MARPOL 2020 and beyond
Who we are
We are a global energy business, involved in every aspect of the complex energy system that drives our world. Almost 75,000 BP people work day and night to serve millions of energy customers. Thanks to our reach and incredible human resources, we are one of only a very few companies equipped to deliver light, heat and mobility on a global scale.

What we do
We operate in more than 70 countries worldwide. We find and produce oil and gas on land and offshore. We move energy around the globe. We manufacture and market fuels and raw materials used in thousands of everyday products.
In 1973, the International Maritime Organisation (IMO) agreed a series of measures to prevent pollution from marine and shipping operations (MARPOL Convention). The Convention was modified in 1997 to address sulphur emissions from ships by introducing a global cap on the sulphur content of marine fuel oil and an additional limit in specific waters, referred to as emission control areas, or ECAs.

The sulphur limit in marine fuels has been reduced over time for both the global limit and within the ECAs. The next step change will reduce the global cap on sulphur content for general shipping from 3.50%wt to 0.50%wt from 1st January 2020. This is commonly referred to as MARPOL 2020. Implementation of this latest stage of the MARPOL Convention will re-shape the marine fuels landscape.

Fuel availability has become a common concern amongst vessel owners. We believe that the refining industry has the capability to supply sufficient low sulphur fuels to meet global bunker demand. Recent and ongoing investments have increased the capacity of fuel oil upgrading units globally. While local refinery systems may not always produce enough fuels to satisfy local bunker demand in 2020, disparities in supply and demand exist today and are balanced by an active and efficient global freight market.

BP expects over 90 percent of the global bunker market to comply with the 2020 sulphur cap as non-compliance creates significant risks. The IMO is developing guidelines for enforcement that are expected to make non-compliant bunkering operations traceable for several years. Non-compliance could result in fines, increased inspections in port and restrictions to operations for vessels, flag states and port authorities.

Instability can be introduced during the blending process and as a result of commingling incompatible bunkers on board vessels. Vessel owners will need to prepare for increased bunker segregation, in line with standard procedures, to minimise the associated risks and work closely with their bunker suppliers to purchase compatible fuels.

All marine fuels supplied will be required to meet the International Convention for the Safety of Life at Sea (SOLAS) requirements to be compliant, and indeed legal. Suppliers are contractually bound to supply compliant fuels. Buyers should continue to purchase fuels in line with ISO 8217 to ensure they receive on specification products. Quality fuel suppliers will ensure they are fully prepared to supply safe and compliant fuels on 1st January 2020.

BP supports the reduction in air pollution from ships that the global sulphur cap will bring. We are actively working to reduce uncertainty by supporting our partners across the industry to prepare for a low sulphur future. We will be attending and speaking at industry events leading up to 2020 in order to understand the concerns of our partners and build a response plan that meets their needs. We have a detailed test programme to ensure the fuels we supply meet the requirements of the regulation and maintain our reputation as your trusted fuels supplier.

We will bring our heritage, expertise and global scale to help our customers plot a route to 2020 and beyond.
The implementation of MARPOL 2020 will see the marine fuels landscape change significantly. Over 95% of the current market will be displaced. Vessel owners will have several options when selecting compliant marine fuels under MARPOL 2020.

**VLSFO**
- VLSFO will be a new fuel option available in 2020.
  - As most VLSFO available will be blended, stability and compatibility will be key considerations.
  - Economic incentives are expected to drive increased use of VLSFO over time.
  - As a distillate component, MGO is likely to be the most expensive option, with additional lubricant requirements.

**MGO**
- The most familiar fuel option, MGO is widely available and operationally tested.
  - No fuel switching will be required. MGO can be used globally both inside and outside ports.
  - As a distillate component, MGO is likely to be the most expensive option, with additional lubricant requirements.

**LNG**
- LNG fuel systems require specialist crew and we expect their use to be limited to new build vessels due to the expense of retrofitting.
  - Infrastructure for LNG bunkering will be less established than for other fuel types in 2020.
  - LNG has low NOx and SOx emissions.

**HSFO**
- Scrubbers can be fitted to remove sulphur from exhaust gases and enable vessels to burn cheaper high sulphur fuels.
  - Scrubber installation time and cost has resulted in limited adoption so far.
  - Advances in technology are expected to make scrubbers an increasingly attractive solution.

BP will continue to work with our customers to supply safe, compliant and quality fuels globally.

![BP marine fuels chart](chart.png)

**What are the options for compliance?**

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-The price differential between MGO and VLSFO will incentivize a shift towards VLSFO products. The market is forecast to use over 50% VLSFO fuels after January 2020.

**VLSFO** will supply over 50% of the market after 2020.

*MARPOL 2020 and beyond*

**HSFO**: High sulphur fuel oil
**VLSFO**: Very low sulphur fuel oil
**MGO**: Marine gas oil
**LNG**: Liquefied natural gas
**NOx**: Nitrogen oxides
**SOx**: Sulphur oxides

*BP internal data **Accurate as of August 2017
Why partner with BP?

We are a globally integrated energy business with deep experience across the entire hydrocarbon value chain. We support our customers by providing a range of complementary and compatible fuels, products and services that best meet their needs for MARPOL 2020 and beyond.

Vessel Owners
- “The nature of the change calls for advanced preparations that, as vessel owners, we must all answer in order to be safe and compliant come 2020”
  Carole Howle, CEO, BP Shipping

As primary consumers of HSFO, vessel owners are one of the parties most affected by MARPOL 2020; they will have to prepare for changing fuel specifications, availabilities and handling requirements.

Bunker suppliers
- “This is a significant change for the shipping industry - early engagement with a trusted fuel supplier will be essential”
  Eddie Gauci, global head, BP Marine

As with vessel owners, bunker suppliers should prepare for a changing fuels landscape where the focus will be on fuels compatibility and assurance of supply. Bunker suppliers should be prepared for the expected increase in the use of blended fuels.

Airlines
- “MARPOL 2020 will impact many fuels – not just fuel oil. Our Structured Products team is working with clients from all relevant sectors, to find both paper and physical hedging solutions in preparation for MARPOL 2020”
  Christina Constandinou, director, BP Structured Products Europe

It is likely that the effects of MARPOL will be felt across the whole barrel meaning all industries with a high fuel consumption should be aware of the implications.

Industry
- “MARPOL 2020 reaches far beyond the shipping industry. All market participants with exposure to hydrocarbons should consider their changing economic incentives in its wake”
  Mike Galassini, director, BP Structured Products North America

Many industries, such as power generation, still use fuel oil as a key fuel source. Industries using high volumes of fuel oil may benefit from an increase in supply in 2020.

Refiners
- “The global refining system is capable of adapting and we will meet the changing demand for marine fuels”
  Tufan Erginbilgic, CEO, BP Downstream

Refiners must navigate the forthcoming changes to demand for fuels, upgrading and optimizing where necessary to ensure they are well-placed to fulfill product demand come 2020.

Lubricant suppliers
- “As lubricant suppliers we are dedicated to supporting the changing requirements of our customers through to 2020 and beyond”
  Daniel Odogwu, VP, Global Marine & Energy Lubricants

Those moving away from traditional high sulphur fuels will need to review their lubricant requirements.

Producers (E&P)
- “Every oil producer will see the effects of MARPOL 2020 in their portfolios, as sulphur content will have a more material impact on crude desirability going forwards”
  Murray Auchincloss, CFO, BP Upstream

As sulphur content remains a focus, the demand for low sulphur crudes is likely to increase leaving producers of sour crude streams exposed. Oil producers should be preparing now.

Trade/freight exposure
- “The freight markets will have to adapt to new fuel types and resulting price changes -- everyone in the supply chain should be prepared for this”
  Douglas Summerhill, director, Global Chartering, BP Shipping

As bunker demand changes we are likely to see increases in fuel costs being passed along the freight chain, spread across vessel owners, charterers and eventually end customers.
BP Marine: Delivering on our commitment

BP Marine’s commitment to our customers is a simple one: to consistently deliver quality products with outstanding levels of service throughout our network of strategically based ports. We are continuously improving our execution on the essentials that your business depends upon and providing value-added services to meet your specific needs. Our account managers are dedicated marine professionals, committed to building sustainable long-term partnerships. Supported by a wider team, with the industry knowledge and expertise to understand your specific needs, you can rely on our people.

Delivering on-specification products to our customers in full and on time, consistently throughout our port network is at the core of our business. We conduct stringent product testing during the manufacturing and delivery process to ensure all of our products meet ISO 8217 requirements.

The technical team acts as a focal point for sharing best practice around the world and monitors the operational standards within the BP Marine fuels business. In addition, they play an important role in the international bunker fuels industry, supporting legislative bodies and engine builders as well as conducting research programmes within BP’s Global Research Centre.

BP Marine is totally committed to maintaining and improving its reputation for operational excellence and environmental awareness, demanding the most rigorous approach to safety. Compliance with local and national regulations is mandatory but only defines a minimum level of acceptability. We are continuously striving to raise operational performance to be ‘best-in-class’ and meet the highest global standards. At BP Marine, this means our supply operations are subject to regular audits – all of our barges are rigorously vetted by our internal partner, BP Shipping. All are operated to ensure we comply with the highest industry standards in all our ports around the world.

In short, our goal is to be your preferred supplier in the marine industry.

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Global Structured Products: Managing your risk

Even minor changes in world events can cause large and sudden fluctuations in the price and availability of oil and oil products. Major changes, like MARPOL 2020, can have profound effects on the oil market.

We understand the price of oil is at the core of your business. Oil price volatility can have a fundamental influence on your profitability, cash flow, and overall ability to do business.

BP has over 100 years’ experience in the energy markets, and for the last 20 years has been helping customers apply this knowledge when managing their price risk. Our specialist team can give you access to a variety of tools and information, including daily oil market reviews and newsletters, indicative price curves and market information to help you take direct control over your oil price exposure, either combined with or independently from your physical supply agreement.

Tailored hedging solutions include:

- Fixed price financial swaps
- Financially settled options (vanilla & tailored)
- Managed Price Physical - embedding risk management into your physical contract e.g. Fixed Price Physical / Capped Physical bunker liftings
- Flexible risk-reducing strategies

What can a risk management program achieve, ahead of 2020?*

Help provide protection against extreme price changes
Help to stabilise cash flows
Help to determine a sales price
Help to provide profit margin protection
Help to remove timing risk from a trade
Help to secure a company’s competitive edge

*BP internal data

We can do business in most energy commodities and markets worldwide, 24 hours a day, in various currencies.

*You should note that risk management programs are not intended simply to achieve lower prices. The price achieved using financial hedging products can be both above and below that achieved without one.
Applying 100 years of marine experience across lubricants and services, we work with you across more than 820 ports in 82 countries worldwide. Castrol SmartGains is our unique systematic approach to relentlessly pursue improvements that deliver new operational efficiencies and mitigate future risks for your business. Working together, we’ll find opportunities to deliver gains in your business across three key areas:

- **Asset optimization**: Helping you maximize the operation and productivity of your asset.防止不必要的成本和延迟，确保安全、高性能的资产。
- **Risk mitigation**: Preventing unnecessary costs and delays during build and operation to ensure safe, high-performing assets.
- **Supply chain effectiveness**: Optimizing what you order and when to ensure reliable supply in a cost-effective manner.

There’s no single solution to every challenge. But simple, interconnected interventions can add up to deliver significant value.

2-stroke cylinder lubricants

Engines face real lubrication challenges due to varying fuel sulphur levels, feed rate optimization requirements and operational conditions. Castrol’s Cyltech range delivers cylinder oil solutions to meet latest engine designs, vessels operational conditions, environmental legislation and efficiency needs.

4-stroke lubricants

Vessels with four-stroke engines demand a lot of their lubricants. At Castrol we have formulated high-quality, high-performance diesel engine solutions with excellent viscosity control and base-number retention to help extend oil life and reduce engine-operating costs.

At Castrol, we understand the challenging market conditions the marine industry is facing today, and how monitoring the condition of your machinery has become fundamental to the way you pro-actively maintain the reliability of your vessels, and drive operational efficiencies across your fleet.

Marine technical expertise runs deep. Drawing on our extensive global reach, our technical teams partner with vessel owners and operators – becoming integral with crew and creating advantage, in any fleet.

Less downtime, less maintenance, more operational efficiency, this is the power of Caremax™, Castrol’s Used oil Analysis (UOA) condition monitoring programme.
What’s next?

As we approach 2020, and the implementation of the global sulphur emissions cap the routes to compliance are becoming increasingly clear. BP recognises that MARPOL 2020 will produce a fundamental shift in global marine fuel use. We would encourage all affected parties to start planning now to ensure a smooth transition. We are supporting our customers with their preparations by providing a range of complementary and compatible fuels, products and services that will best meet their needs today, in 2020 and beyond.

*MARPOL 2020 and beyond

*BP internal data
BP is the trusted supplier of choice, safe, compliant and quality fuels, lubricants, products and services. Our blended fuels and lubricants undergo rigorous testing to ensure stability and adherence with all required industry standards. We have been delivering quality fuels for over 100 years.

Contact our technical teams for questions and support on MARPOL 2020.

For further information on BP’s MARPOL response, visit bp.com/MARPOL or contact us on marpolenquiries@bp.com

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