

**Explanatory Memorandum to the Environmental Protection (Single-use Plastic Products) (Wet Wipes) (Wales) Regulations 2025**

This Explanatory Memorandum has been prepared by the Local Government, Housing, Climate Change and Rural Affairs Group and is laid before Senedd Cymru in conjunction with the above subordinate legislation and in accordance with Standing Order 27.1.

**Cabinet Secretary's Declaration**

In my view, this Explanatory Memorandum gives a fair and reasonable view of the expected impact of the Environmental Protection (Single-use Plastic Products) (Wet Wipes) (Wales) Regulations 2025. I am satisfied that the benefits justify the likely costs.

**Huw Irranca-Davies MS**

**Deputy First Minister and Cabinet Secretary for Climate Change and Rural Affairs**

**6 May 2025**

## PART 1 – EXPLANATORY MEMORANDUM

### **1. Description**

- 1.1 The Environmental Protection (Single-use Plastic Products) (Wet Wipes) (Wales) Regulations 2025 (“the Regulations”) prohibit the supply and offer of supply, of single-use wet wipes containing plastic in Wales.
- 1.2 The Regulations add “wet wipe” to the table in paragraph 1 of the Schedule to the Environmental Protection (Single-use Plastic Products) (Wales) Act 2023, (“the 2023 Act”). This amendment makes single-use wet wipes containing plastic a “prohibited single-use plastic product” for the purpose of the 2023 Act. “Plastic product”, “single-use” and “plastic” are defined under section 1 of the 2023 Act.
- 1.3 The Regulations add the definition of “wet wipe”, “medical” and “treatment” to paragraph 2 of the Schedule to the 2023 Act, for the purpose of the table at paragraph 1 of the Schedule.
- 1.4 The Regulations also provide for an exemption to the supply of single-use wet wipes containing plastic, by amending column 2 of the table at paragraph 1 of the Schedule to the 2023 Act.
- 1.5 The Regulations intend to address the environmental pollution caused from the use of single-use wet wipes containing plastic and to accelerate the shift to reusable or more sustainable alternatives.

### **2. Matters of special interest to the Legislation, Justice and Constitution Committee**

- 2.1 None.

### **3. Legislative background**

- 3.1 The Regulations are made under powers conferred by section 3(1) of the 2023 Act.
- 3.2 The 2023 Act allows the Welsh Ministers to prohibit the supply and offer of supply of certain single-use plastic products, in Wales.
- 3.3 Before making regulations under section 3 of the 2023 Act, the Welsh Ministers are required to consult:
  - a. local authorities
  - b. the natural resources body for Wales and other persons who promote the protection of the environment in Wales
  - c. persons who represent the interests of producers or suppliers of single-use plastic products
  - d. persons representing the interests of people who have a protected characteristic

e. other persons Welsh Ministers consider appropriate

- 3.4 In considering whether to exercise the power in section 3, the Welsh Ministers must also take into account their duty— to promote sustainable development under section 79(1) of the Government of Wales Act 2006, and to carry out sustainable development under the Well-being of Future Generations (Wales) Act 2015.
- 3.5 Pursuant to section 21(3) of the 2023 Act, these regulations are being made in accordance with the affirmative procedure.

#### **4. Purpose and intended effect of the legislation**

- 4.1 The policy objectives of the proposals are to:
- Rapidly reduce the environmental harm caused by plastic and microplastic pollution, particularly in our rivers and seas, from the use of wet wipes containing plastics.
  - Encourage a shift towards non-plastic or reusable alternatives to wet wipes containing plastic.
  - Support our wider strategic objective of tackling the throw-away culture by encouraging a change in behaviour in relation to the consumption of single-use products.

#### Strategic approach to tackling plastic and single-use products in Wales

- 4.2 Our proposals aim to build upon the decisive action already taken by the Welsh Government in reducing plastic pollution in Wales. We were the first country in the United Kingdom to significantly reduce the use of single-use carrier bags by introducing a charge under [The Single Use Carrier Bags Charge \(Wales\) Regulations 2010](#) and worked with the other UK nations to ban the sale of microbeads in rinse-off personal care products under [The Environmental Protection \(Microbeads\) \(Wales\) Regulations 2018](#).
- 4.3 By introducing the 2023 Act, we have targeted several commonly littered single-use plastic products associated with on-the-go food and drink consumption. Products such as single-use plastic straws, drink stirrers, cutlery and expanded polystyrene cups and food containers are prohibited single-use plastic products in Wales.
- 4.4 The Regulations form part of the Welsh Government's ongoing strategic commitment to reduce plastic waste and to phase out unnecessary single-use products, especially those made of plastic.
- 4.5 The Welsh Government also continues to support international actions to tackle plastic pollution, including the United Nations proposals for a new international, legally binding plastic pollution treaty.

## The plastic pollution problem

- 4.6 Plastic pollution is one of the biggest environmental concerns we currently face. According to a [2018 survey on ocean plastics by Yonder Consulting](#), nine in ten (89%) of people in the UK state they are concerned about plastic pollution in the ocean and the impacts this is having on marine wildlife. Responses to the Welsh Government's [2021 consultation](#) on reducing single-use plastic showed there was overwhelming support for legislative action in this area, with many respondents urging the Welsh Government to go further with their proposals to address environmental concerns. This included 63% of respondents supporting action to address wet wipes containing plastic.
- 4.7 Despite these concerns, a [2022 Thames Water survey](#) found that 22% of people admitted to flushing wet wipes into sewage systems and a [2019 litter composition analysis report published by the Welsh Government](#), found wet wipes made up around 2.5% of litter by item count. This highlights that despite ongoing awareness raising campaigns by the Water Industry (including Dŵr Cymru/ Welsh Water's [Stop The Block campaign](#)), a large volume of wet wipes are still being inappropriately disposed of and entering the environment.
- 4.8 A [2021 study published in the Science of the Total Environment journal](#) identified plastic-containing wet wipes as a significant contributor to plastic pollution in rivers and oceans. Plastic-containing wet wipes persist in the environment when they are disposed of incorrectly, breaking down into microplastics over time.
- 4.9 An unpublished 2022 UK Water Industry Research Project found wastewater treatment plants can remove 99% of microplastics by number and 99.5% by mass, however there is growing evidence that even a small percentage of microplastics entering the sewerage system may cause harm to wildlife, the environment and even people's health, when released.
- 4.10 A [2017 article in National Geographic](#) provides an overview of the issues associated with marine life ingesting plastic, highlighting research on anchovies and marine invertebrates in particular. An article from 2024 on the [world's plastic pollution crisis](#) published in National Geographic also reported that in addition to harms to marine and fresh water life from plastic pollution, some large land animals such as diverse as elephants, tigers, camels and cattle have been found to have died as a result of ingesting large amounts of plastic. In total, nearly 2,100 species are known to have been affected by consuming plastics and microplastics.
- 4.11 In addition to harm to the organisms themselves, the particles and toxins in microplastics can be transferred up the food chain and can eventually ingested by humans. A paper by The University of Newcastle Australia for the World Wildlife Fund published in 2019, [Assessing Plastic Ingestion from Nature to People](#), estimated that humans consume around 5g of plastic a week – the equivalent size of a credit card - primarily from drinking water.

These concerns were also highlighted in a 2019 World Health Organisation publication on [Microplastics in Drinking Water](#).

- 4.12 While the risks of microplastic pollution to human health are not fully understood and further research is required, there is mounting evidence of the potential for harm. For example, studies on human cells and on animals have found this to have an alarming impact, causing damage to the intestine, changing cell permeability and, in some cases, blocking digestive tracts, as well as causing inflammation as outlined in [a 2019 article on the follow up research needed on microplastics](#). Similar concerns were highlighted in a 2019 paper by Cox et al, [Human Consumption of Microplastics](#).
- 4.13 In 2022, [UK Water Industry Research](#) published evidence showing that wet wipes harbour potentially harmful levels of faecal bacteria, including *E coli*. These bacteria appear to bind to wet wipes containing plastic more often than to naturally occurring materials such as seaweed and sand, therefore prolonging their persistence in the water and at beaches. This may lead to severe health issues for those using beaches and riverbanks. Once plastic waste is mismanaged and enters the environment, there is very little we can do to extract it, however we can take steps to lower our exposure to it and prevent the problem from getting worse. The report identifies a ban as a possible solution to the issues of wet wipes disposed of by flushing.
- 4.14 Whilst there is still some uncertainty around the potential harm to human health from plastics, scientists have urged for a precautionary approach to be taken, with one scientist comparing the issue to the decades-long effort to convince governments that smoking causes cancer (from [Microplastics are in our bodies. How much do they harm us?](#) Published in 2023 by National Geographic).
- 4.15 Even when wet wipes are disposed of appropriately, they can still cause damage to the environment. As wet wipes cannot be recycled, those that are appropriately disposed of tend to enter the residual waste stream and are either landfilled or incinerated. From the [StatsWales quarterly management of waste by management method figures](#), the majority of household residual waste Wales is incinerated with energy recovery.
- 4.16 According to WRAP's 2021 [carbon waste and resources metrics report](#), incinerating plastic leads to significant greenhouse gas emissions compared to alternative natural materials. In the case of wet wipes, viscose, which is made of over 99% wood pulp and lyocell are commonly available non-plastic alternatives to plastic containing wipes. Limiting the amount of plastic entering the residual waste stream is therefore important for reducing emissions from waste treatment. [A life-cycle assessment from 2021 by Zhang, et al](#) comparing plastic wet wipes with those made of viscose available on the market in China found these were good alternatives to prevent plastic leakage into the environment from wet wipes.
- 4.17 Similarly, primary plastic production also produces greenhouse gas emissions. The production of one tonne of plastic produces 1.9-2.3 tonnes of Co2e

compared to 0.2 tonne of Co2e released to produce a tonne of wood, from the same WRAP metrics report above.

## **Rationale for Welsh Government intervention**

- 4.18 The use of wet wipes containing plastic imposes negative impacts in terms of the cost to the environment and society from the plastic pollution they cause. The market does not price in these negative impacts, so they act as negative externalities. As such, these impacts are not fully accounted for in the economy when companies and people produce, sell, consume and dispose of plastic wet wipes. The existence of negative externalities such as these ultimately leads to a higher than optimum consumption of these products by society. This is a market failure and requires government action to reduce overconsumption.
- 4.19 Some UK wet wipes producers, such as [Nice-Pak International](#) already manufacture up to 90% of their wipes plastic-free, and retailers such as [Boots the Chemist](#), [Tesco](#) and [Holland & Barrett](#) have already stopped selling plastic wet wipes. This is a positive step and commendable, however evidence suggests the pace of transition, across the industry as a whole, will remain slow in the absence of government intervention. [Consultation responses](#) suggest only around half of manufacturers (53%) have plans to cease the production of plastic wet wipes in the next five years. The urgency in the need to eliminate unnecessarily single-use plastic means Government need to act to quicken the pace.
- 4.20 The environmental impacts of plastic and microplastic pollution, on land and in our waters, means that a proposed ban is the preferred approach. As discussed, the seriousness of these negative impacts has led the Welsh Government to commit to eliminate unnecessary plastic and ban problematic plastic products where there are suitable alternatives. In the case of wet wipes designed for household cleaning and personal care tasks, the identification of plastic as unnecessary and the existence of suitable alternatives justifies the assessment that any consumption is overconsumption, and the optimum level of usage within society is nil. This supports the introduction of a ban.
- 4.21 Legislating for a ban sends out a positive message the Welsh Government is taking action on tackling a key environmental issue. Announcing and enforcing this legislation will encourage businesses to 'do the right thing' and stop the supply and sale of wet wipes containing plastic.

## **5. Consultation**

- 5.1 The Welsh Government has undertaken several phases of engagement and consultation to help develop its policies in relation to single-use wet wipes containing plastic.
- 5.2 Between 30 July 2020 and 22 October 2020, we sought views in our [Reducing Single-use Plastic consultation](#) on whether future action should be taken on wet wipes (including potential bans). As part of this process the Welsh

Government engaged with the Water Industry, businesses and those potentially impacted by any proposals, including groups representing disabled people, children and young people and those working in the health sector. Over 60% of respondents to the consultation were in favour of further action, however concerns were raised over a blanket ban and some respondents called for exemptions for certain users and sectors (for example healthcare) if a ban was introduced.

- 5.3 Following the consultation, the Welsh Government continued to develop its policies and consideration was given to restricting wet wipes with plastic content under the 2023 Act. Whilst developing the legislation, the Welsh Government undertook further extensive engagement with groups, individuals and businesses. These discussions highlighted that suitable alternatives to wet wipes containing plastic did not exist in some circumstances, such as in medical settings and certain industries, where the strength provided by plastic is necessary and not currently available through other materials. Concerns were also raised over the composition of wet wipes and how these could be defined. On this basis a decision was made not to include wet wipes in phase one of the 2023 Act, however a Ministerial commitment was given to further develop our proposals.

## **UK wide proposals**

- 5.4 To help address some of the concerns identified in our earlier engagement, it was agreed that a joint UK wide approach be sought. [A formal UK wide public consultation ran for six weeks, from 14 October 2023 to 25 November 2023](#) and sought views on:
- a. proposed ban on the businesses who manufacture, supply or sell wet wipes containing plastic;
  - b. The likely impact of the proposed ban for consumers, particularly for those with protected characteristics, e.g. disabled people;
  - c. Any wider impacts of keeping plastic containing wet wipes in circulation;
  - d. Any wider impacts of wipes marketed as alternative or plastic-free;
  - e. The composition of alternative wet wipes;
  - f. If any exemptions are needed for wet wipes containing plastic; and
  - g. The proposed timeframe for the commencement of the ban.
- 5.5 A total of 1,561 responses were received, with 95% of respondents either agreeing or strongly agreeing with the proposed ban on wet wipes containing plastic. Whilst there was overwhelming support from the public and environmental groups, of those businesses who responded, 60% disagreed or strongly disagreed with the proposals. Of particular concern was the inclusion of manufacturing in the proposals and the potential disproportionate impact this would have on the industry in the UK.
- 5.6 Another concern identified was the need for a sufficient transition timescale for industry to adapt, noting the machinery for producing non-plastic wipes is very different to those need to make plastic wipes. The length of this transition



period varied amongst respondents, however, it was felt a minimum of 24 to 36 months was required.

- 5.7 Responses to the consultation did not identify any wider concerns of negative impacts of our proposals, with most respondents acknowledging that alternative, non-plastic wipes for common household uses were already readily available.
- 5.8 A four-nation [government response](#) was published online on UK government website which included a summary of the responses. The Welsh Government confirmed its final proposals via a [Written Statement](#) to the Senedd on 22 April 2024 and this included key policy decisions following the consultation on the scope of the ban, the transition time and on the proposed exemptions. In summary, these were:
- a. **A ban on the supply of wet wipes containing plastic.** We have listened to stakeholders and acknowledge the size of the manufacturing industry in the UK. Therefore, we decided to introduce a ban on the supply of these wipes, in line with scope of the bans brought under the 2023 Act. This is intended to mitigate the economic impact of the ban and reduce the possibility of job losses in the industry.
  - b. An **18-month transition period** will be provided to enable manufacturers to shift production to alternative materials and to reduce the risk that remaining stocks would be sent to landfill or incinerated.
  - c. To provide an **exemption** for the supply and sale of wet wipes containing plastic for industrial and medical purposes. This follows consultation feedback which highlighted that for some uses, plastic free alternatives are either unsuitable or unavailable.
- 5.9 On 6 May a Written Statement was published outlining changes that had been made to the policy during the drafting of the Regulations. These changes clarified the following:
- a. A specific **exemption for industrial use** was not required in Wales, as the offences of ‘supply’ or ‘offer to supply’ only apply to ‘consumers’, who are defined as *‘individual(s) acting for purposes that are wholly or mainly outside that individual’s trade, business or profession’*
  - b. The anticipated **exemption to allow pharmacies** to continue supplying wet wipes with plastic content was simplified to allow the continued supply of plastic containing wet wipes in any setting if they are *‘designed or manufactured for use in connection with medical care or treatment’*
  - c. The **definition of wet wipe** was also simplified and now defined as ‘a non-woven piece of fabric which has been pre-wetted’



- 5.10 The offence of supply, or offer to supply, under the 2023 Act only applies where prohibited single-use plastic products are supplied to a “consumer”. Therefore ‘business-to-business’ supply chains will be unaffected by the Regulations. This will allow continued supply to businesses and organisations who require these wipes via wholesalers, or direct from suppliers. These may be businesses or organisations in the private and public sector.
- 5.11 The Regulations include an exemption for single-use wet wipes containing plastic that are designed or manufactured for use in connection with medical care or treatment.

## PART 2 – REGULATORY IMPACT ASSESSMENT

### 6. Options

6.1 The policy objective is to prevent plastic and microplastic pollution from wet wipes containing plastic by prohibiting the supply and offer of supply, of these wipes to various consumers. The rationale for this is set out in the Explanatory Memorandum above.

6.2 Several other policy options alongside the ‘business as usual’ and ‘preferred option’ (i.e. reducing or prohibiting the supply of wet wipes containing plastic) were considered. However, these were not taken forward as they would not meet the desired environmental benefits at the same speed and scale as the preferred approach. These policy options considered and rejected are outlined below:

**a. Information and education for manufacturers, retailers and consumers** - Under this option we would seek to inform manufacturers and businesses of the environmental benefits of shifting away from wet wipes containing plastic. This could include sharing information on the success of others in the sector in voluntarily changing to non-plastic alternatives. However, whilst there has been some progress with this approach, it is anticipated without legislative intervention this shift would continue at a slower pace and still result in continued consumption of these products.

This option could also involve supporting a national campaign to tackle the incorrect disposal of wet wipes into the public sewers by flushing, for example using similar campaigns as Dwr Cymru’s/ Welsh Water’s “[Stop the block](#)”. However, this approach was rejected as it would not lead to wet wipes with plastic content being phased out.

**b. Labelling** - Under this option wet wipes packets could include a label stating whether it contains plastic. In 2020, the European Union introduced [regulations](#) which required certain products to be labelled if they contained plastic and are considered single use, this included wet wipes. Through our engagement with retailers, it is understood some producers have already included the EU label on products sold in the UK to avoid the increased costs of having different packaging for different markets. It has been suggested this has led to some change due to the negative perception of these labels by consumers. However, these products remain on the market and the incorrect disposal of wipes still persists, suggesting this option alone is insufficient to eradicate unnecessary use of plastic in consumer wet wipes.

**c. Introduce a charge on wet wipes containing plastic** – Under this option businesses would be required to apply an additional charge to these products. This option was not considered an effective approach

as, while it may lead to a reduction in the amount of these wipes sold in the market, it would not prevent microplastics from entering the environment in line with our policy objectives. In addition, evidence from behavioural science and other policy areas shows this approach requires an increase in the charge or tax over time to avoid consumption increasing again over time and ensure it remains effective in the long term, as was found in a South African [study](#) of the country's plastic-bag levy. Similar findings in relation to Ireland were [presented](#) to the 'Disposal Bags Dialogue Event' in Brussels by representatives from the Irish Government's Environment, Community and Local Government Department.

- d. **Extended Producer Responsibility** – Under this option, the cost of disposal of plastic wet wipes would be transferred from taxpayers to the businesses who produce them and place them on the market. However, these kinds of schemes are complex and timely to develop and costly to implement and so this was rejected.
- e. **Subsidies** – Under this option financial subsidies would be provided to manufacturers to support their shift to developing plastic free wet wipes. This option was rejected on the basis that there are already plastic-free wet wipes being manufactured in the UK and several major retailers have already committed to stocking only plastic-free varieties.

### Short list of options

#### Option 1: Do nothing

- 6.3 This is the option against which the preferred approach is assessed against, and as such this option's costs and benefits are zero. In the absence of government intervention, wet wipes containing plastic would continue to be sold in Wales with no additional costs to businesses. Whilst some retailers are voluntarily moving away from wet wipes containing plastic and manufacturers based in the UK are increasing their production, the shift in such movement is slow. As such, the environmental impacts associated with wet wipes containing plastic, such as plastic pollution, will continue even if voluntary action is successful in supplying alternatives at scale without the support of government intervention. Decisive action, therefore, needs to be taken to tackle plastic and microplastic pollution. Doing nothing would result in too little, or too slow, a change.

#### Option 2: Implement a ban on the supply of wet wipes containing plastic

- 6.4 The preferred option is to introduce legislation to ban the supply of single-use plastic wet wipes sold to a consumer in Wales to reduce the environmental impacts from plastic and microplastic pollution. This is in line with approaches taken with other single-use plastic products such as cutlery, plates and polystyrene containers for takeaway food and drinks which were banned in

Wales in October 2023 under [The Environmental Protection \(Single-use Plastic Products\) \(Wales\) Act 2023](#).

- 6.5 To address concerns raised during our stakeholder engagement and consultation processes, an exemption will be provided in respect of the supply, or offer to supply, of a wet wipe designed or manufactured for use in connection with medical care or treatment. This is to allow specialist wipes to continue to be used for these purposes where plastic-free alternative either do not exist or are not suitable. The Regulations also do not apply to the supply of wet wipes containing plastic between businesses, i.e. where the product is not supplied to a consumer (for example, for use in factories or catering establishments).

## **7. Costs and benefits - Monetised and non-monetised costs and benefits of preferred option against baseline**

- 7.1 This section outlines the cost and benefits resulting from a ban on the supply of wet wipes containing plastic to consumers compared with taking no action (counterfactual).
- 7.2 Although the ban is UK wide, each UK nation will be required to introduce and implement its own legislation. For this reason, this Regulatory Impact Assessment (RIA) has been undertaken to estimate the costs and benefits occurring across the UK from a ban on the sale of wet wipes containing plastic in Wales. Any costs resulting from the introduction of a similar ban elsewhere in the UK are not included and each nation will produce its own impact assessment. Costs and benefits accruing outside of the UK are not included.
- 7.3 This assessment draws on data gathered and analysed by the Department for Environment, Food and Rural Affairs (Defra) when assessing the impact of a similar ban in England, where possible this has been tailored for Wales. Where available, Welsh specific evidence has also been utilised. Defra's impact assessment will be published on the UK Government website. This usually coincides with the laying of the legislation before Parliament.
- 7.4 Although the ban will only apply to the supply of consumer wet wipes, the four-nation [consultation](#) also included options to ban the manufacture as well as a ban on business to business (B2B) and medical sales. As such, this impact assessment includes some evidence on the impact of not extending the ban to these products for additional context.

### **Counterfactual/ baseline**

#### Research to identify wet wipes produced and sold in the UK

- 7.5 An estimate of the number of wet wipes sold and produced in the UK is shown below in table 1. This is based on an unpublished report, reviewing wet wipes placed on UK market, from Valpak (a consultancy which helps industry comply

with environmental legislation) which was commissioned by Defra in 2022. Valpak analysed the market between 2012-2021 using its EPIC [database](#) which includes product data from three large supermarket chains equating to over 50% of the UK grocery retail market by sales value. In addition, two wholesale and catering distribution producers equating to 33% of the catering/foodservice channel market share were also included. This data was then scaled up to estimate the whole market. This research estimates that 31 billion wet wipes were placed on the market in 2021. It should be noted these estimates are for all types of wet wipe and includes both plastic free and those containing plastic.

*Table 1: Wet wipes placed on market (POM) (million wipes) – (from the unpublished 2022 Valpak report commissioned by Defra)*

Product Type	2017	2018	2019	2020	2021
Childcare	20,543	15,702	20,462	16,813	18,477
Cleaning	5,605	5,733	5,232	7,154	7,190
Cosmetic	2,006	2,485	1,750	1,197	1,205
Healthcare	39	27	30	89	59
Optical Care	81	87	81	66	79
Personal Hygiene	3,322	3,030	3,208	3,028	3,525
Pet Care	16	18	16	12	14
<b>Total</b>	<b>31,612</b>	<b>27,082</b>	<b>30,780</b>	<b>28,359</b>	<b>30,549</b>

7.6 In its research, Valpak stated 96% of wet wipes captured in estimates were from retail sources, with the remaining 4% from wholesale. In line with Defra's assumptions, we assume these figures represent sales of wet wipes directly to consumers. According to an industry estimate for global consumption, published in an [article](#) on the Nonwovens Industry website, B2B or industrial use wet wipes make up 20% of the market. It was, therefore, assumed the Valpak estimate represented 80% of total wet wipes sold in the UK, and this was scaled up to include B2B wet wipes.

7.7 The B2B estimate is assumed, agreed with industry stakeholders, to include wet wipes manufactured for industrial and medical uses. The proportion of B2B medical use wet wipes was estimated by Defra using data from NHS supply chain (England), representing a proportion of NHS hospitals in England and was scaled up to 100%. This was further scaled to include private facilities based on an estimate of the proportion of medical care provided by the NHS compared to private facilities based on [information](#) from the Nuffield Trust. Finally, using [population statistics](#) available from the Office for National Statistics (ONS), it resulted in an estimate of 3,401 million medical wet wipes in the UK for 2021.

- 7.8 Using Valpak's POM analysis, it is estimated the number of wet wipes sold in the UK between 2012 and 2021 grew at 2.1% per year. It is assumed this growth rate will continue over the 10-year appraisal period. As outlined in Table 2, by 2033 it is estimated more than 48 billion wet wipes will be consumed in the UK, with 39 billion of these sold to consumers.

Table 2: Wet wipes sold in the UK (million wipes) (from Defra's economic impact assessment)

Sold	2024	2026	2028	2030	2032	2033
Consumer	32,472	33,821	35,226	36,690	38,214	39,000
Medical B2B	3,616	3,766	3,922	4,085	4,255	4,342
Other B2B	4,502	4,689	4,884	5,087	5,299	5,408
<b>Total</b>	<b>40,590</b>	<b>42,277</b>	<b>44,033</b>	<b>45,862</b>	<b>47,768</b>	<b>48,750</b>

- 7.9 Valpak estimates that around 2.5% of consumer wet wipes were imported in 2021. There are limitations to the data used as it only captures source data from the reporting business. Therefore, if a product was imported earlier in the supply chain (for example, the final retailer sourced the product from a UK wholesaler who imported the product) this would not be picked up. However, stakeholders have advised that larger retailers in the UK tend to source wet wipes directly from manufacturers. This was backed up by responses to the UK consultation, with two thirds (78%) of retail respondents (excluding those that answered 'don't know') stating they entirely or mostly source wet wipes directly from manufactures.
- 7.10 As previously discussed in paragraph 7.6, 96% of wet wipes sales captured in Valpak's data is from retail sources. It is also known that large wet wipes manufacturers have factories in the UK, with some located in North Wales. This suggests that although there are some limitations to Valpak's estimate, their conclusion that the proportion of wet wipes imported is low appears to be validated. To avoid underestimating the UK manufacturing industry we have used Valpak's estimate and assumed that 2.5% of wet wipes are imported. In this analysis, this proportion is applied to both consumer and B2B wet wipes.
- 7.11 Engagement with the UK wet wipe manufacturing sector has also highlighted that export is a key part of their business. Within free text responses in the consultation, and in subsequent discussions with key representatives in the industry, several manufactures stated they exported a significant proportion of the wet wipes they produce. Of those that provided figures, these tended to range between 20-50% of their total sales. For this analysis, the mid-point (35%) has been used as the central estimate of the proportion of UK-manufactured wet wipes that are exported. Defra's IA, therefore, estimates that UK manufacturers produce around 61 billion wet wipes, of which

approximately 32 billion are for sale to consumers in 2024, as outlined in Table 3.

Table 3: Wet wipes manufactured in the UK (million wipes) (from Defra's economic impact assessment)

Produced	2024	2026	2028	2030	2032	2033
<b>UK Consumer</b>						
	31,647	32,962	34,332	35,758	37,244	38,009
<b>UK B2B</b>						
	7,912	8,241	8,583	8,939	9,311	19,200
<b>Export</b>						
	21,301	22,186	23,108	24,068	25,068	25,583
<b>Total</b>	<b>60,860</b>	<b>63,389</b>	<b>66,022</b>	<b>68,765</b>	<b>71,622</b>	<b>73,095</b>

- 7.12 It should be noted these estimates are for all types of wet wipes (plastic free and those containing plastic). The economic annex accompanying the [UK wide consultation](#) estimated the proportion of plastic wet wipes based on the Valpak report. The report noted that due to producers not being required to include the plastic content on labels it was difficult to determine the proportion of plastic. Of the products Valpak reviewed for their study, only a quarter stated whether they contained plastic or not. Subsequently assumptions had to be made on the proportion of the remaining three quarters that contained plastic and this significantly reduced the certainty in the estimates. To ensure the data was robust for analysis, specific questions were asked in the UK wide consultation (see below).

#### UK wide consultation data

- 7.13 Manufacturers responding to the UK wide consultation were asked to provide an estimate of the proportion of wet wipes they produced for the UK market that contain plastic. The mean response was close to 50%. To ensure this better reflected the UK market, the responses were filtered to include only medium and large businesses as, based on information provided in the UK wide consultation responses, it is assumed that larger businesses have a bigger market share. This resulted in a mean response rate of ~40%.
- 7.14 This was then further supplemented with other evidence, including analysis by wet wipes producer, Nice-Pak, who estimate that 25% of baby wipes in the UK, which make up 60% of consumer wet wipes sold, contain plastic. For the purposes of our analysis, 25% percent and 50% were, therefore, assumed to be the extreme low and high, respectively, with the midpoint of 38% used as the central estimate. This is lower than the ~60% used in the consultation economic annex outlined in paragraph 7.12, however is assumed to be more robust. As we have no data on the split across categories, this was applied equally across all wet wipe types. Our calculations based on these assumptions can be found in Table 4.



Table 4: Consumer wet wipes sold in the UK, 2023 (million wipes) (from Defra's economic impact assessment)

Type	Total	Proportion
Plastic	11,932	38%
Plastic free	19,886	63%
<b>Total</b>	<b>31,818</b>	

7.15 Although questions were included in the UK wide consultation to determine the split of plastic containing wet wipes sold across UK nations, no conclusive evidence was provided to indicate the proportion of wet wipes in each nation varied. We have, therefore, scaled wet wipes consumption in Wales by population in Table 5 below, based on a 5% population for Wales compared to the UK:

Table 5: Consumer wet wipes sold in Wales vs rest of the UK, 2023 (million wipes)

	Plastic	Plastic free	Total
<b>Wales</b>	553	921	<b>1,474</b>
<b>Rest of UK</b>	11,379	18,965	<b>30,344</b>

7.16 As some businesses are already taking steps to reduce the amount of wet wipes containing plastic they produce or sell, it is assumed the proportion of wet wipes that contain plastic would continue to fall even in the absence of a ban (albeit at a slower rate). In the UK wide consultation, businesses were asked whether they planned to move to exclusively plastic free wet wipes in the absence of a ban, and if so, the timeframe for doing so. Responses provided by manufacturers based in the UK were used to determine the baseline reduction in plastic containing wet wipes. Those that were already only supplying plastic free wet wipes were excluded, and those that stated they did not know were assumed to have no plans to switch within the 10-year appraisal period. These calculations can be found in Table 6 below.

Table 6: Cumulative businesses transitioning to plastic free only by time (from Defra's economic impact assessment)

Years to transition	Cumulative number	Cumulative proportion
0-1	1	6%
1-3	3	18%
3-5	9	53%
5-10	10	59%
10+	17	100%

7.17 Using the results in Table 6, the midpoint in the time band was assumed to be the point at which the business had fully ceased production of plastic wet wipes for the UK market in absence of a ban. The proportion of wet wipes containing plastic each year was reduced by the proportion of businesses assumed to have switched to plastic free. This was done by multiplying the

cumulative proportion of businesses that are still using plastic in that year by the static baseline proportion of wet wipes containing plastic (i.e. 38%).

- 7.18 Based on this, the proportion of wet wipes containing plastic on the market falls from 38% to 16% by the end of the 10-year appraisal period in the counterfactual scenario. The proportion of wet wipes sold that contain plastic is assumed to be consistent across UK nations, as set out in Table 7 below.

Table 7: Baseline businesses producing wet wipes containing plastic and proportion of wet wipes that contain plastic (from Defra's economic impact assessment)

Baseline	2024	2026	2028	2030	2032	2033
Proportion of businesses currently producing wet wipes containing plastic estimated to continue to manufacture them	100%	88%	65%	46%	44%	42%
Proportion of wet wipes sold that still contain plastic	38%	33%	24%	17%	16%	16%

## Wet wipes industry

### Calculating number of wet wipe producers

- 7.19 ONS data was used to estimate the number of businesses by size. As there is no single Standard Industrial Classification (SIC) representative of the wet wipe manufacturing industry, alternative SICs had to be identified to represent the industry. This was done through searching companies house for the registered SIC codes of a sample of large wet wipe manufacturers, as well as reviewing answers to the consultation (where businesses were asked about which SIC codes are most likely to be impacted by the ban). The following SICs were identified as most relevant:

- 13.95 Manufacture of non-wovens and articles made from non-wovens, except apparel
- 17.22 Manufacture of household and sanitary goods and of toilet requisites
- 20.4 Manufacture of soap and detergents cleaning and polishing preparations perfumes and toilet preparations
- 20.56 Manufacture of other chemical products not elsewhere classified

- 7.20 Using ONS business data, available on the [UK Government website](#), the total number of businesses (22,000) and total industry turnover (£49bn) across these SICs<sup>1</sup> were used to estimate the average turnover per producer (£2.2m). This was divided by an internally derived estimate of the total industry revenue

<sup>1</sup> Note that due to missing data at the 4-digit SIC level, 3-digit SICs were used for this estimate

from producing wet wipes (£1.5m) to determine the number of wet wipes. The method used to estimate UK wet wipe producer revenue is set out in detail in the business costs section, however this involved multiplying the total number of wet wipes produced by the average retail price to find total wet wipe retail revenue. The retail and wholesale markups were then removed using estimated ONS data.

- 7.21 This led to an initial estimate of 688 producers. The same ONS dataset, which includes data on the number of businesses by size in each SIC, was used to estimate the proportion of businesses in these SICs by size. The estimate of 688 producers was multiplied by these proportions to estimate the number of wet wipe producers by size.

*Table 8: Initial estimate of number of wet wipe producers by business size (from Defra's economic impact assessment 2024, unpublished)*

	% of businesses by size	No of producers
<b>Micro</b>	87%	595
<b>Small</b>	9%	60
<b>Medium</b>	4%	27
<b>Large</b>	1%	5

- 7.22 This produced an estimate of 655 small and micro (SMB) producers. However, through stakeholder engagement, it became apparent this approach likely significantly overestimates the total number of producers, as well as the SMB proportion. New estimates were, therefore, produced using information gathered through stakeholder engagement.
- 7.23 The process to produce wet wipes is relatively complex. EDANA, a leading trade body for the non-woven industry, has produced an [online graphic](#) to show how raw materials are first turned into non-woven sheets before being run through a converter and liquid solutions added to form the final product. Stakeholders have told us this involves specialist equipment which is generally expensive. For example, through the UK wide consultation, one stakeholder advised a small converter capable of producing plastic free wet wipes could cost several million pounds. Based on the same ONS data as discussed earlier in this section, the average annual turnover for a micro business in the SICs identified is around £200k. This would suggest purchasing the equipment needed to produce wet wipes could be more than 10 years of revenue for a micro firm. This is likely to exclude micro businesses from owning their own equipment.
- 7.24 The high fixed capital costs associated with producing wet wipes also favour larger businesses who can take advantage of producing at scale, to minimise the price per unit. Stakeholders have told us smaller producers are, therefore, more likely to produce specialist or niche products or compete other than on price. Specifically, stakeholders identified that SMB producers are likely to either produce specialist industrial wipes or plastic free consumer wipes (competing on environmental credentials).

- 7.25 This tallies with findings from stakeholder engagement. Four SMBs' producers responded to the UK wide consultation and a further two were involved in wider UK wide stakeholder engagement. Four of these were micro, two were small businesses. Through the UK wide consultation responses and Defra desk-based research, it was ascertained that at least three of the micro producers do not own their wet wipe production equipment and source their wet wipes from other manufacturers, essentially making them 're-branders'.
- 7.26 All four micro producers already only supply plastic free wet wipes, with all four stating on their website the business was started to fill a perceived gap in the market for environmentally friendly products. The two small manufacturers produce specialist industrial wipes and do not supply to consumers. As such none of the six SMB producers identified through UK wide stakeholder engagement will be impacted by the ban.
- 7.27 Further views on the structure on the market were sought through the consultation. Industry respondents were asked whether they agreed with turnover splits by business size presented in the UK wide consultation were representative of the wet wipe industry. These were based on ONS [business population data](#) and the manufacturing SIC code. Based on these proportions, medium and large businesses make the vast majority (86%) of industry turnover. See table 9 below:

Table 9: Proportion of turnover by size of business for the UK manufacturing sector (from Defra's economic impact assessment 2024, unpublished)

UK Market share by turnover	Employment size band			
	Micro (0–9 employees)	Small (10–49 employees)	Medium (50–249 employees)	Large (250 or more employees)
<b>Manufacturing</b>	5%	9%	18%	68%

- 7.28 In the consultation responses, of those who identified as manufacturers, 21% agreed the majority of turnover accrue to medium and large producers. One manufacturer disagreed, stating the market was dominated by three or four manufacturers, a view shared through discussions with industry stakeholders (which included the wet wipes trade body). It was noted a very small number of large firms produced the most wet wipes (on a volume basis) for the UK market.
- 7.29 Unfortunately, stakeholders were unable to provide market share data for the industry, however, some evidence was available online. Nice-Pak, a large UK-based wet wipes manufacturer, have publicly stated on their [website](#) that based on their research, they produce 'well over half' of baby wipes supplied for the UK market. Valpak estimate that baby wipes make up 60% of the UK consumer wet wipe market (unpublished report for Defra). On this basis, Nice-Pak would, at a minimum, produce around a third of consumer wet wipes for the UK market. This does not account for other wet wipes, such as household, skincare and moist toilet tissue that Nice-Pak also produce (quoted in the [same article](#)).

- 7.30 Based on this consultation analysis, desk-based research and wider stakeholder analysis, it was concluded it is unlikely that SMB producers would be impacted by the ban as currently designed. The impacts would fall on a relatively small number of medium and large producers.
- 7.31 To estimate the number of producers impacted by the ban, a similar approach outlined above was used, with small and micro businesses excluded. ONS data was used to find the number of medium and large businesses (795) in the relevant SICs (those discussed earlier in this section) and their total turnover (£41bn). This was used to estimate the average turnover for these businesses (£51m). This was divided by the total UK consumer wet wipe manufacturing revenue (estimated by Defra internally) and discussed in detail in the producer profit loss section) to provide an estimate of 30 businesses.
- 7.32 This was sense checked against a database of all producers identified by Defra through stakeholder engagement since a ban was first [announced](#) by media outlets such as BBC News in 2018. This included a [public call for evidence](#) by Defra on banning commonly littered items including wet wipes containing plastic in 2021, and the [four-nation consultation](#) on banning wet wipes containing plastic from 2023. It also includes additional industry stakeholder engagement with producers (ranging from micro to large, and including those producing consumer, specialist industry and health wipes), retailers (including large retailers selling a wide range of branded wet wipes, as well as their own brands), the wet wipe industry trade body [EDANA](#) and retail trade body [British Retail Consortium](#).
- 7.33 Overall, 22 UK wet wipe producers were identified, the majority of which are medium and large sized businesses. Of these, 18 were identified as producing consumer wet wipes, of which five already produced only wet wipes containing no plastic. This left four medium, and nine large producers who would be impacted by the ban (see table 10 below). Note this database excludes large retailers selling own brand products as stakeholder engagement confirmed these would also be 're-branders', although does include micro businesses who describe themselves as manufacturers but were identified to be 're-branders'.

Table 10: Number of UK wet wipe manufacturers identified through stakeholder engagement (from Defra's economic impact assessment 2024, unpublished)

	Total	Produce consumer wipes	Produce consumer wipes containing plastic
Micro	4	4	0
Small	2	0	0
Medium	5	4	4
Large	11	10	9
Total	22	18	13

- 7.34 Although Defra were unable to confirm whether this approach will account for every relevant UK producer, the breadth of stakeholder engagement provides confidence it is representative of the sector. However, due to this small remaining uncertainty, the earlier estimate of 30 producers impacted by the

ban has been used within the analysis. Based on the split in the internally produced database (four medium and nine large), we estimate that 69% of these businesses are large.

- 7.35 Overall, engagement has been undertaken with a wide range of industry stakeholders and, considering their views and wider evidence, we believe this approach gives confidence to the final estimates produced here in table 11.

*Table 11: Final estimated number of UK wet wipe producers potentially impacted by the ban (from Defra's economic impact assessment 2024, unpublished)*

	Number of producers
Medium	9
Large	21
Total	30

### Calculating retailer numbers

- 7.36 The UK Wet Wipes Consultation Economic Annex (see '[related links](#)' at the [bottom of Defra's web page](#)), published alongside the four-nation consultation, listed a number of retail SICs expected to be impacted by the ban. Consultation respondents were asked whether they agreed or disagreed with these and asked to provide further relevant SICs if the latter. Based on these responses, the following retail SICs were assumed to be impacted by the proposed ban:

- 4711 - Retail sale in non-specialised stores with food, beverages or tobacco predominating
- 4719 - Other retail sale in non-specialised stores
- 4744 - Retail sale of cosmetic and toilet articles in specialised stores
- 4775 - Retail sale of medical and orthopaedic goods in specialised stores

- 7.37 ONS business data was used to determine how many businesses by size are in these SICs in the UK. The number of retail businesses in Wales is estimated from the proportion of convenience stores located in Wales, which stands at 6.3% in relation to the total numbers in the UK, as reported in [The Welsh Local Shop Report 2022](#). The same percentage is also applied to calculate the number of retail stores in Wales. This is shown in table 12 below:

Table 12: Number of retail businesses impacted by the ban, UK and Wales (adapted from Defra's economic impact assessment 2024, unpublished)

	UK Businesses	Wales businesses
Micro	40,405	2,546
Small	3,655	230
Medium	270	17
Large	110	7
<b>Total</b>	<b>44,440</b>	<b>2,800</b>

## **Expected costs and benefits**

### Wet wipes sold baseline vs preferred option

- 7.38 In Defra's IA it is assumed full compliance by industry so that when the transition period ends in 2026 (it was anticipated the bans would begin in 2024), all consumer wet wipes sold across the UK will be plastic free. We have adopted a similar approach in Wales. It is also assumed that producers and retailers will start to reduce the volume of wet wipes containing plastic they produce for sale on the domestic market during the transition period to ensure they are ready for the introduction of the ban. However, the counterfactual scenario for businesses manufacturing plastic wet wipes, as presented in table 7, has been adapted to a starting year of 2025 with the appraisal period concluding in 2034. As discussed in the baseline section, 97% of total wet wipes are assumed to be produced in the UK.
- 7.39 In the costs benefit analysis section below, it is assumed that any additional costs to businesses resulting from the ban will be internalised by those businesses. However, as discussed in the consumer impacts section (later in this document), it is possible businesses will pass some, or all, of these costs onto consumers. In Defra's IA it has estimated the expected price rises to be small, and therefore, that consumption of wet wipes would not decrease overall because of the ban on consumer plastic wipes. This is supported by the current availability of low-cost, plastic-free wipes on the market. We have assumed the same in Wales, using population as a proxy for percentage sales at 5%, equivalent to the Welsh population as a proportion of the UK population (Table 13).

Table 13: Consumer wet wipes sold in Wales, baseline and option 1 (million wipes) (from Defra's economic impact assessment 2024, unpublished)

		2025	2027	2030	2032	2034
<b>Baseline</b>	<b>Plastic</b>	576	529	300	297	293
	<b>Plastic free</b>	960	1,070	1,400	1,474	1,551
	<b>Total</b>	1,535	1,599	1,700	1,771	1,844
<b>Option</b>	<b>Plastic</b>	576	0	0	0	0
	<b>Plastic free</b>	960	1,599	1,700	1,771	1,844
	<b>Total</b>	1,535	1,599	1,700	1,771	1,844



## Monetised Impacts on Business

### *Producer profit loss (Wet wipe producers)*

- 7.40 A ban would have a direct impact on businesses producing wet wipes containing plastic leading to reduced profit through no longer producing wet wipes containing plastic for the UK consumer market. Potentially, some producers may cease production and following the publication of the [four-nation consultation response](#) in April 2024, [Kimberly-Clark](#) announced its decision to close its manufacturing site in North Wales.
- 7.41 It is acknowledged any switch in production is likely to result in lower total profit, otherwise producers would have already made this switch. However, it is reasonable to expect a proportion of the lost profit to be recouped through production of other items.
- 7.42 Producer profit is a function of their total revenue from wet wipes and the costs to produce wet wipes. The following approach was used in Defra's IA to estimate producer revenue from wet wipes and we have adopted the same for our RIA.
- 7.43 First, retail revenue was estimated by taking the average price per wet wipe and multiplying this by the number of wet wipes produced in the UK for sale in the UK. The average price per wet wipe was estimated by using calculations in the Valpak Report which took the maximum and minimum price per wet wipe for each wet wipe product category sold by three major UK supermarkets and other major retail chains. A weighted average of these costs was then used based on the sales share of each category. This resulted in an average cost of 5p per wipe.
- 7.44 Having estimated the retail revenue from the sale of wet wipes in the UK, the retail markup (gross profit) was then removed. The retail markup was calculated using the ONS' [Annual Business Survey \(ABS\) Data](#) for Standard Industrial Classification (SIC) code 47 'Retail trade, except of motor vehicles and motorcycles'. Turnover net of purchases of goods, materials and services, was calculated as a proportion of turnover (averaged over 5 years) giving an estimated retail markup of 21% as outlined in Table 14.

Table 14: Turnover, purchases of goods, materials and services and markup (average over 5 years between 2017 to 2021) (from Defra's economic impact assessment 2024, unpublished)

	Turnover (£m)	Purchases of goods, materials and services	Turnover minus purchases	Markup
<b>Wholesale trade, except of motor vehicles and motorcycles</b>	859,711	738,172	121,539	14%
<b>Retail trade, except of motor vehicles and motorcycles</b>	424,771	334,094	90,678	21%

- 7.45 The same method was used to estimate wholesale markup, however this was adjusted to account for the assumption the majority of retailers source wet wipes directly from producers. SIC code 46 was used to estimate the 'Wholesale trade, except of motor vehicles and motorcycles', with a markup of 14% estimated. As discussed previously, 78% of retailers responding to the UK wide consultation stated they entirely or mostly sourced wet wipes directly from producers. It was, therefore, assumed only 22% of wet wipes are sourced via wholesale (Table 15 updates Defra's estimation in 2025 prices).

Table 15: Revenue, mark up and profit for different supply chain businesses in the UK (2025 prices) – (Welsh Government Calculations)

	Total, 2021 (£m)	Mark up or profit margin
<b>Retail revenue</b>	£1,975	
<b>Retail markup</b>	£422	21%
<b>Wholesale revenue</b>	£342	
<b>Wholesale mark up</b>	£48	14%
<b>Producer revenue</b>	£1,505	
<b>Producer profit</b>	£222	15%

- 7.46 Removing the retail markup from retail revenue equates to the wholesale revenue, if 100% of wet wipes are sourced through wholesalers. Multiplying this by the proportion of wet wipes sourced through wholesalers (22%) leads to the actual wholesale revenue (the remaining 78% is essentially the revenue to producers when wipes are sold directly to retailers). Multiplying this by the wholesale markup then produces the wholesale markup value. Removing the retail and wholesale mark-up values from retail revenue equates to combined producer revenue from selling via wholesalers and directly to retailers.
- 7.47 Producer revenue was then divided by the number of wet wipes sold to find the average producer revenue per wet wipe. Again, the manufacturing markup was removed from this to estimate the input cost (i.e. excluding employment costs) of producing wet wipes. The average of the four SIC codes outlined in paragraph were used to estimate this.

Table 16: Revenue per wipe for the UK estimated in 2025 prices – (Welsh Government Calculations)

	2021
<b>Producer revenue (£m)</b>	£1,505
<b>Number of wet wipes (m)</b>	29,773
<b>Revenue per wet wipe (£)</b>	£0.05

- 7.48 In the UK wide consultation, producers told us input costs for plastic free wet wipes tend to be higher than for wet wipes containing plastic. Figures provided by manufactures ranged from a 5% increase to three times higher costs. The median was 40% higher. Therefore, a separate production cost per wet wipe for plastic and plastic free wet wipes was estimated (Table 17). Defra's analysis acknowledges this differential could change over time due to

economies of scale or innovation (a decrease), however, the analysis assumes it will remain constant over the appraisal period.

Table 17: Production cost per wipe, plastic and plastic free for UK (2025 prices) – (Welsh Government Calculations)

	Input costs (per wipe)	Employment costs (per wipe)	Total cost (per wipe)	Total producer costs, 2021 (m)
<b>Plastic</b>	£0.034	£0.008	£0.043	£477
<b>Plastic free</b>	£0.048	£0.008	£0.056	£1,051
<b>All</b>	£0.043	£0.008	£0.051	£1,528

- 7.49 The costs in Table 17 were then multiplied by the total producer cost estimated, when the share of plastic vs plastic free is accounted for. We assumed the plastic content would not impact employment costs as, through the consultation, most producers stated the same process would be used to produce plastic and plastic free wet wipes (see transition costs for more details).
- 7.50 Through Defra's research and UK-wide stakeholder engagement it was evident the retail price for plastic free wet wipes tended to be slightly higher than wet wipes containing plastic, on a like for like basis. Two large retailers, who outsource production of their own-brand wipes (and are essentially 're-branders'), confirmed that when they switched their own brand products from plastic to plastic-free, they experienced an increase in the cost of sourcing these wipes (although one retailer was able to internalise these costs and retain the previous retail price). This suggests retail price increases are related to increased sales prices from producers.
- 7.51 Both Defra's research and UK wide discussions with retailers concluded a 10% increase in retail prices for wet wipes on a like-for-like basis. Further details on Defra's research are outlined in the consumer prices' section, which compared the retailer website price of plastic and plastic free wipes across four large retailers.
- 7.52 This 10% increase in producer revenue per wipe is included in the profit to producers (per wipe) for plastic free wipes. A similar approach was adopted to estimating costs, whereby the respective revenue per wipe was found which satisfied the criteria that revenue per wipe is 10% higher for plastic free wipes, the total revenue for all wipes must equate to previously estimated baseline total producer revenue.

Table 18: Profit per wipe, plastic and plastic free (2025 prices) – (Welsh Government Calculations)

	Total cost (per wipe)	Producer revenue (per wipe)	Profit (per wipe)	Profit margin
<b>Plastic</b>	£0.043	£0.056	£0.014	24%
<b>Plastic free</b>	£0.056	£0.063	£0.006	10%
<b>All</b>	£0.051	£0.060	£0.009	15%

- 7.53 By estimating the total cost per wipe, as well as the revenue per wipe, this allowed for an estimate of the producer profit per wipe for plastic containing and plastic free wet wipes. This was then multiplied by the number of plastic containing and plastic free wet wipes in each scenario to estimate the profit from each. The difference equates to the net loss or gain in profit.

Table 19: Wet wipe producer profit (compared to baseline) from plastic and plastic free wipes, £m – impact of ban on sales in Wales (Welsh Government calculations)

	2025	2027	2030	2032	2034
<b>Plastic</b>	£0.0	-£7.2	-£4.1	-£4.0	-£4.0
<b>Plastic free</b>	£0.0	£3.2	£1.8	£1.8	£1.8
<b>Net profit</b>	£0.0	-£3.9	-£2.2	-£2.2	-£2.2

### Transport costs (Wet wipe producers/ retailers)

- 7.54 Respondents to the UK wide consultation told us that plastic free wet wipes are heavier than wet wipes containing plastic. This is because plastic is used to provide strength in the wipe and when removed in plastic free wipes, it is replaced with heavier material. Consequently, heavier products result in increased costs to transport wet wipes from the manufacturer to retailers.
- 7.55 Based on UK wide consultation responses it has been assumed a plastic-free wet wipe is 65% heavier than a plastic containing version. This is equivalent to 1.2g per wet wipe. In the calculations below we have assumed an additional tonne of weight increases fuel use by 0.04 litres per km as per the [Natural Resources Canada Publication](#).
- 7.56 It is assumed that each wet wipe travels 240km on average from the producer to the retail store. This is based on internal Welsh Government analysis. It is known that several large UK producers (with a large share of the UK consumer market) have factories in North Wales. The distance to travel by road to a large central city or town in each local authority was found. The proportion of total retail stores in Wales from each area was then used as weighting to estimate the average journey distance.
- 7.57 A diesel price of £1.51 (i.e. a 2025 price) was used. Based on the above, every 1,000 wet wipes switching from plastic to plastic free would cost an additional £0.02 in fuel costs. These costs will likely be shared between producers and retailers.

Table 20: Additional weight, fuel and fuel costs - Welsh impact – (Welsh Government Calculations)

	2025	2027	2030	2032	2034
<b>Additional weight (tonnes)</b>	-	641	363	360	355
<b>Additional fuel (litres)</b>	-	6,195	3,512	3,475	3,429
<b>Cost of additional fuel (£'000)</b>	£0.00	£9.34	£5.29	£5.24	£5.17

## Producer profit loss (Primary plastic producers)

- 7.58 Some of the primary plastic used to produce wet wipes containing plastic may be produced in the UK. This would represent a loss of profit to these producers. Although we do not have data on the proportion of plastic used specifically in wet wipes produced in the UK, it has been assumed that ~60% of plastic used in the UK is produced domestically (this is set out in more detail in the production emissions section).
- 7.59 As described in the production emissions section later, it has been estimated the average consumer wet wipe containing plastic weighs 1.6 grams of which 1.1 grams is plastic. It is assumed 61% of this is produced, on average, in the UK. Using business population estimates from the [UK Government's Department for Business and Trade's website](#), based on 1.7m tonnes of plastic being produced in the UK, and the UK primary plastic production industry sale of ~£6.3bn (2025 prices), based on a report from the [British Plastics Federation](#). This would suggest for every 1,000 wet wipes produced, the UK plastic industry derives an annual revenue of £2.96. Using [ONS ABS data](#) for SIC 20.16, 'manufacture of plastics in primary forms', it is estimated plastic producers have a profit margin of 20%. UK primary plastic producers, therefore, make £0.58 in profit per 1,000 plastic wet wipes sold in the UK.
- 7.60 To calculate the impact on primary plastic producers, this is then multiplied by the number of plastic wet wipes in the baseline and option one. A loss of profit ranging from £0.17m to £0.31m per year is estimated for primary plastics producers in Wales (Table 21).

Table 21: UK Primary plastic producer profit from plastic wet wipes (£m) - Welsh impact – (Welsh Government Calculations)

	2025	2027	2030	2032	2034
Baseline	£0.34	£0.31	£0.18	£0.17	£0.17
Option 1	£0.34	£0.00	£0.00	£0.00	£0.00
Difference	£0.00	-£0.31	-£0.18	-£0.17	-£0.17

## Transition costs (Wet wipe producers)

- 7.61 These costs relate to the transition from producing plastic to plastic free wet wipes. Of the manufacturers responding to the UK wide consultation, 68% stated that producing plastic free wet wipes used the same machinery and general processes as producing wet wipes containing. Whilst these producers would not be required to purchase new machinery, they did identify other costs they expect to incur for example research and development, adjustments to existing machinery and training of staff.
- 7.62 In free text responses, several producers highlighted a longer transition period would help reduce their costs. For example, one producer stated that costs incurred with a one-to-two-year transition period would be 50% less than those incurred if the transition period was a year or less. Another producer also

stated that a transition period of between two and three years would lead to lower costs. By adopting an UK-wide, 18-month transition period in the regulations we, therefore, expect this to significantly reduce transition costs.

- 7.63 To estimate transition costs, we used relevant consultation responses, these have been scaled up to the full market using market share information. These were spread over the first two years of the appraisal period in line with the 18-month transition period, leading to a total cost of £4.7m, (Table 22).

Table 22: Wet wipe producer transition costs (£m) for UK and Wales - (from Defra's economic impact assessment 2024, unpublished and Welsh Government Calculations)

	UK transition costs including exports	UK transition costs domestic	Wales domestic
Medium	£46.4	£30.1	£1.4
Large	£108.2	£70.3	£3.3
Total	£154.5	£100.5	£4.7
<b>Total per year (over 2 years)</b>			<b>£2.3</b>

### **Transition costs (Retailers)**

- 7.64 An 18-month transition period is expected to allow retailers enough time to sell off excess stock and replace products in their usual product review cycle. Therefore, we believe costs to retailers will be low, which is partly supported by responses to the UK consultation. However the number of retail business responding to questions on the cost of transition was low, and those that did respond generally did not provide sufficient information on costs. One retailer stated that costs would be lowest under a two-to-three-year transition. A large retailer, who has already transitioned to plastic free wipes, stated they were able to make the switch in a year, stating costs would be minimal. Several retailers stated that costs were unknown, two other retailers who had already transitioned stated the cost would be zero for them.
- 7.65 To ensure that costs were not being underestimated, we have calculated the cost of updating stocklist and prices for new products as part of our assessment. As no specific costs were provided by retailers through the UK wide consultation, relevant approaches used in analysis elsewhere were reviewed to find an appropriate means to estimate these costs. It was assumed costs would be proportional to the number of wet wipes containing products sold.
- 7.66 To estimate this, the websites of four large retailers were reviewed to determine the number of individual products (SKUs) sold. This was specifically counted for baby wipes, which make up 60% of the consumer wet wipe market. On average, these retailers had 33 individual baby wipe SKUs. This was scaled up by the baby wipe market share to estimate the number of total wet wipe SKUs, i.e. 55 per large retailer. It was assumed that 38% of these would contain plastic (based on our estimated wet wipe containing share of

total wet wipes, discussed in the baseline section), which led to an estimate of 20 SKUs for wet wipe containing plastic per large retailer.

- 7.67 It is assumed smaller retailers will have fewer SKUs. Initially an approach to scaling down was devised using turnover per retailer for different sized retailers (using ONS business population data), however this led to an unrealistically low estimate for the number of wet wipe products sold by small and micro retailers. Instead, a basic, however cautiously high, approach was used whereby medium retailers would have 15 products, small retailers 10 products and micro retailers five products.
- 7.68 Based on stakeholder feedback to the UK Government's plastic bag charge [Impact Assessment](#), it was assumed it would take employees 1.5 hours of time per SKU, per store, to add a new product line. We have used this same assumption and used [data from the ONS](#) which shows the median retail wage for 2025 of £18.8, with a 22% uplift for non-wage labour costs. This led to an estimate of around £100 to £550 per store depending on the size of the business.
- 7.69 The cost per store was multiplied by the number of stores (using local units data) in each of these SICs, by size to find the total retail transition cost. In Wales, the costs were estimated to be just under a million pounds (Table 23).

Table 23: Retail transition costs for Wales – (Welsh Government Calculations)

Size of store (employment)	Wales Stores	SKU per store	Cost per store	Total cost, £m
Micro	3,043	5	£141	£0.43
Small	1,347	10	£281	£0.38
Medium	192	15	£422	£0.08
Large	56	20	£563	£0.03
<b>Total (over 2 years)</b>				£0.92

## **Local Authority Costs**

### **Enforcement costs**

- 7.70 There will be costs associated with inspection and law enforcement services to support the ban. Work will be undertaken with Welsh Local Authorities (LAs) to establish the most effective and efficient way of enforcement.
- 7.71 Enforcement costs relate to the estimated additional burden to Welsh LAs to enforce the policy, using a reactive method i.e. inspections only occur after a complaint. Non-compliant businesses will incur costs associated with seized products if inspected. However, these costs have not been included in the model, as they would have arisen from a failure to comply with the law.
- 7.72 The assumptions and calculation method for the enforcement costs are based on information used for the [RIA](#) undertaken for the Environmental Protection



(Single-use Vapes) (Wales) Regulations 2024 and agreed with the Trading Standards Wales (TSW). This model assumes enforcement costs will only be incurred in the first three years of the policy (i.e. only during the first three years of the appraisal period) as it is assumed that all businesses are compliant after this period.

### *Training Costs*

- 7.73 We assume all 22 LAs in Wales will incur a one-off administration cost to familiarise themselves with the new powers. In 2022 the Association of Chief Trading Standards Officers carried out research to determine the full cost recovery rate for officers within Trading Standards. This was not a salary rate, however it was inclusive of employment and non-employment on-costs. The figure for Wales was slightly lower than for England and calculated at £84.8 p/h (2025 prices).
- 7.74 Using the assumption of 90 minutes per LA the proposed changes could involve a one-off transitional familiarisation cost of £127.15 per officer, per local authority. We anticipate each LA will require on average eight officers to undergo training. This will result in a cost of £1,017 per LA and £22,379 in total for all Welsh LAs. We anticipate that the costs associated with training will be incurred during the first year of the appraisal period.

### *Inspection costs*

- 7.75 We assume a 1% non-compliance rate from businesses in scope. This reflects that many of the businesses in scope will have already shifted away from using the banned items (for example, we estimate that only 38% of wet wipes currently sold to producers contain plastic) and the notion of a ban on wet wipes containing plastic has been in the public domain for years. We assume that of the non-compliant businesses, only 10% will be inspected. This is due to a low number of complaints and consequent enforcement actions in the case of previous similar bans.
- 7.76 Discussions with TSW in relation to the single-use vapes ban suggested that inspecting premises will occupy two hours of an officer's time per year at a rate of £84.8 p/h. As major retailer and supermarket chains have already begun the shift away from plastic wipes, we do not anticipate there will be a need for inspections at these types of premises. Using these assumptions, we estimate the cost of first inspection to be £786.

*Cost of first inspection*

*= number of premises inspected × time taken (in hours)  
× hourly cost*

*Cost of first inspection = 4.6 × 2 × £84.8 = £786*

- 7.77 We assume a 25% non-compliance rate following the initial visit (informed by our previous vape assessment). Engagement with TSW suggests that

inspecting premises selling these items in the second instance will occupy three hours of an officer's time per year at a rate of £82.24 per hour. We estimate the annual cost of legal action associated with non-compliance in the second instance to be £2.8k (calculated using 2025 prices). We have apportioned the legal cost from the Defra's IA considering the share of retail stores in Wales which is about 6.3%. We also have considered the costs of non-chargeable advice provided to businesses. This results, for each LAs, in seven hours of an officer's time per year at a cost of £84.8 p/h costing around £13k per year for all LAs.

- 7.78 Therefore, the total annual enforcement cost to LAs attributed to inspection costs and legal action is £4k. Enforcement costs are expected to only be incurred for the first three years of the policy after the transition period. Total costs including training and non-chargeable advice results a present value cost of £45k over the appraisal period.

### **Costs to Welsh Government**

- 7.79 We anticipate there will be a one-off cost of £50,000 to the Welsh Government in developing bilingual guidance, funding to support LAs with updating guidance, communications to support the introduction of the regulations and staff costs associated with its implementation.

### **Waste management costs**

- 7.80 As previously discussed, plastic free wet wipes are heavier than wet wipes containing plastic. As residual waste management is generally charged on a per tonne basis, the increase in waste weight will increase waste management costs. As will be discussed in the emissions sections, we assume that 4% of wet wipes will be landfilled and 74% incinerated (the remaining are assumed to be disposed of in sewers). We used a landfill tax rate of £126 per tonne, a landfill gate fee (including transport cost) of £96 per tonne and an incineration (energy from waste) gate fee (including transport) of £129 per tonne (in 2025 prices). This was multiplied by the average increase in weight of a wet wipe, which led to an estimate of around £0.13 additional waste management costs per 1000 wet wipes.

- 7.81 As the ban will only relate to consumer wet wipes it is assumed that these will be disposed of in household waste. Waste management costs will therefore accrue to LAs. This has been estimated in table 24 below.

*Table 24: Additional waste management costs to LAs (£) - Welsh impact – (Welsh Government Calculations)*

	2025	2027	2030	2032	2034
<b>Landfill Tax</b>	£0	£3,000	£1,700	£1,700	£1,700
<b>Landfill gate fees</b>	£0	£2,300	£1,300	£1,300	£1,300
<b>Incineration (EfW) gate fees</b>	£0	£61,200	£34,700	£34,300	£33,900

## **Environmental impacts**

### **Production emissions**

- 7.82 Producers have told us that the equipment and process to make plastic and plastic free wet wipes are generally the same (as discussed earlier), the main emissions' difference is expected to come from the extraction and production of different raw materials.
- 7.83 According to a 2023 research paper entitled [Do flushed biodegradable wet wipes really degrade?](#) by Allison et al, there is only one known lifecycle analysis of natural based (viscose) wet wipes. From this, it is assumed the average plastic wet wipe is made of 70% PET and 30% viscose, whereas according to a 2023 paper by Zhang et al on the [Life-cycle environmental impact assessment and plastic pollution prevention measures of wet wipes](#), the average plastic-free wet wipe is made of 100% viscose. However, through the consultation, producers told us that as plastic is used to provide strength, more materials are needed to produce a plastic-free wet wipe of the same quality. Producers told us the average plastic wet wipe weight is 56g per square metre, and plastic-free wet wipes around 50% heavier (average consultation response provided by manufacturers and retailers), i.e. 86g per square metre. We assume the average consumer wet wipe is between 0.023 and 0.034 square metres (central/median size of 0.029 square meters). This information has been taken from several public sources including online articles such as the [GearLab testing](#) website and [Friends of the Earth](#). This information is supported by feedback provided by a producer during the consultation period.
- 7.84 From Zhang's 2021 paper, [Life-cycle environmental impact assessment and plastic pollution prevention measures of wet wipes](#), viscose is made of over 99% wood pulp and lifecycle analysis suggests that production of 1 tonne leads to a global warming potential of 1.46t of Co2e (carbon dioxide equivalent greenhouse gasses).. Based on the [Department for Energy Security and Net Zero \(DESNZ\) greenhouse gas conversion figures](#), production of 1 tonne of plastic causes 4.03 t of Co2e. However, not all these emissions will occur in the UK. To measure territorial emission changes, these factors are multiplied by the proportion of that raw material which is produced in the UK.
- 7.85 Based on [research undertaken in 2017 by the Water Footprint Network](#), it is assumed that no viscose is produced in the UK. For the plastic production emissions, Defra used an unpublished carbon factors modelling method used by [WRAP](#). This has been used in previous UK Government IAs and has involved taking trade data (import, export and sold production data) from [Eurostat](#) to estimate the proportion of raw materials used in the UK that are made in the UK. Based on this it is assumed that 61% of plastic used in UK manufacturing is produced in the UK. This is not specific to wet wipes production but is used as a proxy. This is shown in table 25 below. As the UK does not produce any of the plastic free fabric used to make wet wipes, the UK figure is zero.

Table 25: Production emissions (tonne of Co2e) per 1 sqm wet wipes (from Defra's economic impact assessment 2024, unpublished)

	UK	Global
Plastic	3.231	6.118
Plastic free	0.000	4.508

7.86 These factors are multiplied by the number of plastic and plastic free wet wipes in the baseline and option to estimate the production emission in each scenario. [DESNZ carbon values](#) are used to monetise these impacts (Table 26).

Table 26: UK production emission savings (compared to baseline) – Welsh impact (estimated from Defra's economic impact assessment 2024, unpublished)

	2025	2027	2030	2032	2034
Co2e savings (t)	-	1,710	969	959	946
Value (£m)	£0.00	£0.55	£0.32	£0.33	£0.33

### Disposal emissions

7.87 End-of-life greenhouse gas (GHG) emissions are dependent on the disposal route and the material makeup of the product. Therefore, changes to the material makeup of wet wipes could lead to a change in emissions. It is assumed wet wipes will either be flushed into sewer networks, or disposed of through household waste collections. Some wet wipes will be littered, however for the purpose of this analysis, as even biodegradable wet wipes take time to break down, we assume littered wet wipes will eventually be collected and disposed of as waste. Some littered wet wipes could find their way into waterways and eventually into the ocean, however we do not have sufficient evidence to calculate and monetise these impacts.

7.88 [Research by Water UK](#), found 22% of people admit to flushing wet wipes. We, therefore, assume that 22% of wet wipes consumed in Wales are flushed into sewer networks. As wet wipes cannot be recycled through mainstream routes, we assume that the remaining 78% of wipes are disposed of through landfill or Energy from Waste (EfW). LA collected waste management data is used to estimate the proportion of LA waste that goes to landfill and EfW. This results in the estimate that 74% of wet wipes will be disposed of via EfW and 4% via landfill in Wales.

Table 27: Assumed disposal routes of consumer wet wipes in Wales – (Welsh Government Calculations)

	Proportion
Sewer	22%
Landfill	4%
Incineration	74%
Total	100%

- 7.89 Biodegradable alternatives to plastic wet wipes can result in higher landfill greenhouse gas emissions as unlike plastic, natural materials (such as viscose which is made almost entirely from wood pulp) degrade, releasing imbedded carbon.
- 7.90 When materials are disposed of via incineration, they emit greenhouse gases. However, most incineration recovers energy by using the heat generation to run steam turbines (called 'Energy from Waste'). Therefore, some of the greenhouse gases emitted is offset by the power generated, reducing the amount of fossil fuel derived power needed to be supplied to the national grid. In some cases this can lead to net positive emissions savings from sending certain types of waste to energy from waste incineration. Plastic often has higher emissions than natural materials, and, therefore, plastic free wet wipes are expected to have lower EfW emissions than plastic.
- 7.91 It is assumed all wet wipes entering the residual waste stream in the UK will be disposed of in the UK. In 2021 less than 10% of UK residual waste was exported for incineration (Refuse Derived Fuels) abroad. This tends to be commercial and industrial waste as noted in the following [published paper from Tolvik UK](#).

Table 28: Co2e (t) per 1 sqm wet wipes (from Defra's economic impact assessment 2024, unpublished)

	Landfill	EfW	Total
Plastic	0.3	1.0	1.5
Plastic free	0.8	-0.5	-1.0

- 7.92 These factors are multiplied by the number of plastic and plastic free wet wipes in the baseline and option to estimate the production emission in each scenario (table 28 above); DESNZ carbon values were used to monetise these impacts in table 29 below.

Table 29: Disposal emission savings (compared to baseline) - Welsh Impact – (Welsh Government Calculations)

	2025	2027	2030	2032	2034
Co2e savings (t)	-	1,304	739	732	722
Value (£m)	£0.00	£0.42	£0.25	£0.25	£0.26

## Transport emissions

- 7.93 As discussed, plastic free wet wipes are heavier than plastic wet wipes. As set out in the business impact section, this is predicted to lead to increased fuel usage. This will lead to increased GHG emissions. The method to calculate the increased fuel usage (in litres) was set out in the business costs section. This was then applied to [DESNZ carbon conversion factors](#) for diesel fuel. These suggest that every litre of diesel used leads to 2.66kg of Co2e; [DESNZ carbon values](#) were used to monetise these emissions.

Table 30: Increased transport emissions - Welsh Impact – (Welsh Government Calculations)

	2024	2027	2030	2032	2034
<b>Additional fuel (litres)</b>	-	6,195	3,512	3,475	3,429
<b>Co2e (t)</b>	0	16	9	9	9
<b>Value of Co2e (£'000)</b>	£0.00	£5.25	£3.12	£3.18	£3.23

## Non-monetised benefits

### *Reduction in microplastics in the environment (non-monetised)*

- 7.94 [Research](#) In the 2021 paper, [Discharge of microplastics fibres from wet wipes in aquatic and solid environments under different release conditions](#), wet wipes containing plastic are found to be a source of smaller and micro sized plastic fibres/particles, released as the wet wipes break down in water and on land. If wet wipes containing plastic are disposed of through sewers or through littering, then microplastics will make their way into the environment. When marine life ingests plastic, the toxins in microplastics can be transferred up the food chain and can be ingested by humans as reported by the [National Geographic](#). A [World Wildlife Fund report](#) estimates humans consume 5g of plastic a week from the environment – the equivalent of a credit card. [Research](#) has also found microplastics in human blood. Also, an in vitro [study](#) which exposed human alveolar cells to polystyrene microplastics saw inhibition of cell proliferation and changes in cell morphology. While animal and human consumption of microplastics has been documented by many studies, for example those produced by the [World Health Organisation](#) and in [scientific papers](#), the true scale of any impact on animal and human health remains unclear.
- 7.95 A ban on the supply and sale of wet wipes that contain plastic would reduce the amount of microplastics released into the environment. However, for the reasons above, it has not been possible to quantify these benefits.

## Potential for reduced litter clean-up costs impact

- 7.96 There is the potential that a ban on wet wipes containing plastic would lead to a reduction in total litter in both the terrestrial and marine environments. While a ban would not reduce instances of littering, the alternative wet wipe material could potentially decompose faster than plastic which will lead to fewer wet wipes being found across all environments as litter. This would lead to a reduction in local authorities' litter picking costs. The current evidence is not yet definitive on whether alternative wet wipe material has a faster degradation rate than plastic.
- 7.97 Research by Allison et al in 2023 in 'Do flushed biodegradable wet wipes really degrade?' found that cellulose fibres in wet wipes can easily be fragmented, however this often does not actively biodegrade under environmental conditions and so can persist in the environment. Despite this, other resources suggest that the cellulose component of wet wipes does undergo biodegradation ([O'Briain et al 2020](#) , [Demain et al., 2005](#) ; [Leschine, 1995](#) ; [McDonald et al., 2012](#) ; [Smith, 1994](#) ; [Song et al., 2013](#) ). Allison et al also refer to research by Zhang which demonstrated that although effective wet wipes can be made from viscose fibres and wood pulp, which are fully biodegradable, this is challenging.
- 7.98 Brussels (2018) showed that 'Sanitary Applications' (sanitary products) formed approximately 7% of general plastic items in marine litter. Using percentage compositions from the 'Great British Beach Clean' (led by the Marine Conservation Society) UK , and 'Clean Coasts Big Beach Clean' , Republic of Ireland (these two studies specifically identify wet wipes' contribution to marine debris) wet wipes make up between 45% and 51% of sanitary items, equating to 3% to 3.5% of total marine litter in this case. [O'Briain et al \(2020\)](#) highlight that wet wipes remain an underestimated source of microfibres to the environment however, and so the true magnitude of this source of plastic may be larger than indicated here.
- 7.99 Given there is some conflicting evidence on whether cellulose wet wipes would degrade faster than plastic wet wipes, Defra has chosen not to monetise this impact.

## Potential for reduced sewage blockage impact

- 7.100 A number of studies have demonstrated that wet wipes can form a critical component of the material which forms sewer blockages in Berlin ([Mitchell et al 2017](#), [Mitchell et al 2020](#) ) and Tokyo ([Okamoto 2018](#) ). When combined with fats, oils and grease in the sewer system, wet wipes are a major contributing factor to the development of 'fat bergs' in sewer systems (Fam et al 2017 in [Alda-Vidal et al 2020](#) ). Mitchell et al (2020) found that while nonwoven material from wet wipes made up only 12% of solids in a sewer, they accounted for almost 50% of the solids causing pump blockages.



- 7.101 There is the potential for a ban on wet wipes containing plastic to lead to a reduction in sewage blockages as there is some evidence to suggest that wet wipes made from alternative materials such as cellulose can more readily break down in sewers than plastic wipes. For example, [O'Briain et al \(2020\)](#) found that wet wipes made from only cellulose are more easily torn than those exclusively made from PET, or PET and cellulose under standard testing conditions (IWSFG PAS1, 2018). This makes it more likely that cellulose wet wipes will break up, reducing the risk of sewer blockages. [Drinkwater and Moy \(2017\)](#) found the non-flushable wet wipes and baby wipes were the most common component of identifiable products in pipe, pump, and wastewater treatment work inlet blockages.
- 7.102 However, there is conflicting evidence that suggests that wet wipes made from alternative materials such as cellulose may not be less likely to cause sewage blockages than plastic wipes. It has been found that the dispersal of wet wipes is dependent on their storage conditions. [Harter et al \(2021\)](#) show that, except for wet wipes made from unbleached pulp, all wet wipes they tested made from viscose and wood pulps which were stored in liquid had dispersal values well below that required to be classed as 'flushable'. Given the length of time in production line, they conclude that this indicates that by the time these wipes are used by consumers, they will not be easily dispersed and may well contribute to clogging in sewers. Wet wipes made only from short fibre unbleached soft wood maintained an acceptable level of dispersibility through these tests (Harter et al 2021). The specific shape of fibres used also affected the dispersal of wet wipes, with fibres of a flat cross section dispersing better than those of a circular cross section (Harter et al 2021).
- 7.103 Sewage blockages are estimated to cost the UK £100 million a year and can cause homes and businesses to flood. If cellulose wet wipes were less likely to cause sewage blockages, then costs to water and sewage companies to unblock sewers would reduce and there could be a decrease in costs to households and businesses through reduced insurance rates. However, more research needs to be done on this topic and there is some conflicting evidence. Due to the uncertainty around whether cellulose wet wipes would be less likely to cause sewage blockages, Defra chose not to monetise this impact and the Welsh Government agreed with this approach.

### **Summary of costs and benefits - Welsh Impact**

- 7.104 Businesses, made up of primary plastic and wet wipe producers, and retailers, are predicted to face net costs of £25m over 10 years in present value terms. This works out at an average of £2.5m per year. The public sector in terms of LA engagement, enforcement etc. faces costs of £0.4m over 10 years. There are predicted to be net £4.7m in environmental benefits over 10 years. This consists of a net reduction in GHG emissions. However, a key benefit, the reduction of microplastics in the environment, could not be quantified.
- 7.105 The overall estimated NPSV is -£21m (table 31). However, as discussed, this does not include the key benefit of reduced microplastics in the environment. It is expected that this benefit will have both environmental and human health

benefits. Evidence on the impacts of microplastics is still developing and it is therefore not possible to determine the likely scale of these benefits. It is therefore not clear whether including these would have led to a positive net present value, however, given mounting evidence on the harms of microplastics to marine organisms and plant life, this has resulted in the Welsh Government taking actions to minimise microplastics from single-use plastic products.

Table 31: Summary of costs and benefits in present value over 10 years for Wales– (Welsh Government Calculations)

	Accrues to	NPV (£m)
<b>Costs</b>		
<i>Transition</i>		
Retail transition costs	Retailers	£0.90
		£4.58
Producer transition costs	Wet wipe producers	
<i>Annual</i>		
WW Producer profit loss	Wet wipe producers	£33.44
Plastic producer profit loss	Primary plastic producers	£1.44
Transport costs	Retailers/Wet wipe producers	£0.04
Enforcement	Public Sector	£0.09
Landfill tax (transfer)	Local Authorities	£0.01
Waste management costs	Local Authorities	£0.30
		£0.03
Transport emissions	Society	
<i>Benefits</i>		
Production emission reductions	Society	£2.65
Disposal emission reductions	Society	£2.02
WW Producer profit gain	Wet wipe producers	£15.04
Landfill tax (transfer)	HMT	£0.01
		-£21.1
<i>NPSV</i>		

7.106 Table 32 below summarises the costs and benefits to the public and private sector in Wales. As above, the figures do not consider the unquantified benefits of plastic and microplastics in the environment, or the impacts on human health.

Table 32: Costs and benefits by impacted sector (£m) for Wales – (Welsh Government Calculations)

	Present value costs	Present value benefits	Net present value
<b>Business</b>	£40.4	£15.0	-£25.4
<b>Public sector</b>	£0.4	£0.01	-£0.4
<b>Society</b>	£0.03	£4.7	£4.7

## Summary of business impacts

### Business impacts

#### Wet wipe producers

7.107 The majority of costs to businesses are expected to accrue to wet wipe producers. Wet wipe producers are estimated to face an average £3m per year additional net costs (Table 33). This equates to 3% of revenue from production of wet wipes for sale in Wales. The highest costs occur in 2027, the first year of the ban, when costs are estimated to reach 4% of revenue (see table 33 below).

Table 33: Producer cost and revenue (£m) – Welsh impact (estimated from Defra’s economic impact assessment 2024, unpublished)

	2025	2027	2030	2032	2034	Average
<b>Producer costs</b>	£2	£4	£2	£2	£2	£3
<b>Producer revenue (from producing consumer wet wipes)</b>	£92	£96	£102	£104	£111	£101
<b>Producer costs as % of producer revenue (consumer)</b>	2%	4%	2%	2%	2%	3%
<b>Producer revenue (from producing all wet wipes)</b>	£176	£183	£194	£202	£211	£193
<b>Producer costs as % of producer revenue (total)</b>	1%	2%	1%	1%	1%	1%

#### Retailers

7.108 Costs to retailers are expected to be minimal. On average, retailers in Wales are estimated to experience on average costs of around £97k per year. This equates to around 0.08% of revenue from wet wipe sales. Costs are expected to largely occur in the first two years as retailers transition to only selling plastic free wet wipes. These estimates also include increased transport costs from transporting from the point of production to retail stores (see table 34).

Table 34: Retailer cost and revenue (£m) - Welsh impact (from Defra's economic impact assessment 2024, unpublished and adjusted for Wales)

	2025	2027	2030	2032	2034	Average
<b>Retailer costs</b>	£0.46	£0.01	£0.01	£0.01	£0.01	£0.097
<b>Retailer revenue</b>	£121	£126	£134	£140	£146	£133
<b>Retailer costs as % of retailer revenue</b>	0.379%	0.007%	0.004%	0.004%	0.004%	0.079%

### Whole supply chain

7.109 When considering the impacts on the direct wet wipes supply chain (wet wipe producers, wholesalers and retailers), total costs equate to an average of 2% of total retail sales revenue annually. On average supply chain costs equate to 9% of total supply chain profit annually, although do peak at 14% in 2027, as shown in table 35.

Table 35: Whole supply chain costs, revenue and profit (£m) - Welsh impacts (from Defra's economic impact assessment 2024, unpublished and adjusted for Wales)

	2025	2027	2030	2032	2034	Average
<b>Total supply chain costs</b>	£3	£4	£2	£2	£2	£3
<b>Total sales revenue</b>	£121	£126	£134	£140	£146	£133
<b>Total supply chain profits (including wholesale)</b>	£27	£28	£29	£31	£32	£29
<b>Costs as % of revenue</b>	2%	3%	2%	2%	2%	2%
<b>Costs as % of profit</b>	10%	14%	8%	7%	7%	9%

## Risks and assumptions

### *Risks arising from a ban*

7.110 *Increased inappropriate flushing of wet wipes.* In the event of a ban, consumers could be led to believe that all wet wipes are now appropriate to flush into sewage systems. This could lead to an increase in inappropriate flushing of wet wipes. This should be minimised as government is already supporting Water UK's '[Bin the Wipe](#)' campaign and Welsh Water's "*Fine to Flush*" campaign which encourages consumers to dispose of wet wipes correctly. The campaigns are intended to help educate and change consumer behaviour.

7.111 *Increased prices or reduced quality.* In the event of a ban retailers could increase wet wipes prices to compensate for increased production costs. Alternatively, to maintain prices, producers may reduce the quality of wet

wipes. More detailed discussion on this risk is discussed in the wider impacts section and covered in our separate Integrated Impact Assessments. However, it is expected that consumers will still have a choice of options, including low-cost wet wipe options.

- 7.112 *Inadequate provision of exemptions.* The ban could lead to unforeseen consequences such as lack of access to appropriate wet wipes by some groups in society. The preferred option takes a low risk approach by exempting the sale of plastic wet wipes for use in business and medical settings, including by individuals who need them for their own or others medical care or treatment.
- 7.113 *Loss of UK wet wipe manufacturing jobs:* The ban could lead to producers reducing or ceasing production of wet wipes which could lead to job losses. This is expected to be minimised as the ban only applies to the supply and sale to the UK market. The specifics of the ban allow businesses to maintain competitiveness abroad while maintaining a level playing field in the UK market. However, Kimberly-Clark has announced the closure of its Flint based manufacturing operations, expected to complete in mid-2025.

#### *Risks arising from not banning the sale of plastic wet wipes*

- 7.114 *Environmental impacts:* Although some businesses have expressed plans to reduce or cease the sale or production of plastic wet wipes, evidence suggests the use of plastic would not be phased out quickly enough. Levels of plastic entering the environment would continue to increase; as would GHG emissions from plastic wet wipes.
- 7.115 *Human health:* the continuing use of unnecessarily plastics could also significantly impact human health. As discussed, the evidence on the impact of micro plastics to human health is developing, but there are concerns that they could be significant. The ban takes a cautious approach to the evidence by contributing to the Welsh Government's ambition to phase out unnecessarily single use plastic.
- 7.116 *Missed innovation opportunities:* Without pressure to find alternatives to plastic, such opportunities may not be prioritised by producers. A ban will force producers to switch production and, due to increased competition, may lead to increased innovation resulting in materials with higher performance or which are more environmentally friendly.

#### **Other wider impacts**

##### *Will producers pass on additional costs to consumer?*

- 7.117 Several business types within the wet wipes supply chain are expected to face additional costs because of a ban. Within the cost benefit analysis, it is assumed that these costs will be internalised by these businesses. However, it is possible that these businesses will pass costs up the supply chain, with retailers then passing these costs onto consumers.

- 7.118 The extent to which retailers can pass cost increases on to consumers is dependent on several factors including the price elasticity of demand (the change in demand in relation to price), the level of competition in the sector and whether the cost increase is sector-wide or on products from one manufacturer.
- 7.119 The Office of Fair Trading (OFT) previously [published research](#) on cost pass-through under different scenarios. Cost pass-through happens when a business changes the price of its products or services following a change in its costs. It found cost pass-through is generally lower in instances of firm-specific costs increases compared to industry wide cost impacts (shock). On the one hand, a ban could be considered an industry wide shock as it applies to all retailers and producers wishing to supply the UK market. However, as a considerable proportion of wet wipes are already plastic free (we estimate over 60%), and there are already brands and large retailers exclusively supplying plastic free wipes to the UK market, the OFT research suggests any increased costs from the ban will potentially fall on producers and retailers unequally.
- 7.120 Most costs are expected to fall initially on producers, resulting from increased input costs in producing plastic-free wet wipes rather than ones containing plastic. While some manufacturers (including those with large market shares) have already made significant progress in reducing the number of plastic wet wipes they produce for the UK market, it is likely that most producers will face some cost increases. Some producers may have already seen a reduction in profit margins resulting from how they responded to the changing markets when parts of the retail sector switched to plastic-free wipes. The ban may therefore be seen as an opportunity for producers to reestablish previous profit margin levels.
- 7.121 Either way, most producers are likely to experience some cost increase. Retailers are therefore likely to have less control over whether producers pass these on to them. Therefore, although costs are likely to be borne unequally across businesses, it is still likely that the ban would be more akin to an industry wide shock than one on individual businesses.
- 7.122 The OFT show that in the case of an industry wide shock, there tends to be some cost pass through. Given the UK wet wipes industry has a relatively high number of producers and brands which are sold across a large number of retailers, we assume an 85% cost pass-through as the central estimate. This is taking in to account that brands compete on factors other than price, such as quality, branding, environmental issues etc. the OFT research suggests This leads to a central cost pass through estimate of £1.67 per year or £0.03 per week per household in Wales.

*Do the higher input costs relating to plastic free wet wipes show up in retail prices currently?*

- 7.123 Valpak's assessment of wet wipes placed on the market in the UK analysed the retail price of wet wipes, with the aim of determining whether there was a

price differential between plastic and plastic free wet wipes. They used price data from their EPIC database which holds data for five major supermarkets and other high street retailers, reviewing the price of top selling wet wipe products across all wet wipe categories for each retailer.

7.124 There is no requirement for wet wipes to be labelled as containing plastic or not. As Valpak point out, under current regulations it is possible for wet wipes labelled biodegradable to contain plastic. This makes it difficult to determine which products contain plastic. Valpak found that only around a quarter of the products reviewed included information on their packaging to signal whether they contained plastic or not. Two different methods were, therefore, used to determine the plastic content of wet wipes.

7.125 The first was to assume a correlation between flush-ability and plastic content. Water UK (along with scientific consultants WRc) created the ‘fine-to-flush’ standard. To determine suitability to be labelled as fine-to-flush wipes face a number of tests, which includes a test to determine the inclusion of petro-chemical derived plastic fibres. Fine-to-flush wipes should, therefore, be free of synthetic plastics.

7.126 Valpak found the average fine-to-flush wet wipe was 3-4p less expensive than non-flushable (Table 36). However, Valpak state these results should be taken with caution due to a small sample size for wipes meeting the fine-to-flush standards.

*Table 36: Valpak wet wipe prices (from the unpublished 2022 Valpak report commissioned by Defra)*

Product Specification	Min Full Pack Price	Max Full Pack Price	Min Price Per Wipe	Max Price Per Wipe
<b>Fine to Flush</b>	£1.31	£1.38	£0.05	£0.06
<b>Non-Flushable</b>	£1.92	£2.41	£0.08	£0.10

7.127 The second approach categorised three types of products:

- a. Explicitly stated as not containing plastic
- b. Biodegradable
- c. Explicitly stated as containing plastic or not specified.

7.128 Category a i.e. plastic free wipes was found to have the lowest price. However, again Valpak point out limitations with this approach. Due to a small sample size, the costs presented are an average across all categories and do not account for the difference in price across categories. For example, the high costs of biodegradables could be skewed by the higher proportion of biodegradable wipes in the cosmetic category (generally more expensive) than in the other categories (Table 37).

Table 37: Valpak wet wipe prices (from the unpublished 2022 Valpak report commissioned by Defra)

Product Specification	Min Full Pack Price	Max Full Pack Price	Min Price Per Wipe	Max Price Per Wipe
Biodegradable	£1.93	£2.56	£0.08	£0.10
Plastic Free	£1.69	£1.95	£0.07	£0.08
Not Specified/Contains Plastic	£1.87	£2.24	£0.07	£0.09

7.129 Therefore, although the Valpak analysis would, on the face of it, suggest plastic free wet wipes have a lower retail price than plastic wipes, it is difficult to derive strong conclusions; it is not clear that these results are representative of a like-for-like comparison.

7.130 Further analysis was conducted internally within Defra. This consisted of a review of wet wipes prices posted online by four larger retailers (in early 2024). This specifically focussed on baby wipes. This was because it was assumed that there would be a higher sample size and a relatively high similarity in products across brands. Additionally, baby wipes are the largest wet wipe category by market share, with 60% of consumer wet wipes falling into this category.

7.131 Across all four retailers, the lowest priced baby wipes (both on a per pack and per wipe basis) were explicitly labelled as plastic free. These were all priced at around £0.01 per wipe and were all 'own brand' products. None of these retailers had an equivalent 'own brand' version containing plastic for comparison (Table 38).

Table 38: Baby wipe prices at four major retailers (from Defra's economic impact assessment 2024, unpublished)

	Retailer 1		Retailer 2		Retailer 3		Retailer 4		Average	
	Plastic	Plastic free	Plastic	Plastic free	Plastic	Plastic free	Plastic	Plastic free	Plastic	Plastic free
<b>Low</b>	£0.00	£0.01	£0.00	£0.01	£0.02	£0.01	£0.02	£0.01	£0.02	£0.01
<b>High</b>	£0.00	£0.05	£0.00	£0.05	£0.04	£0.05	£0.03	£0.05	£0.03	£0.05

7.132 It was assumed therefore that the best comparisons would come from comparing products from a single brand. Across all four retailers, there was only one brand that sold both plastic and plastic free baby wipes (based on packaging that explicitly stated either way; as discussed a number of brands did not make it clear whether their products contained plastic). Across all four retailers, the brand sold two plastic free products and three plastic containing products. The plastic products ranged from £0.018 per wipe to £0.036 per wipe, with an average of £0.027 per wipe. The plastic free products range from £0.019 per wipe to £0.042 per wipe, and averaged £0.03 per wipe across



all retailers, the plastic free baby wipes cost £0.003 (11%) more than plastic containing wipes.

Table 39: Price of different products within a brand at four retailers (from Defra's economic impact assessment 2024, unpublished)

Product name	Plastic/Plastic free	Retailer 1	Retailer 2	Retailer 3	Retailer 4	Average
Product 1	Plastic			£0.018	£0.018	£0.018
Product 1 (plastic free)	Plastic free	£0.019	£0.021			£0.020
Product 2	Not stated			£0.018	£0.018	£0.018
Product 3	Plastic free			£0.025	£0.031	£0.028
Product 4	Plastic			£0.036	£0.036	£0.036
Product 5	Plastic free		£0.042			£0.042
Average plastic						£0.027
Average plastic free						£0.030

7.133 Engagement with stakeholders identified two large retailers who had switched to plastic free for their own brand products explained the cost to produce these products increased slightly. One stated they were able to absorb these costs and maintain the same retail price. The other initially had to raise the retail price on these items by around 10%. These retailers anticipated that as more production is moved to plastic free the retail price differential will reduce.

## 8 Competition assessment

The competition filter test	
Question	Answer yes or no
<b>Q1:</b> In the market(s) affected by the new regulation, does any firm have more than 10% market share?	Y
<b>Q2:</b> In the market(s) affected by the new regulation, does any firm have more than 20% market share?	Y
<b>Q3:</b> In the market(s) affected by the new regulation, do the largest three firms together have at least 50% market share?	Y
<b>Q4:</b> Would the costs of the regulation affect some firms substantially more than others?	Y
<b>Q5:</b> Is the regulation likely to affect the market structure, changing the number or size of firms?	Y
<b>Q6:</b> Would the regulation lead to higher set-up costs for new or potential suppliers that existing suppliers do not have to meet?	N
<b>Q7:</b> Would the regulation lead to higher ongoing costs for new or potential suppliers that existing suppliers do not have to meet?	N
<b>Q8:</b> Is the sector characterised by rapid technological change?	N
<b>Q9:</b> Would the regulation restrict the ability of suppliers to choose the price, quality, range or location of their products?	Y

- 8.19 The competition filter test indicates the potential, of the proposed change, to impact on competition in the wet wipes manufacturing sector, particularly when considered at a UK level. As such, a more detailed assessment of this sector has been undertaken. The assessment follows the Competition and Markets Authority's guidelines.

*Will the policy measure directly or indirectly limit the number or range of suppliers?*

- 8.20 From the baseline analysis outlined above, we know that the wet wipe market in the UK is currently dominated by a small number of large manufacturers. For example, Nice-Pak claim to produce 'well over half' of baby wipes (the largest consumer category) sold in the UK, which suggests they produce at least 30% of UK consumer wet wipes.
- 8.21 The ban is predicted to increase costs to producers. Consultation respondents have told us that input costs to produce plastic free wet wipes are higher than those to produce plastic wet wipes. Increasing costs could cause producers to exit the market as well as resulting in barriers to entry to the market arising.
- 8.22 In August 2024, following the UK Government's confirmation that the sale of wet wipes containing plastic would be banned, Kimberly-Clark announced it would be closing its two manufacturing plants in North Wales and moving

production to Germany. The company cited the ban and the difficulty of adapting production processes within the 18-month transition period as the reason for the move.

- 8.23 However, the costs to producers to manufacture plastic free wet wipes are not thought to be prohibitive. A significant proportion of wet wipes are already plastic free (62%) and we estimate the total cost to wet wipe producers of the proposed change accounts for only a maximum of 3% of total revenue to the sector. As such the risk of further companies' closures is considered limited.
- 8.24 As discussed in the baseline section, evidence from stakeholder engagement and consultation suggests plastic containing consumer wipes are produced exclusively by medium and large businesses, which minimises the risk of small and micro businesses going out of business due to excessive burden from the ban.

*Will the policy measure limit the ability of suppliers to compete?*

- 8.25 The ban will inherently limit the characteristics of products supplied by prohibiting the use of plastic. However, as demonstrated in the consumer prices section, there are already a variety of suitable alternatives. Plastic free products are already produced by several different brands, with a range of different products on the market. The ban also acts as an incentive for producers to innovate to find new and better ways of producing plastic free wet wipes (for example though using innovative materials).
- 8.26 As discussed, it is expected the ban will increase the cost to produce wet wipes on a like-for-like basis. It is possible this will translate into higher costs. However, suppliers already supply low-cost plastic free wet wipes. As discussed in the consumer prices section, of four large retailers reviewed, the lowest priced baby wipes (own brand version) were all already plastic free. These retailers also sold high-cost branded plastic free wet wipes.
- 8.27 Overall, the limits placed on what suppliers can produce are not anticipated to significantly reduce their ability to compete nor to reduce the variety of products available.

*Will the policy measure limit suppliers' incentives to compete?*

- 8.28 The policy measure will not limit suppliers' incentives to compete and is not expected to make it easier for businesses to collude on the retail price.

*Will the policy measure affect consumers' ability to engage with markets and make choices that align with their preferences?*

- 8.29 The ban will remove consumers' ability in choosing to buy wet wipes containing plastic. However, consultation responses suggest the public are supportive of a ban and feel plastic free alternatives are suitable for their

needs. As discussed, it is anticipated there will still be significant choice for consumers.

- 8.30 The ban will remove the confusion that arises from current labelling practices regarding the plastic content of wet wipes. Currently wet wipes are not required to advertise their plastic content on their packaging, making it difficult for consumers to choose to buy plastic free wet wipes. As discussed earlier, Valpak found only a quarter of wet wipe products reviewed stated either way whether they contained plastic. The ban will provide consumers with the confidence they are purchasing plastic free wipes.

*Will the policy measure affect suppliers' ability or incentive to introduce new technologies, products or business models?*

- 8.31 The ban may act as a catalyst for producers to innovate to find the best way of producing plastic free wet wipes, such as by looking for innovative, natural materials with the required properties. Through their consultation responses producers told us research and development would be a significant cost during the transition process.

## 9. Impact Assessment Summary

- 9.1 A full Integrated Impact Assessment (IIA) has been undertaken to appraise the impacts – both positive and negative – of the introduction of this legislation. In line with the Welsh Government’s guidance on the IIA process, **Section 1** (What action is the Welsh Government considering and why?) and **Section 8** (Conclusion) of the IIA, as well as a full **Children’s Rights Impact Assessment, and Equality Impact Assessments** will be published on the [Welsh Government website](#).
- 9.2 This overarching Assessment has been determined through analysis of the information gathered through the Welsh Government’s [Reducing Single Use Plastic Consultation](#) and the [UK-wide consultation on the proposed ban of the manufacture, supply and sale of wet wipes containing plastic in 2023](#) and subsequent engagement between 2021 and 2025. This determination suggests the legislation could lead to impacts on children and young people, disabled people, older people, those with childcare responsibilities and people on low income.

### **Impacts**

- 9.3 Nine specific impacts’ assessments were undertaken in the following topic areas, to identify the positive and negative impacts our proposals may have. These have been summarised in the following paragraphs.
- Biodiversity
  - Climate change
  - Children’s rights
  - Equality
  - Rural Proofing
  - Data/Privacy
  - Socio-economic disadvantage
  - Welsh Language
  - Justice Impact

### **Biodiversity**

- 9.5 To demonstrate compliance with Section 6 of the Environment (Wales) Act 2016, a Biodiversity Impact Assessment has been completed. The [Nature Recovery Action Plan for Wales](#) identifies six objectives that will contribute to reversing the decline of biodiversity in Wales, one relates to tackling key pressures on species and habitats. The production and inappropriate disposal

of single-use products (particularly those made of plastic) contributes to these pressures.

- 9.6 According to the Organisation for Economic Co-operation and Development's (OECD) publication [Global Plastics Outlook: Policy Scenarios to 2060](#), "Plastic pollution is one of the great environmental challenges of the 21st Century, causing wide-ranging damage to ecosystems and human health". The global plastics production was estimated to be 400.3 million metric tons in 2022. The OECD report estimates that without policy and regulatory interventions, global plastics use is projected to nearly triple by 2060, driven by economic and population growth.
- 9.7 A [2021 study published in the Science of the Total Environment journal](#) identified plastic-containing wet wipes as a significant contributor to plastic pollution in rivers and oceans. Plastic-containing wet wipes persist in the environment when they are disposed of incorrectly, breaking down into microplastics over time.
- 9.8 An unpublished 2022 UK Water Industry Research Project found wastewater treatment plants can remove 99% of microplastics by number and 99.5% by mass, however there is growing evidence that even a small percentage of microplastics entering the sewerage system may cause harm to wildlife, the environment and even people's health.
- 9.9 Therefore, prohibiting the supply of wet wipes containing plastic will benefit biodiversity by reducing the damage to the natural environment that may result from microplastic and plastic pollution when these products are disposed of inappropriately.

## **Climate Change**

- 9.10 Climate change poses an ongoing national and global threat to our health, economy and natural environment. In recognition of this, in April 2019, the Welsh Government declared a climate emergency in Wales.
- 9.11 According to WRAP's 2021 [carbon waste and resources metrics report](#), incinerating plastic leads to significant greenhouse gas emissions compared to alternative natural materials. In the case of wet wipes viscose which is made of over 99% wood pulp and lyocell are commonly available non-plastic alternatives to plastic containing wipes. Limiting the amount of plastic entering the residual waste stream is, therefore, important for reducing emissions from waste treatment. [A life-cycle assessment from 2021 by Zhang, et al](#) comparing plastic wet wipes with those made of viscose available on the market in China

found these were suitable alternatives to prevent plastic leakage into the environment from wet wipes.

- 9.12 Similarly, primary plastic production also produces greenhouse gas emissions. The production of one tonne of plastic produces 1.9-2.3 tonnes of Co2e (carbon dioxide equivalent, a measure of global warming potential) compared to 0.2 tonne of Co2e released to produce a tonne of wood, from the same WRAP metrics report above.
- 9.13 Our proposals to prohibit the supply of wet wipes containing plastic aligns with the [Programme for Government 2021-2026](#) commitment to protect our future generations by ensuring we ‘embed our response to the climate and nature emergency in everything we do’. Under this encompassing pledge, there is also a specific commitment to ‘Legislate to abolish the use of more commonly littered, single use plastics’.

### **Children’s Rights**

- 9.14 The prohibition on the supply of wet wipes containing plastic in Wales will have both positive and negative impacts on children's rights, as defined by the [United Nations Convention on the Rights of the Child](#) (UNCRC). The Children’s Rights Impact Assessment (CRIA) has identified the prohibition on the supply of wet wipes containing plastic as meeting the requirement in [The United Nations Convention on the Rights of the Child](#), specifically **Articles 1, 2, 12, 13, 23 and 24**.
- 9.15 Our proposals will reduce the negative impacts littering, plastic pollution and climate change have on our environment and our health and well-being. Climate change has been identified as one of the biggest threats facing future generations; implementing these proposals will have a direct positive impact on protecting our environment, health and well-being in the short term and for future generations.
- 9.16 The policy has the potential to have a negative impact on those children and young people (or families with children and young people), who currently use plastic containing wet wipes on the basis of price. However, with many manufacturers and retailers already shifting to alternative materials it is anticipated any short-term increase in costs will reduce once more products are placed on the market.
- 9.17 We can foresee no potential impacts on EU Citizens Rights (as referenced in the Equality Impact Assessment), relating to young people up to the age of 18, from the proposed legislation.

## **Equality**

- 9.19 The [Equalities Act 2010](#) places a General Equality Duty on Welsh public authorities to have due regard to the need to eliminate unlawful discrimination, harassment and victimisation, as well as to advance equality of opportunity and to foster good relations between people who share a protected characteristic and those who do not.
- 9.20 Prohibiting the supply of wet wipes containing plastic will remove these products from the market except for those ‘designed or manufactured for use in connection with medical care or treatment’. Wet wipes sold business to business are out of scope of the ban and will continue to be available for use by businesses and organisations operating in the care sector, which may require these to provide care or services to people with protected characteristics relating to age or disability. Concerns were raised around the potential impact on disabled people and carers in respect of the performance or cost of plastic free alternatives. However, as large retailers such as major supermarket and chemist chains have already been phasing out the sale of wet wipes containing plastic over several years, consumers sourcing wet wipes from these suppliers are likely already using plastic free wipes.
- 9.21 Matters relating to the cost to consumers are investigated in our Regulatory Impact Assessment, which found a differential in prices for consumers of 0.22p per wipe (based on 2019 prices). The assessment anticipates a small initial increase in the price of plastic free wipes following the introduction of the ban which is then expected to reduce as plastic free wet wipes become the standard product. At the time of writing in April 2025, the price per plastic free wipe has already come down compared to 2019 values, as they have become more available.
- 9.22 We do not believe the proposals are discriminatory nor otherwise unlawful under the Equality Act. Nevertheless, we will monitor the delivery of the proposals and remain alert to new evidence suggesting any negative impacts, discrimination or other prohibited conduct is, or could be, occurring and take appropriate action.

## **Rural Proofing**

- 9.23 A Rural Proofing Screening Assessment has been undertaken, indicating limited negative impacts of the proposals on rural communities. As those living in rural locations may have less choice when it comes to what wet wipes they can purchase, this may have a small economic impact on those working and living in rural communities. However, we anticipate that as plastic free wipes become more available following the roll out of the bans across the UK, any



cost, supply and availability issues associated with alternative products will be minimal.

- 9.24 Positive impacts from the proposals stem from the benefits to the environment through reduced littering and environmental harms from plastic pollution from inappropriately disposed of wet wipes.

### **Data Protection**

- 9.29 A Data Protection Impact Assessment (DPIA) identifies any impact our proposals have on the use, also changes to use, of personal data.
- 9.30 Based on initial analysis it was determined that, as no personal data will be processed by the Welsh Government for this proposal, a full DPIA would not be required and no UK General Data Protection Regulation (UK GDPR) compliance advice is needed.
- 9.31 Individual LAs who will enforce the bans will have their own processes in place to deal with data protection (for example when seeking prosecution or issuing civil sanctions).

### **Socio-economic Disadvantage**

- 9.32 The [socio-economic duty](#) requires relevant public bodies, including the Welsh Government to have due regard to the need to reduce inequality of outcome that results from socio-economic disadvantage when making strategic decisions.
- 9.33 Our proposals will have a positive impact for all individuals (including those who experience socio-economic disadvantage) by reducing the associated negative environmental impact from plastic and microplastic pollution.
- 9.34 The proposals may incur a short-term additional cost to individuals in Wales who sell or use plastic containing wipes, this may affect a higher proportion of those from socio-economically disadvantaged backgrounds. An increase in living costs has been reported as having a negative impact on [mental health, physical health and family relationships](#).
- 9.35 Matters relating to the cost to consumers are investigated in our Regulatory Impact Assessment, which found a differential in prices for consumers of 0.22p per wipe (based on 2019 prices). The assessment anticipates a small initial increase in the price of plastic free wipes following the introduction of the ban which is then expected to reduce as plastic free wet wipes become the standard product. At the time of writing in April 2025, the price per plastic free

wipe has already come down compared to 2019 values, as they have become more available.

### **Welsh Language**

- 9.36 The Welsh Government has fully considered the impact of our proposals on the Welsh Language. Bilingual production of the legislation, guidance for retailers, awareness raising materials and specific impact assessments will enable equal access for both English and Welsh speakers in accordance with the Welsh Language (Wales) Measure 2011 Act.
- 9.37 This will also assist in delivering the Welsh Government's vision set out in [Cymraeg 2050](#) of 1 million Welsh speakers by 2050.
- 9.38 Public consultations on the proposals in 2020 and 2023 did not result in any consultee indicating how these proposals could harm the Welsh language. The proposals will not affect the sustainability of Welsh speaking communities nor on Welsh medium education and Welsh learners of any ages.

### **Justice Impact**

- 9.39 An assessment was undertaken as part of the legislative development process. The proposals will create new offences under the existing [Environmental Protection \(Single-use Plastic Products\) \(Wales\) Act 2023](#) and also allow enforcement bodies to make use of the civil sanctions regime set out in [The Environmental Protection \(Single-use Plastic Products\) \(Civil Sanctions\) \(Wales\) Regulations 2023](#) as an alternative to criminal offense.
- 9.40 As a result, we anticipate the number of cases expected to be tried in courts will be less than five a year. This is based on examining other, similar environmental offences such as those under [The Single Use Carrier Bag Charge \(Wales\) Regulations 2010](#), [The Environmental Protection \(Microbeads\) \(Wales\) Regulations 2018](#) and [The Environmental Protection \(Single-use Plastic Products\) \(Wales\) Act 2023](#).

## **10. Post-implementation review**

10.1 The Welsh Government will conduct a post implementation review of the 2023 Act no later than five years after it came into force which was in October 2023. The bans on wet wipes containing plastics will come into force three years after this date (December 2026). Depending on when the post implementation review is conducted, it is anticipated the scope will include wet wipes containing plastics i.e. after 2026.

10.2 In the absence of the review's formal scope we anticipate this would include:

- Identifying and evaluating the impacts the legislation has had on the use of wet wipes containing plastics and the associated behaviour of consumers in Wales.
- Identifying and evaluating what impacts the legislation has had on businesses in Wales.
- Identifying and evaluating the extent to which the legislation has succeeded in encouraging a shift to alternative and/or reusable products.
- Identifying, where possible, and evaluating, the extent the legislation has had on reducing the environmental impacts of wet wipes containing plastic.