

## Single use plastic policies

### 1. EXECUTIVE SUMMARY

- 1.1. Plastic pollution is a critical issue and one that negatively impacts the environment, wildlife and health.
- 1.2. The European Plastics Strategy states that plastics production and the incineration of plastic waste give rise globally to approximately 400 million tonnes of CO<sub>2</sub> a year.
- 1.3. Consumption of plastic is set to significantly increase over the next decade if no substantial changes are made. Given projected growth in consumption, in a business-as-usual scenario the entire plastics industry is expected to consume 20% of total oil production, and 15% of the annual carbon budget by 2050 (Ellen MacArthur Foundation, 2016).
- 1.4. In July 2018, the Single Use Plastic Reduction Plan for the Isle of Man Government was launched, setting out plans to significantly reduce single use plastic across Government. Sustainability champions within each Department are now taking this forward and driving change to substantially remove single use plastics across the public service.
- 1.5. In July 2019, the Single Use Plastics Reduction Plan for the Isle of Man Community was launched. The plan includes a legislative ban on certain single use plastic items in line with the European Union's Single Use Plastic Directive (EU Single Use Plastic Directive, 2018), in addition to various initiatives to engage and educate the wider community on the issue.
- 1.6. It has been estimated that the Government and community plastic plans could potentially result in a reduction of 3.5kg of plastic per person per year, saving approximately 928,642 kg CO<sub>2</sub>eq per year. However, it is important to note this is a rough estimate as the resources (i.e. time/staff/finances) allocated for implementation of the plans will largely dictate their success.
- 1.7. It is also important to note that alternatives to single use plastic have their own carbon footprint. Understanding the impacts of alternatives has not been quantified in this report, but should be taken into consideration in future work, including in education and legislation.
- 1.8. Other strategies that have the potential to influence the amount of single use plastic used on the Island include the Food Matters Strategy, the Waste Strategy and the UNESCO Biosphere's Refill Scheme.
- 1.9. Influence from large off-island retailers (e.g. Tesco, Co-Op and Marks & Spencer) may reduce the amount of single use plastic used on the Island through changes in

packaging policies. However most of the retail policies focus on moving toward more recyclable packaging, over a reduction in packaging. As the Department of Infrastructure (DOI) does not currently target food packaging for recycling, this may not help reduce carbon produced as it is all currently processed as general waste at the Energy from Waste Facility.

## 2. THE CHALLENGE

- 2.1. To ensure single use plastics/other plastics policies minimise emissions

## 3. THE BACKGROUND

- 3.1. Plastic pollution is a critical issue and one that negatively impacts the environment, wildlife and health. Around 50% of all plastic produced is single use and, as such, represents an unsustainable use of oil, which is a finite resource (Plastics Ocean, 2018). Plastic production also makes a significant contribution to greenhouse gas (GHG) emissions (Hamilton *et al.*, 2019).
- 3.2. The European Plastics Strategy states that plastics production and the incineration of plastic waste give rise globally to approximately 400 million tonnes of CO<sub>2</sub> a year. Using more recycled plastics can reduce dependence on the extraction of fossil fuels for plastics production and curb CO<sub>2</sub> emissions.
- 3.3. Despite this knowledge, our consumption of plastic is set to significantly increase over the next decade if no substantial changes are made. Given projected growth in consumption, in a business-as-usual scenario oceans are expected to contain more plastics than fish by 2050 (Geyer *et al.* 2017), and the entire plastics industry is expected to consume 20% of total oil production, and 15% of the annual carbon budget (Ellen MacArthur Foundation, 2016).
- 3.4. In July 2018, the Single Use Plastic Reduction Plan for the Isle of Man Government was launched, setting out plans to significantly reduce single use plastic across Government. Sustainability champions within each Department are now taking this forward and driving change to substantially remove single use plastics across the public service.
- 3.5. In July 2019, the Single Use Plastics Reduction Plan for the Isle of Man Community was launched. The plan includes a commitment to a legislative ban on certain single use plastic items (Table 1) in line with the European Union's Single Use Plastic Directive (EU Single Use Plastic Directive, 2019), in addition to various initiatives to engage and educate the wider community on the issue.
- 3.6. This short paper summarises progress so far, makes a rough estimate of the potential carbon saved on Island as a result of these plans and outlines the necessary resource requirements for success. The paper also outlines some of the other strategies and initiatives that have potential to influence the amount of single use plastic used on the Island.

## Single Use Plastic Plan for the Isle of Man Government

# ACTION PLAN TO REDUCE GOVERNMENT'S USE OF PLASTICS

After a review of current plastics use in the Isle of Man Government, and looking at the evidence for the sustainability of alternatives to single use plastics, this action plan outlines the plastics action for the Isle of Man, focusing on reducing use within Government and improving education and awareness.

What we will do	Why this is important	When
Build capacity of sustainability champions through training, provision of resources and technical support.	Sustainability champions will be key in delivering plastics reduction across Government. DEFA will train sustainability officers to support their work in their departments, to ensure that have the best information available to them.	Immediately
Ensure single use plastics are minimised at events	Events often create large quantities of single use plastic waste and litter. Sustainable alternative are available. Guidance will be given to departments and it is expected that improvements can be made year on year.	
Ban balloon releases by Government departments, agencies and schools and by other parties on Government land	Whilst balloon releases by Government organisation are rare, they are still carried out in the private sector. The intention is to minimise pollution and risk to wildlife.	
Ensure easy access to tap water in Government buildings.	Enabling Government workers and others to easily access tap water in Government buildings will minimise the use of plastic bottled drinks consumed.	
Ban the use of specified single use plastic items across Government. To include the following if single use plastic: straws, cotton buds, cutlery, plates, cups, drinks stirrers.	Many of these items are either unnecessary or can easily be replaced by sustainable alternatives. Not using these items will reduce plastic waste and wasteful use of resources. Exceptions will be made where needed, e.g. for clinical use of straws.	By January 2019
Implement new procurement criteria considering single use plastics, and encouraging the use of sustainable alternative where appropriate	Whilst environmental issues are considered as part of procurement, this is an opportunity to facilitate making sustainable choices and avoiding unnecessary single use plastic.	
Departments will opt in to appropriate elements of plastics guidance, taking into account their operational requirements and any crucial exemptions required.	The guidance will outline best practice on single use plastics and targets that departments will be able to opt into, according to operational requirements (ultimately facilitating meeting the 2021 target for elimination of all unnecessary single use plastics)	
Identify an officer in Government to lead on plastics reduction and recycling	The delivery of the plastics plan will be enhanced by an officer who can lead on plastics reduction as part of their role. This may link into advice on recycling and other sustainability measures.	
Establish a consistent recycling scheme across all Government Buildings, where practical	Although some recycling is done in most Government buildings, there is currently no central recycling scheme and some schemes are run by individuals.	January 2020
Reduce plastic fragments from food and sewage waste	Removing all sources of plastic entering the marine environment from Manx sources is important and finding a solution to plastic from waste disposal needs to be addressed.	
Eliminate all unnecessary single use plastics across Government and replace with sustainable alternatives	Building on the initial bans of single use plastics and the opt in scheme for departments, this gives the organisation a longer term target. Whilst plastics will continue to play an important role, where appropriate, all unnecessary and unsustainable use will cease.	

## Single Use Plastic Plan for the Isle of Man Community

The issue	What we want to do	How we will achieve this	When
Plastic pollution from land, entering our oceans and waterways; unnecessary use of finite oil resource	Reduce consumption of single use plastic and encourage disposal of other plastics in appropriate waste streams	<p>A legislative ban on the sale and distribution of the following single use plastic items: plates, plastic carrier bags, straws (with necessary exceptions i.e. medical use), cutlery, polystyrene food containers for immediate use, polystyrene cups, plastic stemmed cotton buds, balloon sticks and oxo-degradable plastics</p> <p>Consult local businesses to identify ways to reduce/remove unnecessary single use plastic packaging from goods</p> <p>Work with Beach Buddies to develop a scheme that identifies and celebrates businesses that have removed/reduced all possible single use plastic from their premises</p> <p>Incorporate plastic reduction into the judging criteria for competitions such as the Food and Drink Awards and the Biosphere Awards</p> <p>Continue education and awareness campaigns on plastic pollution and single use plastic reduction</p> <p>Work with local non-government organisations, schools and businesses towards the Surfers Against Sewage 'Plastic Free' Community Status</p> <p>Coordinate with bodies outside of the Isle of Man to reduce plastic usage and pollution</p>	<p>As soon as possible (using the powers introduced by the Climate Change Act expected in 2021)</p> <p>Immediately</p> <p>By the end of this administration, subject to obtaining the necessary planning approvals and site acquisitions</p>
Plastic debris from the fishing industry entering our oceans and waterways	Encourage the fishing industry to dispose of their waste and end of life gear appropriately	Reinvigorate the existing Fishing for Litter Scheme, working closely with the Manx Fish Producers Organisation and the Manx fishing fleet	
Micro-plastics entering the world's oceans	Reduce micro-plastics entering the ocean from our Island	A legislative ban on the manufacture, sale and distribution of rinse-off personal care products that contain plastic micro beads	
Low worldwide recycling rates for plastic. (only 9% of plastic used globally has been recycled since 1950)	Encourage our community to recycle more plastic and encourage manufacturers/retailers to produce/stock products with higher recycled content	As a matter of urgency, DOI and DEFA will engage with the Local Authorities to progress the recycling action plan for household waste which takes account of the Island's unique situation and therefore balances the practical, financial, environmental and carbon footprint aspects of all the recyclable household waste streams	
		Consider a levy on beverage bottles that contain less than 30% recycled plastic content	
		A public consultation on the potential for a bottle return scheme on the Island	Autumn 2019

## Estimating the Carbon Saving from Government and Community Plastic Plans

- 3.7. Working off the assumption that the **average European uses 30kg of plastic per year** (Eurostat, 2015), we can assume the amount of plastic used by an Isle of Man resident is similar ~ 30kg.
- 3.8. It has been estimated that **50% of plastic used is single use** (Geyer et al., 2017; UN Environment, 2019). We can therefore assume that **the average Isle of Man resident uses approximately 15kg of single use plastic per year**.
- 3.9. The next assumption is the level of influence these plans will have within the community, which is hard to predict and relies largely on the level of resources used to promote the plans and engage the community on the issue. The Government Plan has so far had a positive influence, but more could be done. Some of the actions in the community plan are legislative which will limit the availability of certain single use plastic items, but other actions require education and creating a behavioural change within businesses and individuals. It is also important to note that there are certain factors that are currently out of our control such as the Island's reliance on importation of food and other goods wrapped in plastic packaging from larger retailers such as Amazon, Tesco and Marks and Spencer. This is considered through other work streams relating to climate change, but is not part of the existing plastic plans.
- 3.10. **Through successful implementation of legislation and resources for education and awareness we can reduce 3.5kg of single use plastic per person per year.** This is, at best, a rough estimate and may be an over assumption as the majority of single use plastic waste produced by Isle of Man residents is plastic packaging, most of which is imported and so currently Government have limited control over (see above).
- 3.11. It is also important to note that alternatives to single use plastic have a carbon footprint. Understanding the impacts of alternatives has not been quantified in this report, but should be taken into consideration in future work.

## Carbon Calculation

- 3.12. Assumption 1 (based on above): 3.5 kg of plastic could potentially be reduced per person per year

Isle of Man population is approximately 83300 (Isle of Man in numbers report, 2016)

Therefore;

$$3.5 \times 83,300 = 291,550 \text{ kg of plastic reduced on the Island per year}$$

Using the values from Zero Waste Scotland on CO<sub>2</sub> emissions from averaged mixed plastic production: approx.. 3185 kg CO<sub>2</sub>eq per tonne of material, as such:

$$291.5 \times 3185 = \textbf{approx. 928642 kg CO}_2\text{eq could potentially be saved per year}$$

Table 1 Carbon Values of Plastic types – (confidential) Source: Zero Waste Scotland

Waste management option	LDPE & LLDPE (kg CO <sub>2</sub> eq per tonne material)	HDPE (kg CO <sub>2</sub> eq per tonne material)	PP (kg CO <sub>2</sub> eq per tonne material)	PVC (kg CO <sub>2</sub> eq per tonne material)	PS (kg CO <sub>2</sub> eq per tonne material)	PET (kg CO <sub>2</sub> eq per tonne material)	Average plastic film (kg CO <sub>2</sub> eq per tonne material)	Average plastic rigid (kg CO <sub>2</sub> eq per tonne material)	Average mixed plastic (kg CO <sub>2</sub> eq per tonne material)
Production	2,614	2,790	3,255	3,137	4,549	4,369	2,592	3,282	3,185.19
(Preparation for) reuse									
Open Loop Recycling	676	676	676	676	2,014	676.28	676	676	748.13
Closed Loop Recycling	1,941	1,647	2,324	2,267	3,327	2,682	1,941	2,159	2,187.92
Energy Recovery (combustion)	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,741	1,739.22
Energy Recovery (AD)									
Composting									
Landfill	4	4	4	4	4	4	4	4	4.39
Closed Loop minus avoided Primary Production	- 672	- 1,143	- 930	- 870	- 1,221	- 1,687	- 651	- 1,123	- 997

## 4. OTHER STRATEGIES AND INITIATIVES RELATING TO PLASTIC REDUCTION

### Food Matters Strategy

4.1. The Food Matters strategy also aims to work with local producers, and although there is no specific mention of reducing plastic packaging, there is an aim to work with producers on generally reducing packaging and the carbon footprint of produce through the following initiatives:

- Food start-up advice—in collaboration with the Department of Enterprise (DfE) a dedicated short course for new and prospective food businesses will be convened to include all of the essential skills required to improve the likelihood of business success. Modules to include creating business plans, market research, marketing, **packaging** and branding.
- Support for new product development—start-up companies are limited to small scale trials and production, and are unlikely to be able to develop new products or scale up production without investing in significant processing equipment. Other areas of help include functional aspects of **packaging**.
- A detailed assessment of the current Manx food and drink sector to address market share and growth opportunities—Opportunities for adding greater value to the primary output of agriculture and fisheries. This can take many forms, such as niche markets, increases the value of provenance, **improved packaging** and innovations leading to improvements in the experience for the end consumer.

4.2. More specific guidance on plastic packaging could help to further reduce plastic packaging on local produce, and this will be discussed with the Food and Drink team going forward.

### Waste Strategy

4.3. On the Island, the main options for managing existing plastic waste streams are recycling off-Island (plastic bottles only) or incineration with energy recovery via the Energy from Waste Facility (EfW). The Waste Strategy outlines the Isle of Man's response to the waste hierarchy (figure 1).

- 4.4. The Department of Infrastructure (DOI) will support the Department of Environment, Food and Agriculture's (DEFA) work on reducing the use of single use plastics through Policy 7 of the Waste Strategy.
- 4.5. The DOI will be undertaking a new household waste audit, to update the 2006 audit, which will identify relevant waste streams and provide a new baseline for assessing change.

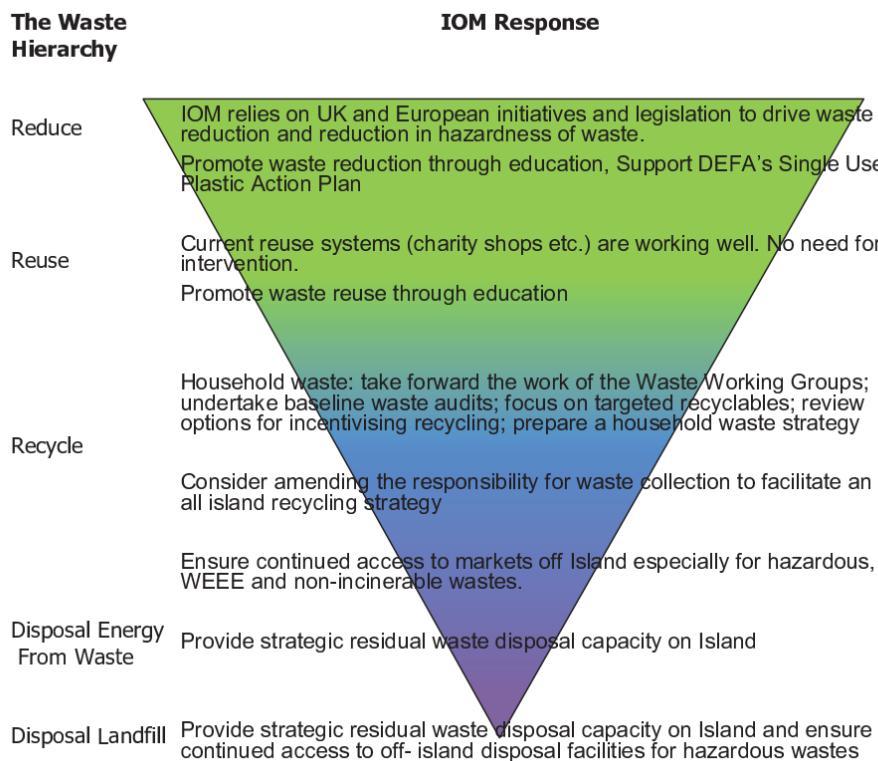


Figure 1 Isle of Man's response to the waste hierarchy

### **Biosphere Refill Scheme**

- 4.6. UNESCO Biosphere Isle of Man is the licenced operator for the Refill Scheme in the Isle of Man. The Scheme aims to help reduce the use of single use water bottles by providing free easy to access tap water. The voluntary Refill Stations—shops, cafes, museums etc.—display the easily identifiable blue logo and fill up bottles with cold tap water on request. Businesses are searchable on the official Refill app and currently there are 140 Refill stations all across the Island.

## 5. OFF-ISLAND INFLUENCE

- 5.1. Large retailers across the UK have targets and initiatives to reduce or redesign single use plastic packing, this will influence the plastic packaging of products imported to the Isle of Man. Larger retailers with stores on the Island have made the commitments listed in 5.2-5.4.
- 5.2. Co-Op
- Own-brand packaging will be easy to recycle by 2023 (80% by 2020);
  - A minimum of 50% recycled plastic in PET plastic, pots, trays and punnets and HDPE bottles by 2021;
  - Eliminate own-brand CPET, black and dark plastic packaging by 2020;
  - To remove any plastic (from packaging and products) that is not designed to be recycled or reused by 2023;
  - Meat product packaging is now made with a single material so it can be recycled easily;
  - Milk bottle top colours are a lighter shade, this makes them easier to recycle;
  - pizza bases are all cardboard, own-brand straws are paper, irresistible tomato packaging is cardboard;
  - Stock compostable carrier bags in 1,400 selected Co-ops stores in England and Scotland.

### Tesco

- 5.3. Working towards all packaging becoming part of a closed loop, three strategic priorities to help reduce packaging waste and boost recycling across the UK:
- Packaging will be fully recyclable by 2025 UK: 83% —KPI: Percentage weight of all own brand packaging meeting 'widely recycled' criteria;
  - End the use of hard to recycle materials from our UK packaging by the end of 2019 —KPI: 2,914 tonnes KPI hard to recycle materials removed from our own brand packaging;
  - All paper and board used will be 100% sustainable by 2025;
  - Halve packaging weight by 2025 (2007 baseline).

**Marks & Spencer**

5.4. Overall goal: achieve a circular economy—less plastic and what is used gets reused or recycled, three key actions:

- Reducing the plastic used in business
- Work collaboratively to reform the UK's waste and recycling system;
- Making it easier for consumers to recycle and reuse plastic;
- Plans to remove 2000 tonnes of plastic packaging by end of 2020;
- Trialling plastic free isles;
- All plastic packaging will be widely recyclable by 2022;
- Removal of black plastic packaging by 2020;
- Removal of polystyrene from packaging by 2020;
- Trialling a take-back scheme for hard to recycle plastic.

**How these changes will impact the Isle of Man**

5.5. Influence from large off-Island retailers may reduce the amount of single use plastic used on-Island through changes in packaging policies. However, most of the retail policies focus on moving towards more recyclable packaging over a reduction in packaging. As the DOI does not currently target food packaging for recycling, this may not reduce carbon produced as it is all currently processed as general waste at the Energy from Waste Facility.

**6. SUMMARY**

6.1. The Plastic Reduction Plans, along with the Waste Strategy, outline plans to reduce to a minimum the consumption and use of non-essential plastics. These plans have the potential to significantly reduce the use of single use plastic items within Government and the community. However, the resources (time/staff/financial) allocated for implementation the plans will largely dictate their success. Other Government policies and initiatives have the opportunity to assist in reducing plastic packaging with local producers (Food Matters Strategy) and reducing single use plastic bottle use across the community (Biosphere Refill Scheme). Changes to packaging policy from large retailers, and media influence are also likely to change people's consumption of single use plastic products going forward.

## 7. REFERENCES

- CIEL (2019). *Plastic & Climate, The Hidden Costs of a Plastic Planet*. [online] Ciel.org. Available at: <https://www.ciel.org/wp-content/uploads/2019/05/Plastic-and-Climate-FINAL-2019.pdf> [Accessed 15 Oct. 2019].
- Ec.europa.eu. (2019). How much plastic packaging waste do you produce?. [online] Available at: <https://ec.europa.eu/eurostat/web/products-eurostat-news/-/EDN-20180422-1?inheritRedirect=true> [Accessed 15 Oct. 2019].
- Ellen Macarthur Foundation (2019). New Plastics Economy. [online] Ellenmacarthurfoundation.org. Available at: <https://www.ellenmacarthurfoundation.org/our-work/activities/new-plastics-economy> [Accessed 15 Oct. 2019].
- EU Single Use Plastic Directive (2018), Available at: <https://data.consilium.europa.eu/doc/document/PE-11-2019-REV-1/en/pdf>
- Plastic Oceans International. (2019). Facts . About Plastic . Help—Plastic Oceans Foundation. [online] Available at: <https://plasticoceans.org/the-facts/> [Accessed 15 Oct. 2019].
- Geyer, J. R. Jambeck, K. L. Law, (2017) Production, use, and fate of all plastics ever made. Sci. Adv. 3, e1700782 .
- UN Environment (2019). Our planet is drowning in plastic pollution. This World Environment Day, it's time for a change. [online] Unenvironment.org. Available at: <https://www.unenvironment.org/interactive/beat-plastic-pollution/> [Accessed 15 Oct. 2019].