

Shipping in Shell



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Shipping is the world's most environmentally friendly, cost effective and efficient means of transporting goods and people, per tonne mile

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Shipping Today

The Energy Challenge

The shipping of oil liquids and natural gases is vital to maintaining energy security, particularly in regions where indigenous resources cannot keep up with demand for power and mobility. Equally, oil and natural gas exporting countries depend heavily on shipping to honour their contracts with importers.

Many companies – including Shell – are investing to develop alternative and renewable sources of energy. But oil and gas will remain very important in the energy mix to 2050 and beyond. During that time, about three million more consumers will be added to the world's population.

And living standards in fast-growing, highly populous economies such as China and India are expected to see dramatic change. The global economy and global energy consumption will undoubtedly continue to fluctuate, but the underlying trend in energy use will still be up – and so will demand for shipping.

The 12,000 tonne oil products tanker Achatina in heavy seas.

The challenges ahead

Meeting the increased demand for energy presents shipping with quite a challenge. There are challenges on other fronts as well.

Environmental and regulatory requirements for shipping are becoming more demanding. For oil and natural gas shipping, these are

compounded by the ongoing shift of operating locations into more extreme climates (such as 'big ice') and the inherent risk that shipping carries compared to most industries. Additional hazards – from extreme weather events to piracy – give shipping a unique risk profile.

Did you know?

- More than 90% of global commerce is conducted through shipping. The industry is one of the world's largest employers, with about one and a quarter million seafarers and many more on land.
- Each year we undertake more than 100,000 cargo transfer operations – almost 12 an hour – and generate an annual freight bill of more than \$2 billion.
- Shipping in Shell is about reducing and managing risks. It's about achieving and delivering the highest standards of governance, health, safety, security of supply and environmental performance, and working with international bodies to promote industry standards. It's about combining and deploying the right technologies, and giving the most appropriate advice for each business, project and location. It's about supporting our colleagues across Shell and playing our part in delivering the group business strategy of "more upstream, profitable downstream."



Shell Shipping

Managing the risk from our operations

Shell Shipping leads the way in the mitigation and control of marine pollution risk

Oil spills present serious risks to any oil and gas company – risks of injury to people, damage to the environment, reputation, business disruption, and more.

Shell's Multi-business Oil (and Chemical) Spill Advisory Group (MOSAG) began life as a committee of representatives from Shell's various global businesses. They established a set of guidelines to help businesses prepare themselves adequately against oil spills. However, communication and enforcement of those guidelines was hampered by lack of a central responsibility for them – until Shipping employed a full time dedicated staff to coordinate all MOSAG activities and provide Shell with a global resource for oil spill preparedness.

MOSAG works with group HSE, the International Department, group Crisis Management and the Country Chairs. The MOSAG website on Shell's intranet provides a one-stop shop for all oil spill preparedness issues across the group.

The requirements for oil spill preparedness that have been developed by MOSAG and communicated across the businesses are now mandatory, included in the Shell Global Environmental Standard. MOSAG continues to develop tools to give businesses more accountability for their oil spill preparedness, provide advice, train and run contingency exercises involving internal and external stakeholders.



Shell Shipping

The Shipping Network

The Shell Shipping organisation is based in London, with specialist centres in Houston, The Hague, Singapore, Perth and Tokyo - networked to maritime professionals across the globe. Offering high level expertise and decades of experience, we provide group businesses and operations with an unmatched and vital resource.

Shell Shipping's work supports many of Shell's success stories: For example, in liquefied natural gas (LNG), and in marine elements of floating production and storage systems. Shell Shipping enables the Trading organisation to deliver safely on its contracts.

We safeguard Shell's standards and reputation regarding maritime safety, environment, vessel quality assurance, oil spill preparedness, port and berth assessments, and emergency management.

We carry out audits as a governance assurance process for all group businesses with exposure to maritime activities and shipping.

“There are few jobs where you have an opportunity like this to make such a difference to the success of the whole business.”

Did you know?

- Shell started as a shipping company, bringing exotic sea shells and then kerosene from the East to Europe in the late 1800s.
- Shell is the largest charterer of oil tonnage in the world. In addition, we manage our own large fleet of oil and gas tankers.
- LNG cargoes have been delivered safely from Shell and joint venture operations for over 40 years.
- In the last decade, we successfully completed 450,000 million tonne sea miles of LNG transportation.
- Around a quarter of the world's LNG carriers are linked to Shell and our joint venture partners.
- We work with shipping agents in about 250 ports.
- About 3,500 seafarers work for us.
- We train LNG seafarers around the world.
- Our ship inspections – around 4,700 in 2008 – help to continually assure standards in the industry.

Global experience

Consultants from Shell Shipping have provided advice on complex technical port and ship projects in over 40 countries since 2005.

We work with government organisations, design and construction companies, and a myriad of the world's tanker owners.

Shell Shipping is an active partner in industry bodies such as the Oil Companies International Marine Forum (OCIMF), the

Society of International Gas Tanker Owners and Terminal Operators (SIGTTO) and the International Petroleum Industry Environmental Conservation Association (IPEACA) in order to establish the right framework for international operations and government representation. We see collaboration as the key to dealing with the challenges our industry faces – for example, around carbon, sulphur and nitrogen oxide emissions, double hull use, tank cleaning or inspection systems.





Trusted advisers

Since the end of 2006 Shell and Nakilat Shipping (Qatar) Ltd., a wholly owned subsidiary of Qatar Gas Transport Company Ltd. (Nakilat), have operated a formal agreement whereby Shell provides shipping and maritime services to Nakilat's fleet of 25 new-build LNG carriers, currently the largest in the world.

Under the agreement Shell Shipping provides a full range of services, including staff recruitment, training and operational management of all the vessels.

The intention of the agreement is to develop Nakilat's shipping expertise, so that operational management of the ships can be transferred to Nakilat 8-12 years after delivery of their last vessel.

Establishing a world-class LNG shipping operation in this way is a vital element in Qatar's strategy to lead the world in LNG production.

What we do

The organisation

Shell Shipping is not just about ships, our services span four key areas.

On the **Commercial** front, we give strategic and economic advice, including business case development and market analysis for chartering and tendering fit-for-purpose vessels. This includes assisting local downstream operations through the whole process of chartering small ships and barges; currently in this area we control expenditure of about \$500 million covering 150 vessels.

Our **Nautical and Technical** services include advice on a wide range of nautical, marine engineering and technical issues across the project life cycle, for new projects, construction phases, operational excellence and disposal. Risk management and project management are particular Shell Shipping strengths. We bring a wealth of expertise and experience related to vessel terminals and ports to each project.

Standards and Governance constitute key Shell values and are foremost in Shipping's priorities. We provide independent assurance of shipping standards, and advise on governance of maritime activity. Through HSE advice and hazard analysis, vetting and clearance-for-use services, we help Shell companies trade safely and efficiently. Our processes for oil spill and emergency preparedness and response place Shell in a very strong position if there is an emergency.

Vessel Management services provided by Shell Shipping cover the manning and operations for tankers and gas carriers owned or leased by Shell companies, joint ventures and third parties who are connected to other Shell businesses.

The naming ceremony of China LNG's Dapeng Sun.

How Shell Shipping helped China construct their first own-built LNG carrier

China's first own-built LNG carrier, the Dapeng Sun, was successfully named and delivered from the Hudong-Zhonghua shipyard in Shanghai in 2008. Shell Shipping was involved in the conceptual design, plan approval, and construction activities. We also acted as the owner's technical adviser from the beginning of construction in 2004 to delivery.

The vessel is the first of five sister vessels to be constructed at the shipyard. It will operate between Australia and China, supplying 3.3 million tonnes a year to a Chinese buyer consortium. The second sister vessel, the Dapeng Moon – also overseen by Shell Shipping – was delivered three months later.



What we do

Providing maritime expertise to group businesses



Setting the standards for ship recycling

Traditionally, the industry has beached old ships on the shorelines of developing countries, after which they were dismantled by local workforces without adequate safety equipment.

When the tanker Estrella Pampeana reached the end of a trading life that spanned some 27 years, the most responsible option for disposal was to

break the ship into her constituent parts and look to re-use as much as possible elsewhere.

Shell Shipping guided the process of preparing the Estrella Pampeana for disposal, working with the vessel's owner Shell Compania Argentina de Petroleo in transporting the tanker and handing it over safely to the Changjiang Ship Breaking Yard in China.

My morning – a Marine Technical Advisor in the Côte d'Ivoire

"As I arrive at the office about 7.30 am, the phone is already ringing. There is an urgent requirement to inspect a barge in Nigeria: The operations manager needs to check that the barge can be used; if we don't check there could be HSE implications as well as to our reputation if things were to go wrong, and our relationships with both the government and the community, as well as disruption to the business. I give him advice and promise to call by in the afternoon once I've checked out industry data on the barge."

"I start to read my email and the phone rings again. This time it's the waterfront manager from the local port authority, to request an appointment next week to discuss some plans she has received. This project is a big investment locally, and she is keen to incorporate an oil company perspective as well as making sure that standards are up to the expectations of the users of the port; the government is hoping to attract more business by improving the local facilities."

"Mid-morning, I join a telephone discussion group with the other Marine Technical Advisers in Africa. It's part of a regular communication programme to ensure that

we all know what is going on and what the priorities are – there are only 4 of us to cover the whole of Africa so the workload can be huge and needs managing. I lead the discussion about providing support to an oil industry safety seminar in Morocco. It's agreed that I will represent Shell at the event. Better book my travel straight away."

"By lunch time, I'm ready to start work on my next project – two new tankers are going to be chartered by Shell Cape Verde and I need to make sure that the ships are going to be suitable and that the team in Cape Verde is ready to operate the ships. It's never dull here!"

What we do

Customer connectivity

Shell Shipping engages in extensive **communication**. Our prime objective is to be the guardian of the group's maritime activity, so it is incumbent on us to communicate all maritime matters within and across the group.

Our **connectivity** with different customer groups in Shell focuses on the aspects of their business where we can add most value. In Exploration and Production, for example, our relationships encompass projects and logistics on both a regional and a global level. We work with our Gas and Power colleagues on multiple projects including port developments and freight trading of their LNG ships. In the downstream, we collaborate with organisations such as Manufacturing, Supply and Distribution and Shell Marine Products to support the safe management and shipment of a whole range of products such as bitumen, lubricants and chemicals.

Our **technology** experts include master mariners, naval architects, marine engineers and electrical engineers. We are involved in projects ranging from design, conversion and disposal to port and terminal projects and operations. We focus on delivering robust, cost effective solutions appropriate for each set of requirements and constraints.

A core part of our strategy is **skillpool development** to meet Shell's maritime and shipping needs. A key aim is to maintain a pipeline of experienced marine professionals who can easily fit into Group operations around the world. As part of this

skillpool activity we support local and regional businesses to maintain maritime expertise. In the area of vessel management we support localisation and have helped, for example, Brunei and Nigeria in their successful programmes for the training and development of their own staff.

A refuelling barge in the Houston Shipping Channel.

Did you know?

- We have more than 75 maritime experts, offering technical and operational guidance to Shell businesses across the global regions.
- We provide category management services for the chartering of more than 350 vessels by the downstream businesses.
- Our Maritime Services team carries out more than 300 Shell and third party terminal and maritime facility inspections each year.
- We conduct around 40 Shipping Marine Business Reviews each year, leading to assisting the close-out of more than 450 review findings and action items.



What we do

Technical project excellence

Shell has been involved in the building and conversion of floating production, storage and offloading units (FPSOs) since the 1960s.

Converting an oil tanker into an FPSO in particular is a major piece of work which involves evaluating the structural strength and making modifications to the hull to ensure that it is capable of operating in the offshore environment.

We deal with commissioning, sea trials, integration and construction to make sure the right equipment is in place and make sure it works.

Our technology experts include master mariners, architects, naval engineers and surveyors. We are involved in projects ranging from ship design, conversion or disposal to port and terminal facility projects and operations, and floating production and storage systems for oil and gas.

We focus on identifying and deploying the right technologies to deliver robust, responsible solutions for each set of requirements and constraints.

Making connections

The journey of the floating production, storage and offloading vessel (FPSO) for the Bonga field began half a world away in Korea. The hull constructed there was then towed to Newcastle in the UK for fitting-out before finally being towed to site offshore Nigeria.

Shell Shipping connected with many parts of the Exploration & Production business and played an important role in many stages of the project, from hull design and construction, through float-out and towage, to onsite hook-up and operational start-up.

Shell Shipping

Our values

Standards provide the foundations for safe and efficient operations. Shell Shipping's standards are generally those of the industry and we continually work with industry bodies to develop guidelines and systems for ensuring safe shipping activity.

Health, safety, security and environment are of paramount importance – not only to ensure we don't injure anyone or do any damage while oil and gas is kept moving, but also to retain Shell's licence to operate and underpin our reputation as a responsible company committed to sustainable development of the world's resources. Working with industry bodies, our business partners, governments and neighbouring communities, we are engaged in a constant improvement effort.

Carbon management is essential to counter the climate change implications of the world's increasing energy use. While shipping in

general contributes only a small proportion of the global emissions total, there is still a contribution this sector can make to improving the global outlook. We support developments to achieve more accurate measurement of shipping emissions, and look for ways to reduce our own operational impact through energy efficiency, equipment specification, and more.

Security can be difficult to maintain in today's geopolitical and commercial climate. In Shipping we collaborate with private and public bodies across the spectrum in order to develop and deploy robust systems for security management.

Comprehensive hazard analysis and a holistic view lie at the heart of our approach to anticipating and managing any challenging situation – whether it is preparing the ground for a new project, overseeing day-to-day operations, or dealing with an oil spill or an act of piracy.

“Concerns about protecting the environment touch on every aspect of shipping operations, including the prevention of oil spills, ballast water management, ship recycling and emissions.”

Inspecting the main engine gearbox's gears onboard the 137,000 cubic metre LNG carrier Sokoto



Shell Shipping

How we work

Commercial Shipping focuses on supporting Gas & Power, EP and Downstream projects.

Ship Management has the expertise in managing our vessels and work for our partners, security, crisis management, procurement and port relationship matters.

Shipping Technology provides specialist knowledge and experience ranging from shipbuilding and conversion to floating systems and beyond.

Shipping Standards delivers an assurance service to the group businesses as well as shipping related standards advice and learning programmes.

Maritime Services works with Downstream, Gas & Power and Exploration & Production operations to ensure the businesses' compliance with group standards, and to develop strategies and systems for operating units.

Shipping North America takes care of portfolio management, quality assurance and port and terminal safety for US and Canadian entities.

Nakilat UK collaborates with Qatar Gas Transport Company, managing shipping services and the ongoing transition of ship management to Qatar.

Strategic Planning deals with long term strategy development, business planning, business integration, and communications, including reputation management.

Security Consultancy is responsible for regional security initiatives, security relationships and navy liaison.

Human Resources offers services around recruitment, development, retention and succession planning.

Legal has expertise ranging from contract development to incident resolution, providing support through disputes and the court process if necessary.

Finance provides a comprehensive range of services including tax advice, treasury, credit and debtor management, management information and planning.

Communications. The Communications team provides internal and external communications expertise, including issues identification and management, media relations, key messaging and crisis response strategy development.

