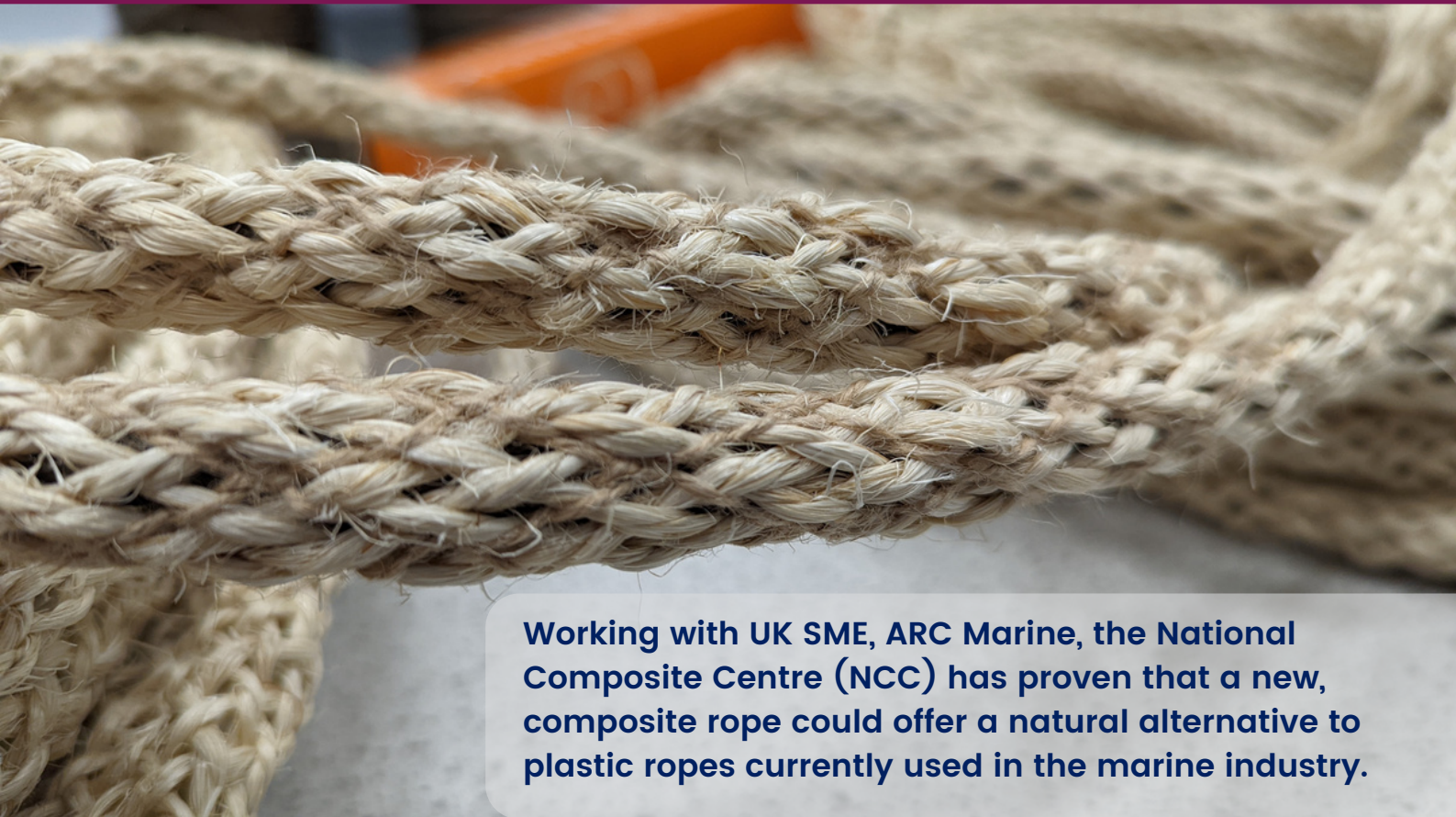


# New composite rope offers natural alternative for marine industry



Working with UK SME, ARC Marine, the National Composite Centre (NCC) has proven that a new, composite rope could offer a natural alternative to plastic ropes currently used in the marine industry.

## Challenge

ARC Marine are an award-winning company specialising in accelerating reef creation, offering sustainable alternatives to offshore construction that will help restore the ocean eco-system.

Having developed a carbon-neutral Marine Matt to be used to secure and protect submerged pipes and cables on the seabed, ARC Marine approached the NCC to help create a plastic-free, durable rope that could be used to secure the matt, and that could become part of a natural reef.





## Innovation

The team of specialist engineers at the NCC explored using various mineral fibres for the core, focusing on those with low ecological impact. The hardy, low-carbon alternative was braided into a rope using the NCC's two-ring braider. A natural fibre outing was added to make the product more handleable. It also makes the product bio-inclusive, with ocean life having something to cling on to, facilitating the formation of a natural reef over time.

## Impact

A product such as this isn't currently available on the market, but the new natural material rope – which has been designed to withstand the harsh sea environment – **could lead to a CO2 reduction of up to 88% when compared with a standard polypropylene rope.**

By accessing funding through Innovate UK's EDGE scheme, ARC Marine have been able to work with the NCC to prove their concept and will now look to develop it further in readiness for market across a range of sectors, including offshore energy, oil and gas, coastal defence and agriculture.





“ With each traditional mattress deployed, there’s an average of 140 meters of plastic rope that enters the ocean with it.

Marine plastics damage our seas by harming numerous sea creatures, including fish, cetaceans, turtles, seabirds, coral and even humans.

Our innovative plastic-free rope will undoubtedly change the face of the industry by preventing tonnes of plastic from entering the sea whilst enhancing marine ecosystems. That’s why we’re incredibly proud to have worked with the NCC to create it - they’ve been instrumental in developing and refining the design.

It really is time for change, and we hope that this marine rope can be utilised across the world, alongside our plastic-free Marine Mats as a sustainable way to protect subsea cables and other assets in growing offshore energy and traditional sectors as we transition to net zero.

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**Tom Birbeck**  
**Founder and CEO, ARC Marine**