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### EARLY STEEL SHIPS

The first welded steel ship was built in around 1940. Ships have been made almost exclusively of welded steel since, overtaking wrought iron as it was cheaper and lighter. Today, the majority of megaships are built with steel.



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### STEEL FLOOD PROTECTION

Did you know that steel plays a crucial role in protecting our lands from flooding? Its durability and sheer strength makes it perfect as an underwater barrier to protect high risk cities, such as London, which sits on a floodplain. The Thames Barrier in use today has been operational since 1982 and weighs a whopping 3,700 tonnes.



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### A HOME FOR MARINE LIFE

Not only does steel protect land from the sea, it also helps provide a home for millions of varieties of fish and marine life around the world. Hurricane-resistant steel has been used to create more than 400 artificial reefs in the seas surrounding the Caribbean, Florida and Alabama and South East Asia. The use of steel bars means an electric current can be pulsed through them, which helps cultivate food for sea life to feed on.



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### REUSE OF STEEL IN THE SEA

What do you get if you combine 714 old New York City subway cars, 86 army tanks, eight tugboats and 3,000 tonnes of truck tires? The Redbird Reef, an artificial construct off the coast of Delaware, U.S.A. The reef is mostly made up of steel and has played a huge role in increasing marine life by around 400 times from what it was, just seven years ago.



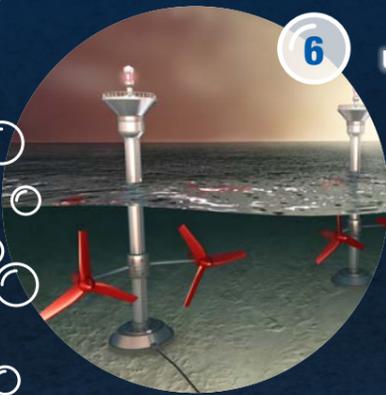
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### DELIVERING GOODS WORLDWIDE

Steel ships transport 90% of the world's cargo, making sure your favourite shop is fully stocked! There are 17 million shipping containers in the world and the majority are made of steel. About five or six million of them are on the move right this second, making around 200 million trips a year.

# Steel AND THE Sea

## FASTFACTS



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### UNLOCKING OUR OCEANS' ENERGY CAPACITY

Steel is an essential material used in the development of tidal energy solutions around the world, from the poles which secure the turbines to the ground to the rotating blades. Where it is estimated that tidal energy could satisfy more than 20% of global energy demand, steel has a key role to play in unlocking the renewable energy capacity of our oceans.



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### CONSTRUCTING A SEA GIANT

When it came to building the world's largest megaship, Royal Caribbean International's engineers turned straight to steel. The Harmony of the Seas cruise ship is as long as nearly four football pitches and contains as much steel as 31 Eiffel Towers. Measuring in at a whopping 210ft tall, the Oasis-class cruise ship is more than three times the height of London's Olympic Stadium.



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### NO END TO STEEL'S USE

Did you know that steel is an incredibly low carbon material? Not much goes to waste with steel shipping containers with almost all of them put to other uses after reaching the end of their lives on the road. The durability and unwaveringly high performance of steel means there's no end to its uses – from beach homes to student housing. Around half a million retired steel shipping containers go on to become storage facilities or buildings.



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### KEY TO RENEWABLE ENERGY

Steel plays a vital role in the generation of renewable energy and makes up around 80% of all materials used to construct wind turbines – including new offshore floating wind turbines in Norway, Scotland and Japan, which emit minimal CO<sub>2</sub> when producing energy.



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### CONNECTING EAST AND WEST

Steel is essential in both the building and construction of canals. It is used to form the structure which supports the entire operation as well as being used to make the locks, so that they are tough and sturdy enough to withstand extreme force and water pressure. Shipping canals play an important role in world trade with around 14,000 ships passing through the Panama Canal – the largest in the world – each year, while 17,000 passed through the Suez Canal in Egypt last year. The canal is famed for connecting the East to the West.



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### STANDING STRONG

Steel plays a crucial part in energy security as it is the main material used to make platforms for oil rigs in the sea. It is one of the only materials strong enough to anchor them into the seabed, providing vital access to difficult reserves.