

Introduction:

Hi everyone. Today, we'll be talking to you about the project that we have come up with from this Grand Challenge – a brand/ charity called 'ProPoly'. We are a charity that aims to help existing businesses to meet their goals of zero waste or plastic reduction. The charity has three areas of focus in order to try and reduce the amount of plastics reaching the oceans. These are food packaging, cosmetics and technology.

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Firstly, we would like to walk you through how we got to where we are today – from the beginning, we were thinking about the 'reduce, reuse, recycle' model and which section of the model we wanted to tackle. We realised that initially we were looking at recycling, the end of the system, when we should be addressing the beginning, and focus on building a circular economy. Recycling is simply an endpoint to an insufficient system, so by building a circular economy we have the potential to ensure that as little as possible plastic is discarded.

For some context, approximately 300 million tons of plastic is produced each year. Over 8 million tons of plastic is dumped into our oceans each year, which, as we heard on Monday, is the equivalent to dumping a truck full of plastic into the ocean every minute. Half of this 300 million tons is single use plastic, much of which comes from the food industry.

We have researched existing schemes that we think are particularly effective in addressing our three focuses (food packaging, cosmetics and technology) that we believe could be rolled out on a large scale to try and prevent ocean plastics from polluting our ocean environment. We will go through each of these and explain the current systems and how we propose to improve them.

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Food:

Around the world, plastic consumption has risen from 5 million tonnes in the 1950s to around 100 million today. Each year in the UK, 490 tonnes of plastic packaging is used to wrap cucumbers in our supermarkets. Clearly, this needs to change, but since Blue Planet we have seen a huge increase of interest in the way we use plastic. We think we ought to capitalise on this change in public opinion to effectively reduce plastic waste on a wider scale.

### SLIDE

Zero-waste food shops provide a brilliant foundation for solving the ocean plastics issue which we believe could be rolled out on a larger scale. Take the example of the Zero Waste Shop in Totnes, for instance. Their objective is to encourage smarter consumption by thinking about the waste we create by discouraging or 'refusing' single-use plastics. Their emphasis is on tackling the problem at its root at the beginning of the process, meaning that less waste has to be dealt with at the end of the cycle. Although these shops are currently few and far between, items such as staple food products are not significantly more expensive than in larger chains, contrary to popular belief.

### SLIDE

Another example is the 'Real Food Store' in Exeter which focuses on long term sustainability. Focusing on producing local and organic food primarily, this shop is aiming to achieve zero waste by

introducing food dispensers and products that allow customers to bring their own packaging and storage to carry their groceries in, such as glass jars or cloth bags.

Also worth noting is that there is also a new zero waste shop opening in Exeter this summer called Naked Necessities that wishes to sell all of its products 'naked', free of plastic packaging. Evidently, this practice is on the rise and thus could feasibly become the norm.

In terms of solutions to reducing plastic waste from major retailers, ProPoly would advocate providing facilities similar to these to supermarkets. This would drastically reduce the need for plastic packaging when selling common foods such as pasta, rice and lentils, among others.

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Toiletries/ cosmetics:

The cosmetics industry is another that has recently been shown to be a large source of pollution. Plastic microbeads are small plastic particles used in many cosmetics as an exfoliator or other form in products, but are extremely damaging once they reach the oceans as they are ingested by many marine species that mistake them for food. A single cleansing product can contain as many as 330,000 microbeads. Between 5,000 and 95,000 microplastic ingredients are released into the environment with each use of cosmetic products.

After a public uproar about the impact of these pollutants, the UK government passed legislation in October 2017 to ban the use of microbeads in cosmetic products, and the products are expected to be banned from sale next month. Instead of plastic, natural ingredients will legally have to be used in order to reduce the pollutants caused by this industry.

## SLIDE

Several companies already reuse or recycle containers, including Lush, Holland and Barrett and Boots. For example, Lush encourage customers to take the packaging that has been used back to the shop so that they can be reused, and where possible do not use packaging that is non-recyclable. Others such as Holland and Barrett are working towards carbon neutrality and are even creating their own recycling centre to deal with this kind of waste.

## SLIDE

Our solution to the problem caused by the cosmetics industry is to use refillable stations and electronic dispensers. This would involve dispenser machines stationed in shops that refill a bottle that the customer brings. Customers would be able to search through a database to choose a product based on preferences or needs. The bottles would have a chip that credit can be added to using an app or at the checkout. This would be incentivised through a loyalty scheme, providing discounts on each shop. It would be based on the Freestyle, microchip technology implemented by Coca-Cola. As an extension to this scheme, customers would be rewarded with additional points for returning old recyclable plastics that the company could sell back to manufacturers to make new products, thus creating a cyclical and mutually beneficial economic system.

## SLIDE

Technology:

Currently, the technology sector is most poorly-developed in terms of recycling. Approximately 50 million tons of electronics were discarded worldwide in the last year alone.

The issue is something called planned/ built-in obsolescence. This means that most technology is only designed to last for a limited period before becoming obsolete. Instead of repairing a broken device we tend to just buy new ones, which is obviously not sustainable.

Solutions to this problem can be implemented at both ends of the scale, from both big corporations to the individual consumer.

Large-scale solutions could include technology exchange schemes in which customers hand in old devices and get some money back in return. The device is then resold, refurbished, broken down into parts or modules and recycled. These schemes would appeal to companies because they would be able to recover valuable materials for manufacturing their products while simultaneously encouraging brand loyalty by offering the money in store credit.

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Apple offer up to £355 for a smartphone and up to £735 for a computer if you hand them in after use to be recycled or repurposed, but it is unclear how much of a device is genuinely recycled rather than simply extracting the most valuable materials.

## SLIDE

Samsung also have an alternative scheme, in which they repurpose old phones to reduce waste. A team of 11 experts came up with innovative ways of upcycling phones, and they encourage the public to join in. They have tried to use the original form of the phone for alternative purposes as much as possible to reduce the environmental harm associated with recycling. One way in which they did this was by using an old one to remotely control the lights in a fish tank using old phone parts.

## SLIDE

In terms of more everyday solutions to plastic use, ProPoly would advocate Street Share schemes that could be implemented to reduce the number of more expensive household products and appliances consumed and used. This would involve sharing items that aren't necessarily required in every household by creating a system where a street or community can share them. This would be implemented by building communal sheds within a community so that its members can share these items that ProPoly would provide. A scheme could also be put in place to teach members of the community how to repair these appliances when they are broken to prolong the products' respective lifespans and save money.

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Conclusion (on slides)

To conclude our presentation, we're not saying get rid of plastic. It is an incredibly versatile material, but we believe that the consumption of single-use plastics is an important environmental issue that needs to be addressed, hence our slogan: 'Stop being a singleton!'

ProPoly aims to introduce effective ways to reduce and reuse plastics in three core aspects of everyday life. We create monetary incentives for businesses in the food, cosmetics and technology industries. We also aim to educate individuals on how they can help to be part of the solution, not the problem.

This Ocean Plastics project has shown us that we need to change our mindsets about plastic use by strengthening communications between producers, consumers and communities. This, we believe, is central to solving the ocean plastics problem.

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Thank you for listening to us! Does anyone have any questions? :)