Circular Ocean
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The Centre for Sustainable Design ®
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Circular Ocean: Eco-innovation Guide for Start-ups, Entrepreneurs & Small and Medium-Sized Enterprises (SMEs)

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www.circularocean.eu

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Circular Ocean

In pursuit of innovative and sustainable solutions for marine plastic waste, the Circular Ocean project seeks to inspire enterprises and entrepreneurs to realise the hidden opportunities of discarded fishing nets and ropes in the Northern Periphery & Arctic (NPA) region.

As increasing levels of marine litter is particularly pertinent to the NPA region, the Circular Ocean project will act as a catalyst to motivate and empower remote communities to develop sustainable and green business opportunities that will enhance income generation and retention within local regions.

Through transnational collaboration and eco-innovation, Circular Ocean will develop, share and test new sustainable solutions to incentivise the collection and reprocessing of discarded fishing nets and assist the movement towards a more circular economy.

Circular Ocean is led by the Environmental Research Institute, www.eri.ac.uk (Scotland), and is funded under the European Regional Development Fund (ERDF) Interreg VB Northern Periphery and Arctic (NPA) Programme http://www.interreg-npa.eu. It has partners in Ireland (Macroom E www.macroom-e.com), England (The Centre for Sustainble Desgin ® www.cfsd.org.uk), Greenland (Arctic Technology Centre www.artek.byg.dtu.dk), and Norway (Norwegian University of Science and Technology www.ntnu.edu).

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Not sure what eco-innovation and circular economy of *used* fishing nets, ropes and components means for your business? This guide is for you.

The Circular Ocean Eco-innovation Guide provides a practical introduction to the eco-innovation and the circular economy (CE) potential for turning *used* fishing nets, ropes and components (FNRCs) into valuable second-life products and services. The content is addressed primarily at start-ups, entrepreneurs, and small and medium-sized enterprises (SMEs) including both commercial and social enterprises.

The booklet overviews emerging business opportunities that eco-innovation and CE have to offer to start-ups, entrepreneurs and SMEs interested in exploring the potential of developing products and services from used FNRCs. Solutions may range from re-use, repair to repurposing to crafted products, to products made via 3D printing and/or injection moulding using recycled polymer pellets from *used* FNRCs. The polymers from FNRC include polyamide, polyethylene, polyester and polypropylene, providing several material options to pursue when designing products based on *used* FNRC.

Eco-innovation represents an opportunity for many start-ups, entrepreneurs and SMEs to increase their competitiveness and is essential to turn CE into a reality. The booklet includes guidance on how to create, develop and commercialise new concepts, as well as improving and developing existing products.

Examples of business model innovation, crowdfunding and other funding approaches aimed at early stage R&D and commercialisation are presented. The booklet also includes examples of marketing and branding issues that should be considered when developing a new product positioned to be a more a sustainable choice. In addition, a range of other issues are discussed including how to use collaboration, open design and partnerships to work together across value chains, organisational forms and disciplinary fields. Finally, there is some discussion over how to create, develop and build eco-innovation networks in ports and fishing communities.

The booklet is based on the knowledge and research material generated from the Circular

Ocean project (www.circularocean.eu) and reports can be freely downloaded from (www.circularocean.eu/research). Additionally, parts of the booklet are based on the *Eco-Innovate! A guide to eco-innovation for SMEs and business coaches* (Miedzinski et al, 2016) that can be downloaded from www.cfsd.org.uk/research

Ocean waste is not a new problem. What is new is the awareness and willingness from people, politicians and companies to address the challenge and do something about it. The positive attitude towards using business as a force for good has provided excellent opportunities for companies that aim to solve environmental problems while also making a viable business. It is our hope that this guide will help you and your team achieve success in creating a new generation of products and services from *used* FNRCs and in the end contribute to a clean and healthy ocean for all.

It is estimated that 640,000 tonnes of discarded fishing nets go into the sea annually, which amounts to 10% of the total ocean plastic waste amount.

Source: UNEP / FAO, 2009. Abandoned, lost or otherwise discarded fishing gear http://www.fao.org/docrep/011/i0620e/i0620e00.htm

1 An introduction to eco-innovation

1.1 What is eco-innovation?

Eco-innovation makes both economic and environmental sense. It means being economically competitive while respecting the natural environment. Eco-innovation can be an idea for a new start-up or product as well as for making improvements to existing products. One focus of eco-innovation is new technologies, but creating new products, services and introducing organisational changes are just as important. At its core, eco-innovation is about creating business models that are both competitive and reduce resource the energy intensity of products and services.

"Eco-innovation is the introduction of any new or significantly improved product (good or service), process, organisational change or marketing solution that reduces the use of natural resources (including materials, energy, water and land) and decreases the release of harmful substances across the whole lifecycle."

Source: Eco-innovation Observatory Annual Report 2010. Pathways to a resource-efficient Europe. www.eco-innovation.eu/index.php?option=com_content&view=article&id=200

Eco-innovation takes the full lifecycle perspective into account, rather than just focusing on environmental aspects of individual lifecycle stages. It does not just mean inventing new products and delivering new services, but it also encompasses reducing environmental impacts in the way products are designed, produced, used, reused and recycled.

Incremental eco-innovation focuses on improving existing goods and services, whereas disruptive eco-innovation is about thinking "outside of the box" and bringing completely novel approaches to market.

1.2 What is Circular Economy?

Circular economy (CE) is an economy that learns from nature in that it wastes nothing.

CE is a concept beyond recycling. There are many definitions of CE and this is no consensus as present. Key to CE is maximising the value of materials through product life extension. Below is a working definition

> *"Circular Economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals which impair re-use, and aims for the elimination of waste through the superior design of materials, products, systems, and, within this, business models."*

Source: The Ellen McArthur Foundation https://www.ellenmacarthurfoundation.org/circular-economy

The Eco-innovation Observatory (EIO) has defined six functional pillars of a CE including Design, Sharing, Repair, Re-use, Remanufacturing and Recycling (Figure 1). Maintenance has been added as a seventh pillar.

Design is crucial in CE as this early stage determines 80% of a product's environmental impacts and predefines if the product can is repairable, re-usable, remanufacturable, recyclable, or is suitable for shared use.

Maintenance is a key activity to perform during the use phase of the product life cycle to prolong product lifespan and maintain the optimal performance of a product.

Sharing business models include car-sharing, carpooling, sharing of holiday houses and laundry facilities. Fishing communities can purchase or lease FNRCs based on a 'shared value' and 'shared use' model. Owners of FNRCs could rent out these assets to other fishermen to improve utilisation rates.

Repair can play a key role in service-based business models.

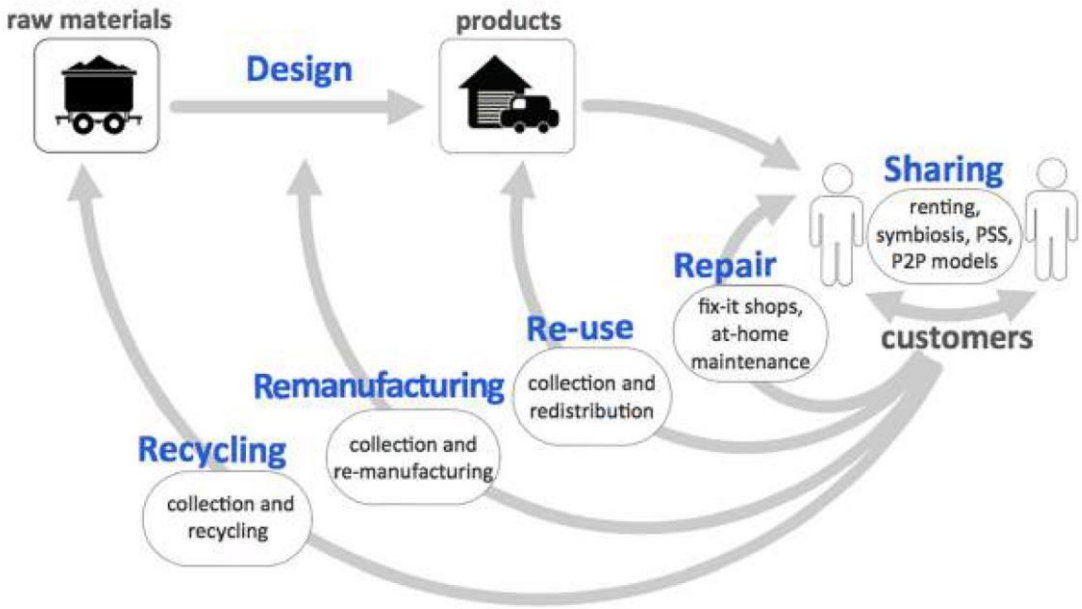
Re-use can include traditional second-hand product use as well as using the components from products that are no longer in use in new products.

Remanufacturing is an industrial process aimed at adding mutliple lifes to product offerings and is often delivered through service agreements

Recycling is the action of processing a discarded or used product, component or material for use in a future product, component or material.

Figure 1: Functional pillars of Circular Economy

(from The Eco-innovation Observatory, Eco Innovate! Guide, 2016)



Eco-innovation is a broad concept that focuses on incremental, re-design, functional and systems level (radical) innovation that aims to reduce environmental impact throughout the lifecycle. At a product level, CE or circularity is focused on materials value (although not ignoring 'trade-offs' with other environmental considerations) and aims to extend the lifecycle of products. CE can be seen as one element of eco-innovation and is a useful concept to take forward innovative product concepts that incorporate used FNRCs.

2 Designing your business model

Companies often decide to rethink and redesign their business model to reduce costs and improve customer experience. Many companies are also driven by environmental and social concerns. Environmental, economic and and social considerations needed to be taken into account when working with products that incorporate recycled polymers from used fishing nets, ropes and components (used FNRCs) or that are reused or repaired.

There are many options available to develop products from *used* FNRC. A sound business might be established around repairing the products and selling them back to fishery customers for their initial intended use. Also, FNRCs can be re-used to create some *new* products relatively easily e.g. nets and ropes for football goals or playground gear, net bags or gardening equipment. Many products based on FNRCs can be substituted by *used* FNRC, which in harbour areas might be a cheap and locally accessible raw material. More advanced opportunities might be where *used* FNRC can be cut, sewed, braided or otherwise crafted into fashion products, accessories, mats, baskets and alike. An option may be to work with people with specialised craft skills. The resulting products may potentially have a premium with an option to charge a higher sales price.

Another set of product options come from the mechanical recycling *used* FNRC to produce polymer pellets that might be transformed into new plastic-based products such as skateboards, frisbees, sunglasses and alike. The process demands more production equipment to shred, press and mould the material e.g. through injection moulding. Also, there is an emerging field of recycling *used* FNRC into filament, that through 3D printing (3DP) technology can be made into a wide array of products. The 3DP technology is also interesting from a local business perspective, potentially allowing the set up of small-scale local production making small batches and customised products. Utilising open source libraries of design for 3DP will open-up many potential product opportunities. See www.cicrcularocean.eu/research for further reports on 3DP and the potential applications to FNRCs.

There are also many product opportunities that come from chemically recycling *used* nylon FNRCs into 2nd life yarn that can be used to produce woven products such as clothing, bags, carpets and alike. It should be noted that chemical recycling demands a more complex and

industrial scale process with advanced machinery and knowhow. For this reason many companies choose to buy a ready-made yarn such as Econyl ® produced by global producer Aquafil.

Finally, there may be business opportunities related to focusing on a particular process within the value chain before selling an end product, such as building a company around the collection, storage and distribution of *used* FNRCs or providing services for the cleaning, production of pellets or other types of preparatory work of *used* FNRC.

Common to the different product options is the need for a business model that provides a clear value proposition for an identifiable group of customers that are willing to pay a price level that surpasses the costs of production and marketing. As part of the business model design, additional revenue streams surrounding the core product can be considered. On the following pages a series of different business models are described for providing inspiration on how to build a profitable business based on products made from *used* FNRC.

KEY QUESTIONS

- *Who are our customers?*
- *What value are we delivering to our customers?*
- *Which customer needs are we helping to satisfy?*
- *What are the key the activities and resources that help us to develop and deliver value to customers (e.g. skills, resources, strategic partnerships, Intellectual Property (IP))?*
- *How can we activate networks and customers to become a co-creator of value?*
- *What is our ambition for growing the company? Small scale workshop, producing batches or setting up industrial flow production facilities?*

2.1 Circular business models

A fundamental question for any eco-innovative company is how to deliver value to a customer in a way that is both profitable and less resource intensive. Reflecting on how to satisfy fundamental needs of a customer, be it a business-to-business (B2B) or business-to-consumer (B2C) or business-to-government (B2G), is the first step in tackling this challenge. Circular business models aim to maximise material value over time through product life extension. As an alternative to permanent ownership, users can be part of a CE where resources are accessed only when needed. Customers can be offered a mix of both products and services or the function of the product can be provided as a service rather than the product itself. For example, fishermen might lease fishing nets from the manufacturers and pay a regular fee for their use, repair and replacement.

KEY QUESTIONS

- *Are there ways we can offer access to a solution instead of ownership of a product such as renting outdoor sports equipment made of used FNRC?*
- *Would it be an idea to offer our products as a rental business?*
- *Can we offer subscriptions or lease products to our customers and service them with maintenance and repairs as part of a full-service deal?*
- *Could a take-back scheme be a way to incentivise customers to return the product (and the materials) at end-of-the-1st-life of the product?*
- *Can we offer repairs or upgrades to the product that extend its life through re-use in some form?*

GOOD PRACTICE EXAMPLES

Fishy filaments

Fishy Filaments™ transforms end-of-life fishing nets and ropes retreived during fishing activities into recycled filament for use in 3DP. Unlike established nylon recycling routes this solution uses simple mechanical and thermal processes that can be achieved at a local scale and with no harsh chemicals added.

https://fishyfilaments.com/

LEARNING RESOURCES

* Eco-innovate: A guide to eco-innovation for SMEs and business coaches. Miedzinski, Michal and Charter, Martin and Doranova, Asel and Castel, Johanna and Roman, Laura (2016). Eco Innovation Observatory, Belgium.
http://cfsd.org.uk/site-pdfs/eco-innovate-sme-guide.pdf

* Business Model Generation offers a wide range of resources for entrepreneurs and companies on business model innovation
https://strategyzer.com/canvas/business-model-canvas

* Why New Business Models Matter for Green Growth is an OECD green growth paper (2013) http://www.oecd-ilibrary.org/environment/why-new-business-models-matter-for-green-growth_5k97gk40v3ln-en

* Nordic Innovation produced a series of publications on green business models (2012) www.nordicinnovation.org/Publications/green-business-modelinnovation-empirical-and-literature-studies

* Designing for the Circular Economy, edited by Martin Charter to be published in 2018 by Routledge, an imprint of Taylor & Francis Group, a trading division of Informa UK Limited.

* FORA: Green business models in the Nordic Region
http://www.danishwaterforum.dk/activities/Water_and_green_growth/greenpaper_fora_211010_green_business%20models.pdf

* INNEON offers a project toolbox for entrepreneurs/SMEs who want to design an eco-innovation business plan.
http://www.inneon.eu/self-help-tools

* Eco-Innovation Manual, a step-by-step guide to support technical experts in assisting SMEs to implement eco-innovation in developing and emerging economies
http://wedocs.unep.org/handle/20.500.11822/17516

* Circle Economy & Sitra: Service-Based Business Models & Circular Strategies for textiles
https://slideshare.net/SitraEkologia/servicebased-business-models-circular-strategies-for-textiles

* WE-ECONOMY Guide:
http://we-economy.net/we-economy-guide-screen.pdf

2.2 Experiential business models

A way to boost income with a small scale production could be to invite customers into your workshop and/or micro-factory, experiencing and/or taking part of the "maker process". There is a growing group of interested customers willing to pay for a personal and authentic experience. For example, there may be opportunities related to getting behind the scenes and experiencing how a maker, craftsman and/or designer turns FNRC into a physical product. A new global market place has arrived for these services that are offered through the new local experience platform e.g. learnt from models like AirBnB?.

One segment for such experiences is a growing group of responsible travellers and consumers seeking out "ecotourism" and "sustainable tourism" options. They might also be interested in paying for a guided tour where they are part of the collection process e.g. a beach clean or going for an ocean trip diving or hunting for abandoned FNRC.

From an innovation and marketing perspective, engaging in such direct customer interaction can also be a way to gain valuable insights about potential product improvements and gain ambassadors who will endorse and recommend your product.

KEY QUESTIONS

- *Could we offer guided tours of workshop or micro-factory where people pay a fee to enter the production facilities and get personal stories and experiences around the product, production and development work?*

- *Could we transform our customers to become creators offering an experience of joining the maker process of the product?*

"An experience occurs when a company intentionally uses services as the stage, and goods as props, to engage individual customers in a way that creates a memorable event."

Source: Welcome to the Experience Economy , Harvard Business Review (1998) https://hbr.org/1998/07/welcome-to-the-experience-economy

GOOD PRACTICE EXAMPLES

The following examples illustrate business models where customers pay a participation fee to take an active part in the collection of ocean plastic waste as well as paying for being inolved in making a product. Even though the cases do not specifically include *used* FNRC they show an experiential business model executed in a very similar context that most likely could be adopted for *used* FNRCs.

Plastic Whale

Plastic Whale is a company and social enterprise that fishes for plastic with a mission to make the world's waters plastic-free and to create value from plastic waste. The company offers plastic-fishing tours on the canals of Amsterdam or at Rotterdam harbour and has used the collected plastic to design and build a fleet of six boats. A specific service might be developed that focused on collecting abandoned fishing nets and then creates products from the collected FNRCs.

https://plasticwhale.com/

Pernille Bulöw by You

Danish glass artist Pernille Bülow has extended her stores by opening three workshops where guests can try out the art of glass crafting. The activities are suited for children and adults alike who are provided with materials and tools to create designs on glassware that is then sanded, leaving a unique glass piece to bring home. Building upon this idea, customers could pay for working in a "studio shop" with craftsmen and instructors to make jewellery, accessories and other craft products from used FNRCs.

http://www.byyou.dk/

Afrayedknot

Afrayedknot offers mat-making workshops on how to make mats from salvaged ropes found on nearby beaches.

http://www.sanday.co.uk/images/S4S/SkillsforSandayNewsletter_April_17.pdf

Aquafil

Aquafil offer guided tours to let customers experience their production process.

https://aquafil.com/de/news-media-de/news-de/a-tour-of-italy-mannington-usa/

2.3 Open source business models

Conventional wisdom when developing products is to patent new innovations to avoid competitors copying your effort. However, new open source business models are developing where design specifications are made publicly available with license to be created, modified and distributed by anyone. Some may question this – aren't you giving away everything for free? However, revenue streams can be achieved through the production and selling of (customised) products, selling add-on services or providing consultancy and/or training around the open source knowledge.

KEY QUESTIONS

- *Are there possibilities for developing a "freemium model", where we give knowledge away for free, but charge for the delivery of customised products and/or services?*
- *Could we sell digital blueprints, tools and DIY recipes enabling customers to produce our product themselves, alongside selling finished physical products in our local area?*
- *Could we generate income on services such as providing training, support and seminars by sharing designs, production know-how and material insights with other fishery communities that could benefit from working with used FNRCs?*
- *Could we enable 3DP of our designs to allow for customised and on-demand production – possibly with customers co-designing products digitally?*

GOOD PRACTICE EXAMPLES

Precious Plastic

The Precious Plastic project developed by Dutch designer Dave Hakkens consists of a series of machines to recycle plastic waste locally. The machines have been made under an open source license and blueprints for production can be downloaded for free. Could Precious Plastics machines be adapted to use polymers from *used* FNRCs and produce products e.g. waste baskets.

www.preciousplastic.com

LEARNING RESOURCES

* *Chapter about business models for open source design project, by Lars Zimmermann*: http://bloglz.de/wp-content/uploads/2014/12/Business-Building-Open-Source-Hardware-Gibb-Zimmermann.pdf

* *Video: What is Open Source? (2016)*
https://www.youtube.com/watch?v=p6jo2-p7kb0

* *Creative Commons – licenses for open source creative works*

Creative Commons is a global non-profit organisation that enables sharing and reuse of creativity and knowledge through the provision of free legal tools.
https://creativecommons.org

2.4 Social enterprise business models

Being a start-up that contributes to solving an environmental challenge, you might consider establishing your company as a social enterprise that clearly communicates your cause. In return, customers may be more willing to buy or pay a premium price for your product, make donations to support your work or engage actively with volunteer help. It may also provide access to the emerging group of ethical investors who are shifting attention from philanthropy to areas of social business and impact investments.

A social enterprise can either be made under a legal status as a not-for-profit, a charity or a for-profit social business e.g. certified as B-Corporation, or simply a business with a strong profile related to Corporate Social Responsibility (CSR). A new generation of for-profit social business are emerging that take on a larger societal responsibility "using business as a force for good". These organisations build their core business around an identity that is genuinely environmentally friendly, socially aware and ethical – making money while supporting the common good.

In addition a social enterprise profile might give the opportunity to work with long-term unemployed, mental health, and drink and substance abuse disorders, where a role of part of the business is to get people back into society and work. It could also be arranged by partnering up with a local charity with a focus on making products from *used* FNRCs.

GOOD PRACTICE EXAMPLES

Planet Love Life – "ghost gear"

Planet Love Life produces necklaces, bracelets, key chains, dog leashes and other accessories made from salvaged marine debris. Planet Love Life founders and volunteers regularly participate in community outreach programmes and clean-up projects. Proceeds from the sale of each bracelet benefit conservation projects and beach clean-ups.

www.planetlovelife.com

RubyMoon – sustainable swimwear and social responsibility

RubyMoon makes swim and active wear for women ethically manufactured and made from Econyl® nylon yarn from used fishing nets. 100% of *net* profits generated by RubyMoon are lent out as small loans, to empower women entrepreneurs in eleven nations.

http://rubymoon.org.uk

2.5 Collaborative business models

Many solutions to business model challenges can be found outside the company and accessed through collaboration and an open approach to eco-innovation. Establishing collaborative business models through partnerships can draw in new skills and resources from other organisations to enhance customer value.

One option is to partner and collaborate closely with NGO's, local associations, charities, local governments or port authorities for instance on the task of collecting *used* FNRCs. In this way volunteer activity is managed through another organisation, removing the potential conflict that a profit-making business seeking volunteers can cause. Another partnership opportunity might be to join forces with an educational partner or research-institution to develop new technology or products, and/or involve students directly in designing new technology or products.

Similarly, you might consider searching for funding to expand your development work through the participation in publicly funded projects and collaborative innovation projects. This might be achieved by collaborating or partnering with universities and/or research organisations and should be investigated. Profiling your company as a "living lab" that provides a real-world playground for testing and trying out eco-innovations might make an attractive partner to consortia developing EU and/or government-funded project bids that are looking for start-ups, entrepreneurs or SMEs with novel circular solutions.

KEY CONSIDERATIONS

• Be thorough in researching and selecting collaborators or partners before you establish any working agreements, and ensure there is full clarity over shared tasks, goals and communication.

• Look for possible marketing benefits through partnering with a well-known organisation, that might increase exposure of your solutions to a large audience via their social media or in the press.

• Look at areas where you might provide additional value for a partner organisation such as including them in your social media.

GOOD PRACTICE EXAMPLES

Bracenet handmade accessories – in collaboration with Healthy Seas

Together with the ocean protection network Healthy Seas, German company Bracenet retrieves discarded monofilaments fishing nets, cleans them and produce handmade bracelets. Website: https://bracenet.net

Net-Works – setting up local community banks and local fishing net supply chains

Net-Works empowers coastal communities in the developing world to collect and sell discarded fishing nets, which are recycled into yarn to make carpet tile. Net-Works is the result of a partnership between Interface and the Zoological Society of London. Website: http://net-works.com

Participants at a #Net_Hack_Challenge unwrap a bag of used FNRC.

3 Eco-innovate products and services applying used fishing nets, ropes and components (FNRCs)

You might be an existing company or a potential start-up with new ideas related to a product or service involving the reuse or recycling of *used* FNRCs. In both cases it will take energy, motivation and effort to move from the sketch book to a finished product. In this section of the booklet you will be introduced to some of the steps necessary to develop and refine an innovative product or service from *used* FNRCs.

3.1 Strategic design and concept development

Clarity over the purpose for your eco-innovative product or service is an essential starting point for pursuing a successful development process.

KEY QUESTIONS

Before you start anything, go through the why-questions yourself or together with your team and get your mission clarified:

- *Why are we pursuing this project and what is the problem that is being solved?*
- *Why are we prioritising this particular project and not something else?*
- *Why would people buy our product or service?*
- *What is the value we want to create for our customers and/or users?*
- *Why is our eco-innovation more circular than other products or service?*

3.2 Sketching ideas

As a next step, work conceptually with your business model, product or service idea by sketching out different types of solutions and consider your unique positioning in the marketplace.

KEY QUESTIONS

• Are we designing and making a premium quality and higher-priced product or something more generic and broadly accessible?

• Are we designing a product that is made through high quality craftsmanship and manual processes?

• Is our product designed to be put into scalable production?

• Is used FNRC a key and visible feature of our product or a secondary feature that is mainly used to improve the environmental product profile?

• Who is our target customer market and what is the market for our type of product?

• Are we going for B2C, B2B or B2G (targeting green public procurement opportunities with local authorities)?

• Is our product strategy flexible enough to allow for modifications, alterations and fixes once it hits the market and user experiences are gained?

New clothing concept made from fishing nets and ropes.

3.3 Sourcing *used* fishing nets, ropes and components (FNRCs)

Making products utilising *used* FNRCs means that there needs to be actual source of *used* FNRCs and that a reliable incoming stream of raw material of good quality needs to be established. In the following section, a series of findings and key business challenges related to sourcing FNRCs are described.

The collection and sorting of *used* FNRCs is not a universal process and differs from region to region. There are many different stakeholders, collection points and practices. In many places FNRCs are abandoned, landfilled or incinerated, so your effort will certainly contribute to tackle the problem!

Some of the major “hot spots” where you will find *used* FNRC are harbours, beaches and the open sea. These are the three places where you will first meet the marine plastic debris including *used* FNRCs. However, what is the best strategy to access those “hot spots” is an open question that calls for local research, dialogue and observation.

Much of the *used* FNRC will end up on harbour areas in containers or in piles (see port-related feasibility studies report at www.cfsd.org.uk/research . Establishing collaboration and dialogue with the fishers and/or fishermen and other stakeholders in the port areas e.g. harbour authority or local authorities will be a key success factor for establishing an efficient collection process. Highlighting the benefits of keeping the value from *used* FNRC e.g. nylon in the local community, as opposed to it being “collected and distributed from the port”, could be an important argument for the formation of local partnerships and collaborations.

Collecting *used* FNRCs that are abandoned or disbursed in the open sea or end up deposited along coast lines tends to be difficult and time consuming. An option can be to involve volunteers, local community groups or engage vessels and fishermen in the work. Despite its difficulty, taking on the challenge of removing *used* FNRC directly from the sea and coastal areas will have a high impact in terms of preserving wildlife and nature.

Pay attention to the differences in the quality and value of the *used* FNRC. Nylon typically has the highest recycling value and is often “cherry-picked” leaving other less valuable types of fishing nets and ropes. Finding innovative ways to create value out of the remaining *used* FNRC fractions is a key challenge and potential business opportunity.

A major concern is the possible pollutants and chemicals that some of the *used* FNRC contain – especially anti-foulants related to aquaculture nets – as well as, growing concerns around micro-plastics. If you aim to make fashion accessories, children's objects, clothing and almost any type of consumer product, you will need in-depth material knowledge and consider testing procedures to make sure there are no harmful substances left in the final product.

KEY QUESTIONS

• Have you identified collaborators, partners, suppliers and/or sub-contractors related to the collection, cleaning, washing and preparation of used FNRCs?

• How are we going to set-up a network and system of collection?

• How much investment will it take to establish the necessary machinery?

• Can we consider partnering up with an existing collector of used FNRCs, harbour authorities, waste companies, NGO's or citizen driven initiatives organising beach clean-ups to receive pre-collected materials?

• How are we going to manage collection and cleaning including the removal of possible toxics, chemicals and debris from the used FNRCs?

• Could we consider the option of buying already recycled materials from used FNRCs such as a ready-to-use nylon yarn e.g. Econyl ®?

Beach cleaning

GOOD PRACTICE EXAMPLES

Bureo skateboards and recycling programme in Chile

Bureo makes skateboards from recycled fishing nets. Their recycling programme in Chile, 'Net Positiva', provides fishing net collection points to keep plastic fishing nets out of the oceans. Bureo provide financial support to local labour and participating communities while the programmes also provide education to youth in Chile. Once collected, the fishing nets are washed and prepared for a mechanical recycling process. Within this process, they are shredded and fed through a 'pelletizer', where they are melted and cut into small recycled pellets. These pellets are then injected into steel moulds to form the finished products. Bureo's product range also includes sunglasses, frisbees, surf fins and chair components.

https://bureo.co/pages/bureo-collection

Aquafil - Nylon yarn from waste materials

Aquafil based in Italy are producers of nylon yarn. As part of a more circular approach they designed the Econyl® fibre system using a chemical recycling process. Their system enables nylon 6 (polyamide 6) post-industrial and post-consumer waste to be manufactured into new nylon 6 with no loss of quality.

https://www.ellenmacarthurfoundation.org/case-studies/production-of-nylon-yarn-from-wastematerials

Interface - The Net-Works Programme

Net-Works is an innovative, cross-sector initiative that was initiated by the modular carpet tile producer Interface to tackle the growing environmental problem of discarded fishing nets. Interface has partnered with the Zoological Society of London to buy discarded fishing nets from some of the poorest coastal communities in the world (currently the Philippines and Cameroon). The initiative also supports Interface's Mission Zero goal to source 100% recycled material for its carpet tiles. The nets are recycled into new yarn for carpet tiles by Aquafil using Econyl® fibres.

https://www.interface.com/EU/en-GB/about/mission/Net-Works-en_GB

3.4 Research and development (R&D)

Having completed your initial concept development and strategic design considerations, the actual R&D work will need to be carried out. You will need to consider what level of R&D it will take to develop a functioning prototype of your product and how best to fulfil the market need with the financial and time resources that are available to you.

An important part of the R&D programme should be to perform market research amongst your target audiences and analyse competitive product offerings to determine the relative benefits of your product. Finding your specific niche market and ensuring clear product differentiation will be a key to success. At the most simple level, this might be talking to a sample of your target audience and listening closely to their feedback on your concept or model, or if you have more resources you might complete more extensive market research surveys yourself or employ students, a freelance consultant or an agency.

Developing new technology

If you face a challenge that demands technical developments to produce your product such as making specialised machinery, adapting existing machinery to use recycled polymers or developing innovative cleaning processes for *used* FNRC, your R&D success will be highly dependent upon your ability to access technical skills. To access those engineering skills consider developing collaborations or partnerships with local technical colleges, universities or network with members of hackspaces, makerspaces or fablabs.

KEY QUESTIONS

- *Who is the target market? Complete informal or formal market research into your product?*
- *Who has the research and technical skills to undertake eco-innovative R&D internally or externally?*
- *Does our team have the skills, time and money to complete R&D?*
- *Will R&D staff need to be trained to enable us to build internal eco-innovation capacity?*
- *Is there a possibility to partner with a research organisation or a university lab in order to implement R&D for new products, technologies or processes?*
- *Could collaborations with universities or other technical partners be a way to access the necessary skills, knowledge and know-how?*

Sourcing or partnering to get technology access

Instead of developing a new technology completely from scratch, consider screening the market for an existing technology might that be modified to your needs. Another option could be to research local companies to try and gain access to existing equipment from local companies, such as plastic shredders and other machinery that are often found at harbour and port areas. Again connecting with technical colleges, universities or makerspaces might be a useful investment of time.

KEY QUESTIONS

- *How can we activate our network e.g. join LinkedIn groups and other fora to ask for information and seek expertise?*
- *Should we consider getting help from a technology expert or research partner that can scan national or international markets?*
- *Have we searched for publicised patented technology information in patent registers?*
- *Is it possible to buy or licence the technology developed by third parties?*
- *Could we partner with another company allowing them to produce our material on their machinery?*
- *Would other companies with excess production capacity allow us to rent production time in their facilities?*

Design experiments with used ropes.

Applying existing technology in innovative ways

Another scenario is to look for solutions by tweaking and modifying existing technology or combine and reconfigure existing machinery and/or equipment in completely new ways. Maybe the technology you are looking for has been developed in a different industry for a different purpose that with some alterations can be successfully adapted and configured to fit your purpose.

KEY QUESTIONS

- *Which type of processes are used in other products or industries that have similar properties to what we are trying to achieve?*
- *Are there options for using digital manufacturing technology such as 3DP technologies e.g. Fishy Filament?*
- *Could Precious Plastics or other open source plastics recycling machines be re-configured to work with used FNRC? What needs to be changed or adapted?*
- *Do you have a budget for pilots and experiments to test and adapt the technology?*

GOOD PRACTICE EXAMPLES

Precious Plastic

The Precious Plastic project developed by Dutch designer Dave Hakkens consists of a series of machines to recycle plastic waste locally and produce products. The machines have been made under an open source license and blueprints for production can be downloaded for free.

www.preciousplastic.com

Fishy Filaments

Fishy Filaments™ transforms end-of-life fishing gear and some of the plastics caught during normal fishing activities into recycled nylon filament for use in 3D printing. Unlike established nylon recycling routes our solution uses simple mechanical and thermal processes that can be achieved at a local scale and with no harsh chemicals added.

https://fishyfilaments.com/

LEARNING RESOURCES

* IPR SME Helpdesk – Free business tools for SMEs to manage Intellectual Property Rights (IPR). These take the form of jargon-free, confidential advice on intellectual property and related issues, plus training, materials and online resources.
http://www.ipr-hub.eu/

* Enterprise Europe Network shares new technologies for partnering and licensing.
http://een.ec.europa.eu

* EUREKA is a European network that supports businesses carrying out R&D.
www.eurekanetwork.org

* INNEON supports innovative SMEs in converting their innovations into business ideas.
http://www.inneon.eu/services

3.5 Product design

Eco-design focuses on the integration of environmental considerations into product design and development that aims to improve performance throughout the product's life cycle. Many adverse environmental impacts can be minimised or avoided at the design stage. Proactively addressing environmental issues at the "front of the pipe" will therefore generate most benefits. It is therefore important to build circularity into eco-design and think about design options such as design for repairability, dismantlability and recyclability from the start.

When you are reusing or recycling a waste product like *used* FNRC, it will be important to apply design strategies that close the loop enabling the new products that are put on the market to be re-used through product life extension.

KEY QUESTIONS

- *What design options are there to improve the environmental performance of our new or existing products? Integrate lifecycle thinking into the design process*
- *What is the potential to extend product life through re-use, repair, refurbishment, harvesting of components, remanufacturing, upgrading or recycling all/part of the product? Are products designed for dismantlability with parts being separable?*
- *What data and tools are available to assess the (quantified) environmental impacts in each stage of the product life cycle at the design stage?*
- *Can prototyping be performed in makerspaces, fablabs or other community workshops with shared tools and machines?*
- *Can we enable customisation of products to individual customer's needs through, for example, 3DP technology?*
- *Can we increase customer value by creating limited edition designs of our products?*
- *Should we consider getting help from an acknowledged designer to design our product and provide it with a higher aesthetic and functional value?*

"Design is not just what it looks like and feels like. Design is how it works." / Steve Jobs

GOOD PRACTICE EXAMPLES

Verdura - shoes and boots

Verdura is an Italian shoemaker selling eco-friendly and leather-free shoes and boots. Products are manufactured in Italy from recycled fishing nets and plant-based materials. https://verdura.myshopify.com/

Elvis & Kresse – fashion from discarded fire-hoses

Elvis & Kresse have been reclaiming materials, such as the discarded fire hoses destined for landfill. The company achieved international media features for their bags and fashion accessories made from waste, as well as other awards and accreditations. Although not using FNRCs, this example illustrates an innovative re-use or upcycling of a product that previously treated as waste.

www.elvisandkresse.com/

Axiom – cycling bags

Axiom produces the world's only cycling bags made out of recycled fishing nets based on a polyester yarn.

www.axiomgear.com

Showcasing clothing incorporating used FNRC products

LEARNING RESOURCES

* An award-winning open online product design course, and design guide containing an eco-design checklist, is available from TU Delft.
https://ocw.tudelft.nl/courses/delft-design-guide/subjects/

* Ellen McArthur Foundation offers a list of courses that can be taken online free of charge to understand the principles of the CE.
https://www.ellenmacarthurfoundation.org/programmes/education/courses
https://kumu.io/ellenmacarthurfoundation/educational-resources#ce-generalresources-map/key-for-general-resources-map

* The Eco-strategy Wheel is a tool to stimulate new ideas about how a product can become more environmentally benign. After identifying the risks of a product or service, *the eco strategy wheel* can be used to brainstorm new and improved solutions.
www.cfsd.org.uk/seeba/general/ecostrat.zip

* Generic guidance Guide to PAS 2050 – How to assess the carbon footprint of goods and services (2011).
http://shop.bsigroup.com/en/forms/PASs/PAS-2050-Guide/Confirmation/

* The ECODESIGN Pilot and Assistant is an online ecodesign guide for improving environmental performance and resource efficiency of different types of products (e.g. raw material intensive, transportation intensive etc.). The guide suggests appropriate eco-design measures for products that can be taken at different phases of the product lifecycle.
http://pilot.ecodesign.at/pilot/ONLINE/ENGLISH/INDEX.HTM

3.6 Open innovation and crowdsourcing

Perhaps consider bringing bright and creative people from around the world to contribute to co-designing your solutions? Using open innovation and crowdsourcing platforms and/or hack(athon) events companies can involve a broader audience in solving challenges.

KEY QUESTIONS

• What is the problem or challenge we are trying to solve or come up with new solutions?

• What are the competencies that we are looking for and to solve the problem or develop new solutions for the challenge?

• Can we make a simple but precise definition of the problem or challenge that we are looking to get solved or identify new solutions that can be used as a briefing for co-creators outside our team?

• Did we make sure we are not giving away or revealing the most unique parts of our innovation when going out in the open?

• Which platform suits our challenge best?

• Should we consider starting slow and simply scan for interested contributors – collecting ideas through social media or hosting in a 1-hour brainstorming session on Twitter?

• Could we host a hackathon event for interested co-creators inviting a cross disciplinary pool of talent from the creative communities, crafts people, makers, designers and engineers?

• Is there a makerspace, fablab or other maker community we could engage and collaborate with in an open innovation process?

• Have you produced clear agreements on intellectual property rights (IPR) before you open-up your innovation?

• Will you use a Creative Commons licence if engaging external people in hackathons or other crowdsourcing approaches?

LEARNING RESOURCES

* List with examples of open innovation & crowdsourcing platforms and projects.
https://www.boardofinnovation.com/list-open-innovation-crowdsourcing-examples/

* Publication: Democratizing Innovation, MIT Press, Von Hippel, Eric (2005):
www.web.mit.edu/evhippel/www/books/DI/DemocInn.pdf

* Cocreating a big public event. Video from IKEA in Norway.
http://creativity-online.com/work/ikea-moving-the-store/29504

* Case study: #Net_Hack_Challenge
http://cfsd.org.uk/projects/circular-ocean/nhc/

#Net_Hack_Challenge participants with used FNRC bag concept.

3.7 Marketing

Today's customers buy greener products, services or technologies because they work better, save money and are better quality with the specific environmental factors supporting the offer. Those that buy specifically on green issues are still a niche market only representing a smaller segment. Eco-brands integrate relevant environmental benefits into products alongside cost and quality features and benefits, and communicate evidence-based messages and avoid greenwashing.

KEY BUSINESS CHALLENGES

• Market research may highlight important areas of environmental or social interest, improvement or concern related to existing or new eco-innovative products, services or technologies.

• Identifying more radical product concepts or new business models driven by environmental considerations and based on dialogue with a range of stakeholders including customers, partners or suppliers.

• Transparency over the product's lifecycle is increasingly important to customers e.g. companies need to understand how products are sourced, manufactured, packaged and disposed of.

• Greener customers are influenced by recommendations of trusted peers and third parties. There is a backlash against perceived greenwashing, therefore companies must be clear about the environmental impacts of products.

• Environmental considerations should be addressed at all stages of the customer experience:

Awareness: How do we raise awareness about products and services?

Evaluation: How do we help people evaluate greener value propositions?

Purchase: How do customers purchase products and services?

Delivery: How do we deliver a greener value proposition to customers?

After sales: How do we provide greener post-purchase support?

LEARNING RESOURCES

* SIGMA - Sustainabiity Marketing Guide contains four steps towards sustainability marketing as well as some practical lessons.
www.projectsigma.co.uk/Toolkit/SIGMASustainabilityMarketing.pdf

* Jacquie Ottman - New Rules of Green Marketing (2011).
www.greenmarketing.com/our-book

* Charter et. al - Marketing & Sustainability BRASS (Cardiff University) and The Centre for Sustainable Design (2002)
www.cfsd.org.uk/smart-know-net/smart-know-net.pdf

* The EU Eco-label helps identify products and services that have a reduced environmental impact. It is a voluntary label used following certification through independent compliance checks, following a simple online application process with special discounts for SMEs.
www.ec.europa.eu/environment/ecolabel

* ISO guidelines on environmental labelling (2012)
www.iso.org/iso/environmental-labelling.pdf

* Defra - “Green Claims Guidance” provides clear principles and examples (2016)
www.defra.gov.uk/environment/economy/products-consumers/green-claims-labels/

3.8 Brand building

Success for eco-innovative products will often be linked to creating a strong brand that can create market attention and drive sales. Having the ocean or providing a solution to marine plastics as a possible element of your branding provides a multitude of opportunities for growing brand authenticity and adding appealing layers of stories to your company. Instead of only communicating your product credentials you can also highlight the positive effects on the ecosystem and wildlife of removing abandoned and *used* end-of-life fishing nets and other ocean debris. This might include stories from fishermen, divers, surfers and other ocean adventurers engaged in ocean plastic 'clean up' activities. This will also provide opportunities to convey clear social messages connected to your product.

KEY QUESTIONS

- *What are our key brand messages?*
- *What is our core story that can be told during a 30-second elevator pitch?*
- *Which visual motives and physical settings should be used in communicating our brand through photos and video?*
- *What people should be seen to be representing our brand and telling our story to customers, stakeholders, press and on social media?*
- *What does our brand personality and tone of voice sound like? How can it be communicated consistently via social media and other communication channels?*
- *Can we involve employees, customers and other stakeholders in conveying our brand messages?*
- *What is the potential for co-branding our product in collaboration with other 'like minded' brands or offering the product as part of a bundle of other related brands?*
- *How do we make sure our brand message is communicated clearly at sales points and through packaging?*
- *Do we have the potential to receive an eco-award that might provide positive public exposure? (See examples of European eco-awards).*

Establishing a brand as a responsible company

Being in the business of "saving the ocean" from *used* FNRCs as well as providing solutions for the circular economy provide excellent opportunities for establishing a profile as a responsible company. The potential is, however, dependent on the ability to communicate these credentials clearly towards potential consumers and other stakeholders through the media, social media and press relations. An alternative option could be to aim for an award as a sustainable business or eco-friendly product which can provide positive attention and 3rd party recognition.

GOOD PRACTICE EXAMPLES

Teko – socks made from regenerated fishing nets

TEKO is a sock producer making running and cycling products from regenerated commercial fishing nets. All socks are knitted in Italy and raw materials are collected and recycled, spun and dyed within 300km of the TEKO factory.

https://www.tekoforlife.co.uk

Klättermusen – Swedish outdoor gear made of used fishing nets

Klättermusen is a Swedish-based producer of outdoor gear and clothing using recycled fishing nets as material for a line of bags.

www.klattermusen.com

EXAMPLES OF ECO-AWARDS IN EUROPE

European Business Awards for the Environment

The European Business Awards for the Environment (EBAE) celebrates those companies at the forefront of eco-innovation, or that have a respect for the environment at the very core of their business principles.

http://ec.europa.eu/environment/awards/index.html

Index - Design to Improve Life

A Danish non-profit that runs the biannual INDEX: Award promoting designs aimed at the improvement of human lives worldwide.

www.designtoimprovelife.dk

4 Get your eco-innovation and circular idea off the ground

4.1 Test your idea

• Who are the potential customers for our product? Are we targeting the B2C, B2B, B2G markets (local government green procurement) or a combination?

• What value does our new product, service or technology deliver to customers?

• What are the features and benefits of our eco-innovative product, service or technology?

• Who are our competitors? Have we benchmarked our product, service or technology against competitive products and services? What are relative benefits of our product compared to competitive offers?

• Should we ask potential customers what they think about our product using social media, focus groups or giving out test samples?

• Can we open a pop-up shop that allows us to face customers and get real world feedback?

4.2 Assess your strategic capacity

• What knowledge and skills does our company possess? What are our strengths and weaknesses?

• What knowledge, skills or other resources do we need to obtain from external sources to develop a new product, service or technology?

• Do we need to set up a partnership with freelancers, consultants or companies to gain access to the expertise that we don't have?

• Do we make the product ourselves (and invest in production equipment) or do we outsource the production to a contract or specialist manufacturer e.g. an injection moulder?

4.3 Get your eco-innovation funded

• What amount of funding do we need for which tasks?

• What sources of funding are available: self funding, friends and family, overdraft, credit cards, bank loans, venture capital, “angel investors”, share ownership and/or crowdfunding?

• What are the risks associated with each source of funding?

• What types of free or subsidised funding or business support is available from European Commission or national government programmes, incubators or SME support agencies?

4.4 Get your first customer

• What is our target market? Are we focusing on B2B, B2C and B2G markets?

• What is our pricing strategy?

• How are we going to get our product, service or technology to the market (e.g. warehousing, retail or online?)

• Do we have a good understanding of the environmental impacts and performance of our product, service or technology? Have we got evidence to back up our claims? Greenwashing must be avoided!

• What is our promotional strategy? How are we going to utilise social media as one of our promotional tools alongside direct sales, website, advertising, events, leaflets, etc.?

• What can we do ourselves? What will we need to outsource? What can we address by establishing new collaborative arrangements?

• Can we use events or pop-up shops to “get out there” and kickstart the market process?

LEARNING RESOURCES

• Selling sustainability - a report by NESTA (2008)
http://www.nesta.org.uk/publications/selling-sustainability

• Selling sustainability - a ‘primer for marketers’ by Futerra and BSR.
wearefuterra.com/wp-content/uploads/2015/10/FuterraBSR_SellingSustainability2015.pdf

5 Crowdfunding

Crowdfunding is a peer-to-peer funding model that offers transparency and a sense of community for both funder and entrepreneur. A pitch for funds is made to a crowd of "backers/funders" who commit either small or large amounts in return for rewards, equity or loan repayments if the funding target is reached.

It is important to see crowdfunding not only as a way to raise money but also as a way to create a community and a crowd of followers who will raise awareness of your project. Running a successful crowdfunding campaign takes time and effort, but the end result can be rewarding - both financially and as a way of getting a proof of concept that your idea holds water in the marketplace.

5.1 Four types of crowdfunding

Donation based

This is a pure donation form typically used primarily for charitable causes, where backers typically do not get anything in return. In some countries, organisations registered as charities might provide crowdfunding backers with a personal tax refund opportunity from the amount donated.

Reward based

Backers receive something tangible in terms of a product or service in return for their contribution. It can also be viewed as an alternative "pre-sale" format where interested customers pay in advance for a product they will receive in the future. This is the typical crowdfunding form applied by start-ups launching a new product.

A special version of reward based crowdfunding is the subscription form, where backers commit to making a regular on-going payment e.g. once a month as opposed to the traditional backing with a one-off amount.

Loan based

"Crowdlending" platforms facilitate peer-to-peer loans between private lenders and companies. Investors loan out an amount of money at a certain interest rate and the amount is paid back over a specified amount of time. In a time where many traditional banks offer little or no interest rates, crowdlending has experienced growing popularity.

Equity based crowdfunding

These platforms offer private investors the opportunity to invest in unlisted start-ups and early stage unlisted companies. In return for their contribution investors receive shares in the company. Typically, investors will get their money back if the company is sold or goes public at some time in the future. Also, there are opportunities for getting dividend paid out.

EXAMPLES OF CROWDFUNDING PLATFORMS

Kickstarter – reward based platform (all or nothing campaigns)
www.kickstarter.com

Indiegogo – reward based platform (flexible goals)
www.indiegogo.com

Patreon – reward based platform (with subscription service)
https://www.patreon.com

Funding Circle - loan based platform
https://www.fundingcircle.com

Crowdcube - equity based platform
www.crowdcube.com

5.2 Tips to running a *reward crowdfunding* campaign

Below are seven key elements to address when planning and executing a reward based crowdfunding campaign.

1. The story

Crowdfunding success starts with your ability to tell a good story about your initiative. Why are you pursuing this project? Who are you? What's your passion and what's the purpose of your campaign? Your supporters would like to get to know you and your team better, so they can gain trust in you and your idea.

2. Video and pictures

Crowdfunding research shows that projects with videos are more successful. The video is your opportunity to make your campaign personal and tell people directly about your idea. The video should be precise and probably no longer than 2-3 minutes. Also make sure to have some professional still photos to include on the campaign webpage.

3. Target amount

Be realistic when you set your funding goal. The amount should reflect the workload you can mobilise for the campaign period as well as how big your social network can be activated to share the campaign. The average pledge amount from a backer is typically around €50-100 depending on the campaign and platform used. The average target amount for a successful crowdfunding campaign is typically around €5.000-€10.000.

When setting the goal, you also need to make a choice between the two main types of reward crowdfunding campaigns available - "all-or-nothing" and "flexible funding". With "all-or-nothing" campaigns you only receive the collect funds if you reach your target amount within the specified campaign end date. With "all-or-nothing", if you don't reach your target the money will be returned to backers. This is as opposed to a "flexible funding" campaign where the company gets to keep the collected funds also in case you don't reach the target goal.

Although "flexible funding" might seem like a good option, there are several arguments in support of "all-or-nothing" campaigns. Firstly, it provides a better motivator for you and your team to reach your goal. Secondly, it gives backers an "insurance" that they will only have to pay if you are successful. Also, you should take into account that crowdfunding platforms typically take a higher fee for running a "flexible funding" campaign.

4. Campaign length

The length of time of your crowdfunding campaign can be as short or long as you wish but majority of campaigns run for 30-90 days. When you decide the length of your campaign you have to consider how many resources you and your team can put into the campaign. If going for a larger amount or if you don't have too many resources, it can be a good idea to set a longer campaign period. Alternatively, it might be a better choice to make a short campaign where you are really dedicated to keeping momentum and a sense of urgency.

5. Rewards

Crowdfunding for a solution to ocean plastic pollution and specifically *used* FNRCs may make more people listen but your backers often want something tangible in return. A reward can be anything from a handwritten thank-you note to a physical product, personal recognition or an experience. A well defined "reward ladder" with different funding levels is an important way to maximise the number of backers with something for different "shopping budgets". Without any definite rules, you might have 3-5 different rewards as a minimum so your backers have different options to choose among. Make sure your rewards reflect the value of the amount donated and even consider offering early-bird special rewards for first backers to give a boost of the initial campaign period. Also, think about making special rewards targeted towards companies, which is a growing target group for crowdfunding campaigns.

6. Pre-marketing campaign

There is a high competition for crowdfunding, so you need to work out a plan for getting out to backers and promote your project. Make a list and reach out to people, organisations, bloggers and news media you think will have an interest in your idea.

Also make sure to start in advance of your campaign by writing and publishing blogs about your project on social media. The more content you can produce before launching the crowdfunding campaign, the more material you have available to utilise during the campaign period.

7. Running your campaign

After launching your campaign, it is a good idea to post daily updates on social media, and possibly use a small budget on boosting your posts. Keep communicating with your close and broader network and remember to update new contacts during your campaign. Call people via the phone, make leaflets and participate in relevant events to spread the positive news about your project.

Once you have achieved backers for your project, consider them as part of your team and interested in making sure the project becomes a success. Keep backers updated throughout the campaign - every week or as a minimum when you have reached a new milestone - and send thanks for their support. When keeping your backers updated and engaged there will be a higher chance that they decide to share your project with their network and/or increase their support to your project in order to help you reach your goal.

Source: These tips were developed by Co-Creative (www.cocreative.com) based on the work with Denmark's first curated crowdfunding platform Crowdfarm.dk

GOOD PRACTICE EXAMPLES

Fishy filaments – reward crowdfunding campaign on Crowdfunder
53 funders pledged £5,078 of £5,000 target amount (2017)
http://www.crowdfunder.co.uk/fishy-filaments

The World's First Underwear Made from discarded fishing nets by The Other Danish Guy – reward crowdfunding campaign on Indiegogo
230 funders pledged $46,773 USD of $20,000 USD target amount (2017)
https://www.indiegogo.com/projects/premium-undies-made-from-discarded-fishing-nets-fitness-design#/

Bureo, Recycled Fishing Net Sunglasses – reward crowdfunding campaign on Kickstarter
1,383 funders pledged $181,079 of $30,000 target amount (2015)
https://www.kickstarter.com/projects/1606305399/the-ocean-collection-recycled-fishing-net-sunglass

Healthy Seas – reward crowdfunding campaign on Oneplanetcrowd
190 funders pledged €17.960 of €15.000 target amount (2015)
https://oneplanetcrowd.com/nl/project/90130/description

LEARNING RESOURCES

• Crowdsource.org provides a directory of crowdfunding platforms. Firstly, choose the category of Crowdfunding and then a country. Results can be filtered by sub-category for donations, equity or lending. Some articles focus on eco-innovation and consider the specific legal and financial considerations relevant in each country.
http//reports.crowdsourcing.org

• The European Commission provides an overview and guide on the landscape of EU crowdfunding platforms for SMEs in 23 languages.
http://ec.europa.eu/growth/tools-databases/crowdfunding-guide/index_en.htm

• Further tips for running crowdfunding campaigns can also be found via NESTA.
http://www.nesta.org.uk/news/crowdfunding-tips

• Crowdcube articles
www.crowdcube.com

• Seedrs blog
http://www.blog.seedrs.com/learn/blog

• Funding Circle articles
www.fundingcircle.com/about-us/in-the-news

6 Activating local eco-innovation systems in port areas

Market research in selected ports, harbours and fishing communities in Greenland, Ireland, Norway and Scotland indicates that there are currently only a few companies making products from *used* FNRC within port areas.[1]

It is, clear that ports will include stakeholders that might be useful to engage in the development of eco-innovative products, services and technologies using recycled polymers from *used* FNRC (e.g. plastics producers, plastics recyclers and injection moulding companies). Connecting with universities, technical colleage, makerspaces, incubators and local authorities may create useful connections. In some ports, there may also be companies that produce plastic products for port-based marine industries, where there maybe potential to explore the substitution of virgin plastics to recycled polymers derived from *used* FNRC. Additionally, tourism and outdoor related activities are springing up across many ports, harbours and fishing communities and providing potential for retail, workshops and tours.

There are many good reasons for exploring and checking out the opportunities to connecting your business to other stakeholders in the specific port eco-system. This is the most obvious place to get access to *used* FNRCs through networking and collaborations with fishermen and port authorities.

[1] Access the full report on www.circularocean.eu/research


circular
ocean

circular ocean

www.circularocean.eu

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