

Tackling End-of-Life Fishing Gear and Rope for a Blue Circular Economy



CONTEXT

Brexit leaves the United Kingdom (UK) with a unique opportunity for environmental innovation through the implementation of a set of national policy documents (25 Year Environment Bill; Resources and Waste Strategy; Industrial Strategy). Yet, statutory targets for waste reduction and recycling progress within the UK have largely been steered by more progressive European Union (EU) regulations (Waste Framework Directive 2008/98/EC).

The EU is shifting further toward circular economy design (Single Use Plastics [SUPs] Directive [EU] 2019/904; Port Reception Facilities [PRF] Directive [EU] 2019/883) and acts as a world leader in this regard, setting standards which the rest of the globe follows thanks to the power, strength and size of the single market. An agreement in principle exists to transpose aspects of the EU Circular Economy Package into UK law¹, however, until fully legislated there is a risk of falling behind on trade opportunities, economic benefits and environmental standards or obligations (e.g. eco-labels). Furthermore, evidenced success and ambitions in UK administrative waste management strategies and targets are not currently aligned (i.e. Wales – 75% municipal waste recycling by 2025; England – 65% by 2035). Ultimately, we need aligned, targeted responses and goals to ensure an efficient and successful transition to improved resource and waste management across industries.

This policy brief acts as an industry specific case study, covering key insights and recommendations for the improved management of end-of-life fishing gear (EOL FG) and rope within the UK. Abandoned, lost or otherwise discarded fishing gear (ALDFG), as termed by policy makers, is one of the most hazardous types of plastic pollution and of global concern. It is a direct threat to marine life, fisheries stocks,

maritime navigation and human safety, therefore improved management strategies and support for organisations establishing best practises are strongly encouraged.

In addition to these hazards, UK municipalities spend over £15 million each year removing beach litter each year. OSPAR (2019) found fishing related items one of the top three most common litter types recorded, while our UK wide marine litter survey in 2021 assessed 48 beaches, with fishing gear and rope items contributing 5 of the top 10 items recorded (Figure 1). Over half of these sites are under existing environmental policy protection, with hotspot areas generally the more remote beaches in proximity to fishing activity.

**Relevant UN
Sustainable
Development
Goals**



Photographer: Jo Morely

KEY INSIGHTS

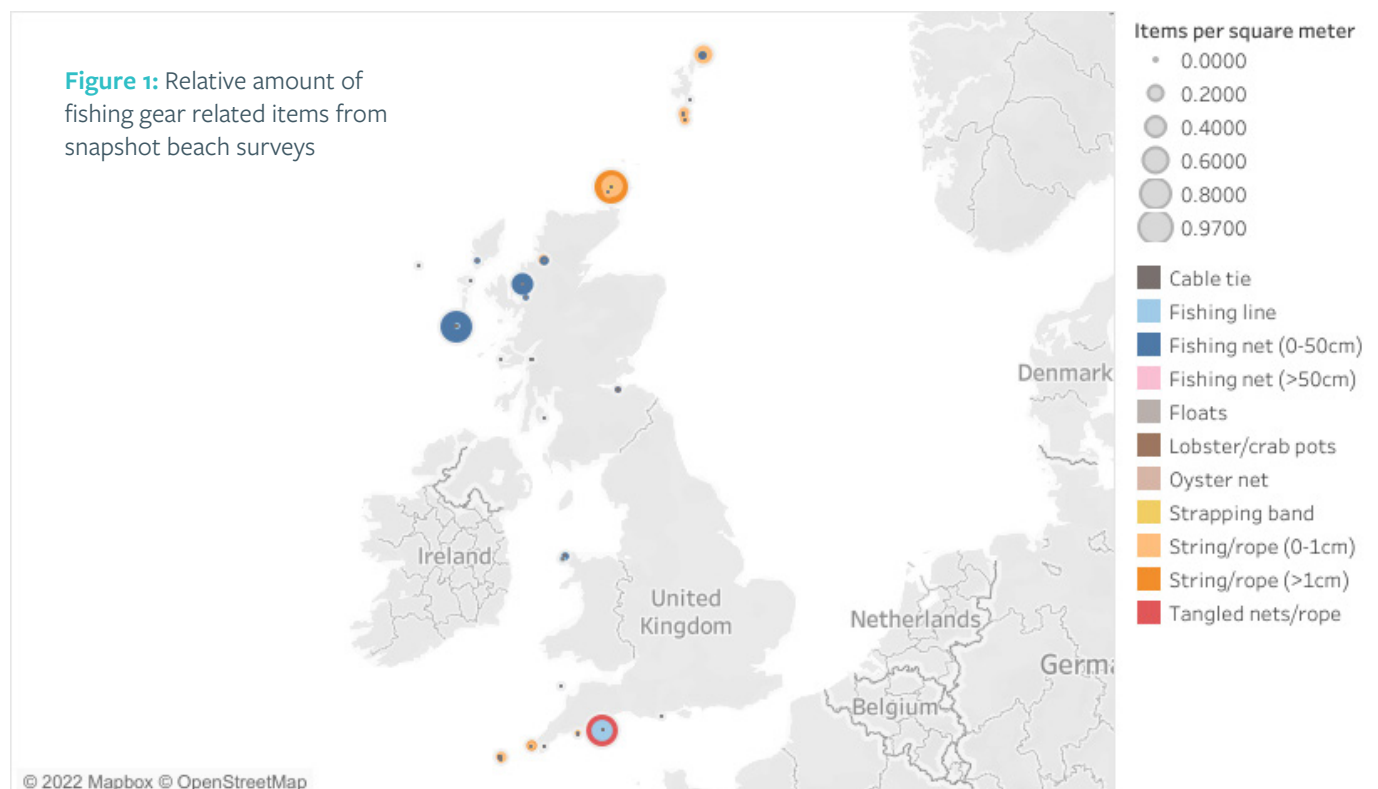
- Although companies in the UK and EU assemble FG, most parts/materials are produced in other countries, and nets can be manufactured using nearly 700 different combinations of six raw polymer types and other materials (sometimes toxic, e.g. lead); an impossible endeavour for single unit recycling.
- Monitoring and enforcement by regional or national authorities at the sales and operations level is rare, thus allowing for general acceptance of using hazardous substances (as outlined by ECHA and REACH² regulations), providing little motivation to amend manufacturing or design processes.
- All ports within European Economic Area (EEA) states must provide port reception facilities (EU Directive 2000/59/EC; IMO Resolution MEPC³ 83[44]) and waste management plans. Yet, regionally specific operational and logistical difficulties (collection, segregation, cleaning, storage capacity, clear signage) and costs associated with recycling influence the economic benefits of material recovery. Subsequently, large unquantified volumes of FG, rope and other shipboard wastes are destined to subsidised landfill or incineration facilities.

- Baseline costs for recovering EOL FG and rope vary massively. There are multiple waste streams from fisheries and aquaculture industries, as well as recreational fishing activities. FG can be disused due to regulatory changes, irreparably damaged (usually panels), retrieved or end-of-life. Assembling a critical mass from these different sources that make sense is not obvious. Small scale coastal fisheries are limited by the facilities available, while pelagic and demersal vessels land less frequently and use various ports (often defined by available market prices).
- Fishers are financially penalized for exercising good practice, such as disposal charges for retrieving ALDFG and returning it to shore, exacerbating marine litter management issues.
- Exemplar initiatives have established agreements with port authorities or local marinas, and provide free-of-charge services, collecting and managing EOL FG before locally remanufacturing, or financing transportation and recycling to enable the manufacture of new recycled FG products. However, many organisations are only able to do this because of short term grants and such free-of-charge services cannot be expected to prop up or master the entire supply chain process.
- The EU SUP Directive 2019/904 is introducing waste management, clean-up and harmonized product design obligations for FG producers, including Extended Producer Responsibility (EPR) schemes, to complement existing measures and help with financing. Defra have been investigating the merits of such a system, while EU countries have committed to implement EPR schemes by 2025, however, there remains a lack of data (e.g. waste volumes, recycling costs) and guidance to support these initiatives.
- Amendments to the Basel Convention in January 2021 have increased controls on exporting plastics. Restrictions include that shipments of plastic scrap and waste can only be imported with prior consent of both transit and importing countries. This should encourage cleaning and sorting in the country of origin, but it could also negatively impact recycling rates and the trade of EOL FG.
- The transportation and process of recycling FG is significantly less emissions heavy than producing virgin plastics, yet only two industrial-scale recyclers predominate the FG sector in Europe. Their main challenge is the uptake of recycle materials by front runner companies is lacking, although products such as circular rope and FG are being brought to market.

¹<https://www.gov.uk/government/publications/circular-economy-package-policy-statement/circular-economy-package-policy-statement>

²ECHA [European Chemicals Agency], REACH [Registration, Evaluation, Authorisation and Restriction of Chemicals]

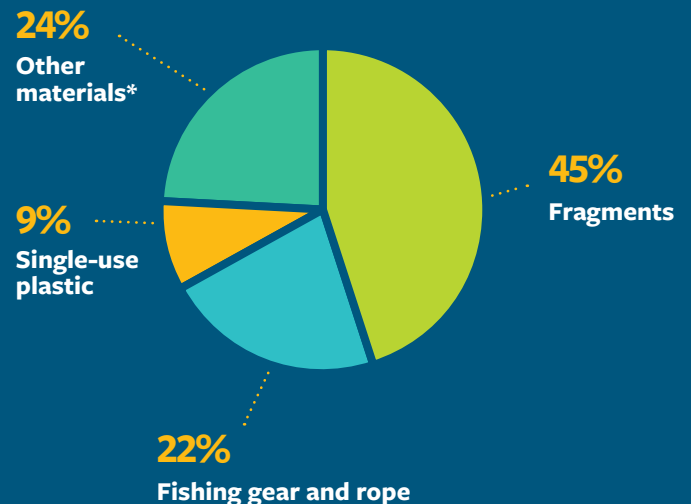
³MEPC [Marine Environment Protection Committee]



KEY RECOMMENDATIONS

- A holistic approach is necessary to move towards improved management of EOL FG, which should include aspects such as targeted reductions of virgin plastics and incentives to help transition to recyclable or biodegradable/non-polymer/non-fossil fuel-based FG and rope materials. This process could be facilitated through a well-formulated hierarchy of needs analysis (e.g. commercial vs recreational vessels, or static vs mobile FG) and requires further research and stakeholder engagement from across the FG and rope material supply chain.
- The sharing of best practice, guidance and clear legal structure to exact waste segregation and cleaning of FG is urgently needed. In line with the revised PRF and SUPs Directives, port docking fees should cover the costs of disposing of all types of FG and rope in a responsible manner, with the support of equitable waste management strategies (including EPR schemes).
- Educational outreach programmes are key to raising environmental awareness and promoting the value of remanufactured FG products. Such incentives may increase cooperation (e.g. reporting lost gear as per IMO MARPOL Annex V/ FAO/ UNEP), encourage generational influences regarding sustainable practices, validate labour efforts and ensure the success of recycling schemes. Opportunities may be available to upskill and target new workers, but appropriate funds and recruitment drives are needed to overcome occupational skills shortages (such as deckhands with net-mending and rope splicing skills).
- Innovative funding mechanisms (e.g. Sycomore, rePurpose, Circular Action Hub, Plastic Credit Exchange), well-coordinated partnerships, engagement platforms and policies are required to support smaller actors and start-ups. To maximize recycling potential and improve tourism aesthetics, investment in small-scale waste storage infrastructure and management in ports is needed. Research and innovation to develop and test new materials and designs, which must be economically competitive, and of equal or improved durability and recyclability to current counterparts is also required.
- Market-based instruments and incentives that reward high sustainability in FG, or trialling of new technologies, could ease a transition toward improved management and more circular FG. For example, sustainability stamps that adhere to a comprehensively coordinated set of standards for FG (e.g. gear labelling, traceability, and accurate/ transparent information on all material components), or economic incentives (e.g. extra fishing quota, or market price gains for sustainably sourced fish).
- All four UK administrations must collaborate on circular economy policy to assist in the synchronicity of domestic legislation and the development of clear, well-aligned mechanistic frameworks. Communication should remain between UK regulatory agencies, European regulatory bodies and European Standards Organisations (e.g. Eurocords Technical Committee 3: Life Cycle Management and Circular Design of FG), as loss of access to such networks could lead to a reduction in expertise and specialist knowledge sharing, and may induce an international divergence in standards.
- Legislation mandating the use of recycled content will help support the recycling system, drive demand for recycled plastic and achieve climate goals. However, current policies only apply to certain types of packaging, which represents a small part of the plastics market. If such initiatives were considered across all types of manufacturing (such as the growing automotive, construction and energy industries) it could drastically improve the uptake of recycle.

6,536 PIECES OF MARINE LITTER FOUND



*Non-SUP plastic items, clothes, glass, ceramics, metal and cardboard

Figure 2: Marine Litter Items Surveyed Across 47 Uk Beaches



CONTRIBUTIONS AND ACKNOWLEDGEMENTS

The findings emerged from a literature review and policy synthesis concerning circular economy, recycling and waste management with regards to plastic waste, and was funded by Public Policy|Southampton's (PPS) 'The New Things Fund'. Insights and recommendations were refined as informed through stakeholder participation and feedback at a PPS coordinated policy roundtable in April 2021 which included expert input from across the value chain. The authors are grateful to Dr Wassim Dbouk (Policy Research Fellow, Southampton Marine and Maritime Institute and PPS) for critically reviewing the brief and Nicole Baker (Owner of Net Your Problem and Research Scientist at the University of Washington).

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