to contributing to the energy transition by developing low-carbon offshore energy production solutions. We are applying four decades of experience in the energy sector, with extensive innovation and financing capabilities, to develop floating energy solutions and offshore renewable power production at industrial scale.

Political and financial commitments to reducing the carbon intensity of global energy systems continue to gain momentum, using solutions such as floating wind, hydrogen, ammonia and carbon capture.

For us, this includes combining existing FPSO and floating wind capabilities to develop and deploy clean offshore energy production and develop new adjacent business areas. These may include low-carbon FPSOs powered by floating wind or floating gas-to-power plants.

BW Offshore are looking into several areas of renewable energy that fit well with our existing business of operating FPSOs, and where we believe we can leverage already existing capabilities within our organisation.



Working at BW Offshore

[Read more on our Website →](#)

We welcome and foster a culture of creativity and curiosity

We work as a team, but we look after you individually. We create opportunities for personal growth and career advancement within the organisation. We value our people and want to make you feel valued. We are here, to support and encourage you, every step of the way.

The values are called We LEAD with Integrity, which emphasise our core value of collaboration to achieve excellent results without ever compromising our integrity. The goal is to empower people in all parts of the organisation to take ownership, identify solutions, drive results and be leaders in their own right.





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06 BW Epic Kosan

BW Epic Kosan is a world leader in last-mile delivery of LPG and other speciality gases and petrochemicals.

[Visit Website →](#)

BW Epic Kosan owns and operates the world's largest fleet of gas carriers providing seaborne services for the transportation of liquefied petroleum gas and petrochemicals. The Company controls a fleet of over 60 vessels which serve the international supply chains of leading oil majors and commodity traders throughout Asia, Europe, Africa, and the Americas.

The Company has significant commercial and technical capability across pressurised, semi-refrigerated, refrigerated gas and petrochemical transportation, and aims to deliver customers the best solution for their transportation needs, along with leading service and operational standards.

BW Epic Kosan is headquartered in Singapore, with Copenhagen as a regional office alongside offices in London, Manila, and Tokyo. It is listed on Euronext Growth Oslo under the ticker code BWEK.

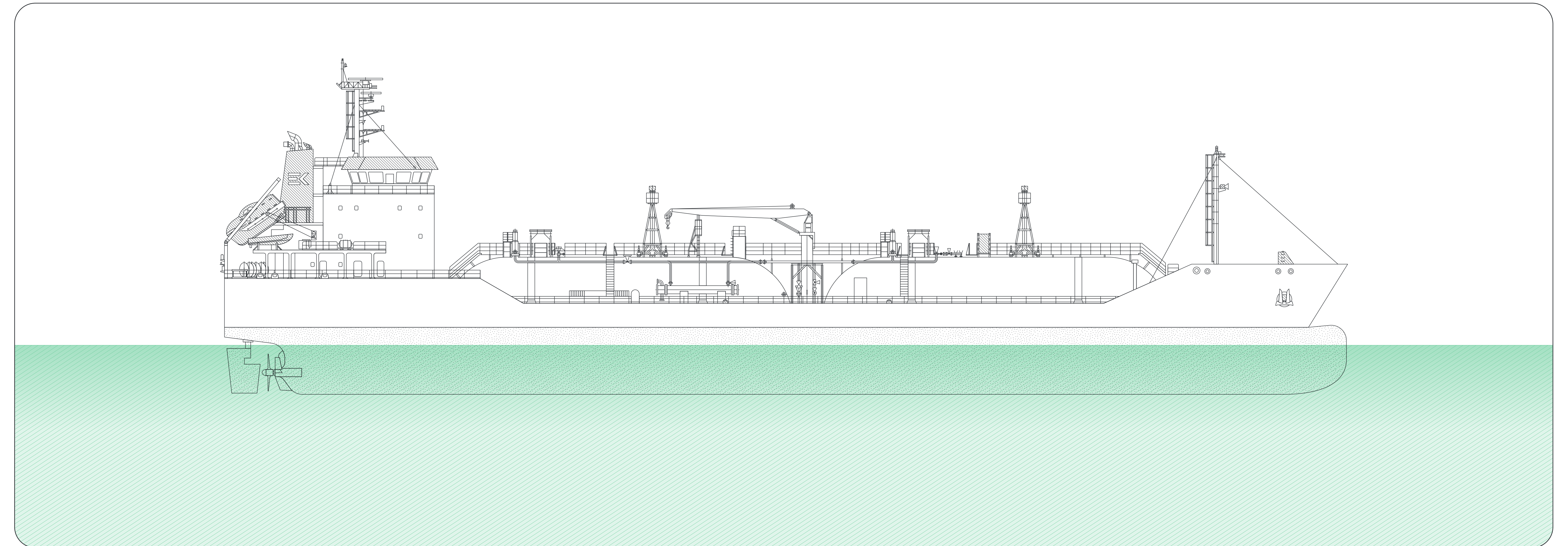
BW Group owns 58% of the shares in the company.

63
Gas Carriers

2.8%
CO2 Reduction (vs 2018)

>2.6k
Cargo Operations (p.a.)

400
Ports around the World



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06 BW Epic Kosan

BW Epic Kosan is a world leader in last-mile delivery of LPG and other speciality gases and petrochemicals.

Shipping for Carbon Capture and Storage

[Read more on our Website →](#)

Complementary to pipelines for long distances and challenging terrains

Most efforts to achieve international climate goals include carbon capture and storage initiatives. CO2 storage sites are often far away from producers – with a need to move an estimated 90 million tons of CO2 annually to storage sites by 2040, linking CO2 producers with storage facilities will be increasingly important. While the majority of CO2 will be transported by pipelines, this may not be possible or suitable for all locations and distances. This is where shipping can play a complementary role.

At BW Epic Kosan, some of our specialized vessels can already be adapted to carry CO2. These smaller vessels provide optimal flexibility and accessibility, and are oftentimes the “right size” for CO2 transportation: one vessel can carry 10,000 tonnes of CO2 which is equivalent to 10 days of CO2 output from a large cement plant. We are also working with partners on much larger vessels where longer-haul shipping requirements are more likely. In addition, we have the knowledge and experience to build new cargo-flexible, low-emissions vessels. An existing vessel can be converted to be CO2-ready within a few months, and a dual-fuel newbuild will be ready within two to three years.

Our long-standing heritage of transporting LPG, specialty gases and other petrochemicals safely and with the highest operating standards position us well to be a shipping partner of choice for CO2 transportation.



Towards Zero-Carbon Shipping with Ammonia

[Read more on our Website →](#)

Paving the way for Ammonia-powered vessels

Ammonia has been identified as one of the leading potential zero emission fuels as it can be produced from renewable electricity and is already produced in large quantities in the Nordic countries. However, ammonia-powered vessels present a number of challenges from the technical, safety, fuel supply and commercial viability fronts – all of which must be overcome before the promise of ships running safely on green ammonia can become a reality.

The Nordic Green Ammonia Powered Ships (NoGAPS) project was launched in 2020 and it aims to pave the way for ammonia-powered vessels first in the Nordic region, and then globally. Consortium partners in this project includes BW Epic Kosan, DNV, Global Maritime Forum, Mærsk Mc-Kinney Møller Center for Zero Carbon Shipping, MAN Energy Solutions, Wärtsilä and Yara.

In June 2023, Classification society DNV awarded NoGAPS an Approval in Principle (AiP) for the design of the M/S NoGAPS, an ammonia-powered vessel. The design addressed challenges identified in the initial NoGAPS project, including safety during operations, optimal tank sizing and placement, and energy efficiency. BW Epic Kosan is the vessel owner of M/S NoGAPS, and looks forward to the next phase of the project where paper will be turned into steel – where a shipyard tender will be held for the construction of the vessel.





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Sustainability at BW Epic Kosan

Our first stand-alone Sustainability Report

[Download our Sustainability Report →](#)

As a market-leading owner and operator of vessels engaged in the global delivery of cleaner energy, BW Epic Kosan recognises the need to enhance its environmental, social and governance performance. Our ESG vision is to provide safe and sustainable seaborne transportation of gases in a lower-carbon world. We are focused on long-term economic performance, built on strong business ethics, and invest in our people through training and development to ensure good health, safety and security.

In 2023, we present our first stand-alone Sustainability Report. It highlights our sustainability approach and governance, showcasing performance and progress in the context of activities relating to environment, social and governance ('ESG') considerations. Through the Report, we share our commitments to achieving our sustainability goals and hold ourselves to transparent reporting standards.

The maritime industry is undergoing a transformative period to decarbonise. We are committed to achieving the IMO targets. We have several measures in hand, including fleet renewal to reduce carbon intensity, adopting innovative efficiency technical retrofits, and voyage optimisation with weather routing and just-in-time arrivals. Because holding ourselves to the highest ethical standards is both a business and moral imperative, and our stakeholders expect us to conduct our business responsibly.



The BW Epic Kosan Difference

The world needs clean energy – are you ready to take on the challenge?

[See our vacancies here →](#)

At BW Epic Kosan, we offer exciting and rewarding career opportunities to bright and ambitious people, who have the skills and determination to succeed in a career at sea and ashore.

Across our offices in Singapore, Copenhagen, Manila and Tokyo, we have approximately 185 employees, whilst about 1,400 seafarers of different nationalities work onboard our vessels. We consider our workforce to be our greatest asset.

We attribute our success to our approach of developing and retaining people who are among the best our industry has to offer. We are as interested in your attitude and motivation, as the knowledge you have today. We place great emphasis on providing learning opportunities and maximising prospects for our staff to progress within the company. We invest in your career rather than just provide you with a job.





07 Contact

Contact us for more information on BW Group or our Affiliates.

BW Group

BW Group is a leading global maritime company involved in shipping, floating infrastructure, deepwater oil & gas production, and new sustainable technologies.

Contact

communications@bw-group.com

Website

bw-group.com

BW LNG

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Contact

communications@bw-lng.com

Website

bw-group.com/our-businesses/bw-lng

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Contact

communications@bwlpg.com

Website

bwlpg.com

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Contact

contact@bwoffshore.com

Website

bwoffshore.com

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Contact

ir@bwek.com

Website

bwek.com