

The Environmental case for Banning Disposable Vapes - Wildlife and Countryside Link briefing - March 2023

Executive Summary

Disposable vapes are a significant and growing environmental problem with research suggesting 1.3m are thrown away every week. This has negative impacts on the environment which include:

- **Litter:** disposable vapes are increasing being found littered on our streets and in the natural environment, with negative impacts for communities, pets and wildlife.
- **Wasted resources:** Research suggests that discarded disposable vapes result in 10 tonnes of lithium ending up wasted each year, enough to power 1200 electric car batteries.
- **Hard to recycle:** only a small proportion of disposable vapes are recycled. By their nature as electronics, they are difficult items to recycle and consumers have few convenient locations for disposing used vapes.

Disposable vapes are fundamentally flawed in their design and are inherently unsustainable products. Further, multiple health professionals have warned that, instead of helping existing smokers to give up the habit, they are creating a new generation addicted to nicotine. Before the environmental and social harm grows further, the Government must take the initiative and ban disposable vapes in England.

Background

The use of vapes has surged over recent years. These items are now ubiquitous; for sale on every high street, used by millions on a daily basis, and increasingly now found littered in the natural environment. Research suggests that half a billion vapes are now purchased every year, with almost a fifth of UK adults having bought a vape which is either single-use (disposable), rechargeable, or rechargeable with a single-use chamber.¹

Research by Material Focus has found that 37% of people who purchased vapes in the last year bought a disposable vape, a figure that rises to 52% for 18-34 year olds.² Indeed, research has found a more than a seven-fold increase in the proportion of 11 to 17-year-olds in the UK using disposable vapes since 2021.³ Material Focus claim that at least 1.3m disposable vapes are thrown away every week, equating to two vapes every second, with around 1m not recycled.⁴ Waste Minister Rebecca

¹ <https://www.materialfocus.org.uk/press-releases/one-million-single-use-vapes-thrown-away-every-week-contributing-to-the-growing-e-waste-challenge-in-the-uk/>

² <https://www.materialfocus.org.uk/press-releases/one-million-single-use-vapes-thrown-away-every-week-contributing-to-the-growing-e-waste-challenge-in-the-uk/>

³ <https://ash.org.uk/uploads/Use-of-e-cigarettes-among-young-people-in-Great-Britain-2022.pdf?v=1661866458>

⁴ <https://www.materialfocus.org.uk/press-releases/one-million-single-use-vapes-thrown-away-every-week-contributing-to-the-growing-e-waste-challenge-in-the-uk/>

Pow recently acknowledged that “there is an obvious consensus that disposable vapes - and what they may break down into - represent a genuine threat and risk to our environment.”⁵

Yet despite the growing evidence of harm caused by disposable vapes, Ministers have resisted calls for a ban.⁶ While Government action stalls, 95% of the public feel that their local environment being clean and litter free is important but only 58% of people are currently satisfied this is the case,⁷ and the UK is on track to become the largest producer of e-waste per capita in Europe.⁸

The Environmental case against disposable vapes:

1. Wasted valuable resources

Disposable vapes are electrical items which contain valuable resources. With over 1m vapes going to incineration or landfill every week in the UK, this represents a huge loss of useful materials which will never be recovered. In addition to materials which include metal, plastic and a heating coil, every disposable vape has a battery which contains 0.15g of lithium, a material vital for the green transition. This means at least 10 tonnes of lithium end up wasted each year through discarded vapes; enough to power 1200 electric car batteries.⁹

2. Pollution and harm to wild animals and pets

The Marine Conservation Society have reported that disposable vapes are being found littered on beaches around the UK by their beach clean volunteers. Because these products are made up of potentially hazardous materials, they warn that they pose a threat to marine life when littered.¹⁰ These items are being found littered across the country. Laura Young, a climate campaigner and PhD student based in Dundee, recently found 55 disposable vapes in the space of an hour as she walked through the city, see right.^{11,12}



⁵ <https://hansard.parliament.uk/Commons/2022-11-29/debates/8E8521A9-2990-4F8C-BE71-CD21636DD400/DisposableVapesEnvironmentalImpact?highlight=vapes%20elf#contribution-24F5D332-4194-40AF-9ECE-204CA451C430>

⁶ See <https://hansard.parliament.uk/Commons/2022-11-29/debates/8E8521A9-2990-4F8C-BE71-CD21636DD400/DisposableVapesEnvironmentalImpact?highlight=vapes%20elf#contribution-E0EC56FD-6B7C-4B6A-9D15-9DFFA859F07A>

⁷ Keep Britain Tidy, National Perceptions Survey, 2019 (unpublished), referenced in <https://www.keepbritaintidy.org/sites/default/files/resources/20200330%20KBT%20Litter%20Composition%20Report%20-%20FINAL.pdf>

⁸ <https://resource.co/article/uk-track-become-europe-s-biggest-e-waste-contributor>

⁹ <https://www.materialfocus.org.uk/press-releases/one-million-single-use-vapes-thrown-away-every-week-contributing-to-the-growing-e-waste-challenge-in-the-uk/>

¹⁰ <https://www.edie.net/ban-disposable-vapes-to-prevent-plastic-and-battery-waste-mountain-health-and-environment-groups-urge-ministers/>

¹¹ <https://www.thenational.scot/news/23238477.call-scottish-government-ban-use-disposable-vapes/>

¹² In addition to litter pollution, vape smoke can also be detrimental in enclosed spaces where others are forced to inhale the vapour, for example in enclosed nature spaces such as bird hides.

With increasing levels of vape consumption there is also a greater possibility of harm to wild animals and pets if vapes are chewed or ingested. There have been reports of a bird dying after ingesting a vape¹³ and a puppy having died after eating a vape pod.¹⁴ The Veterinary Poisons Information Service (VPIS) warn that “*e-cigarettes and their refills contain high doses of nicotine (up to 36 mg per ml) or even higher in products containing nicotine salts. Severe toxicity is uncommon, but could occur if the dose ingested is large. Many animals remain asymptomatic or develop only mild effects; common signs are vomiting, hypersalivation, diarrhoea and tachycardia. Throat irritation may also occur. In addition to the toxicity of nicotine, the actual e-cigarette casing can result in oral injury when chewed, and can cause gastrointestinal upset with the risk of a foreign body obstruction.*” VPIS have had around 700 enquiries relating to all kinds of vapes since 2017, see Table 1.

Table 1: Enquiries to the Veterinary Poisons Information Service relating to vape liquid products and electronic cigarette products in pets

Year	Number of enquiries
2017	88
2018	112
2019	106
2020	86
2021	147
2022	141

Data provided by VPIS: the majority of calls related to dogs (96%), around 3% were exposures in cats, 4 were in birds, 1 in a pony, and 1 in a ferret. Of these calls VPIS have full follow up on 172 cases and of these cases there were 2 fatalities (a cat and a dog), with the other animals either remaining well or making a full recovery.

3. Difficulty of recycling

To recover the materials contained in disposable vapes, it is important that they are recycled. However, the difficulty of recycling these items demonstrates the need for an outright ban. Indeed, there is currently very little capacity to recycle disposable vapes in the UK. Where options exist to recycle, firms find the process difficult and expensive.¹⁵ Because disposable vapes contain small amounts of e-liquid that contains nicotine, recycling facilities must ensure that staff are not exposed to the substance.¹⁶ Further, the lithium-ion batteries in vapes can ignite when punctured, contributing to an ever increasing number of fires in waste and recycling plants, with warnings that

¹³ <https://www.stuff.co.nz/dominion-post/news/wellington/125314244/bird-dies-at-wellington-zoo-after-swallowing-vape-pen-xrays-show>

¹⁴ <https://metro.co.uk/2019/09/22/grieving-owner-says-puppy-died-eating-teenagers-juul-vape-pod-10787781/>

¹⁵ <https://www.itv.com/news/2022-11-14/where-do-disposable-vapes-end-up-when-theyre-thrown-away>

¹⁶ <https://www.itv.com/news/2022-11-14/where-do-disposable-vapes-end-up-when-theyre-thrown-away>

staff could be “seriously injured or even killed” according to the British Metals Recycling Association.¹⁷

Recycling disposable vapes is currently inconvenient, with poor information on packaging and limited locations for consumers to deposit their vapes. These devices are classed as Waste Electrical and Electronic Equipment (WEEE) which means they can’t generally be recycled at the kerbside. Material Focus provide the closest drop off locations with their ‘Recycle your Electricals’ tool.¹⁸ Many drop off locations are located at Household Waste Recycling Centres on the outskirts of towns and cities, making them inconvenient for many. For example, a resident of central Norwich would currently face a 1h 40 round-trip on public transport to recycle their vape.

Table 2: Recycling points for disposable vapes are currently inconvenient

Location (city centre)	Distance to nearest drop off point (miles)	Travel time by public transport (minutes)
Bristol	0.52	13 (walk)
Cardiff	1.24	21
Glasgow	1.87	26
London	1.71	26
Norwich	1.78	51
Sheffield	2.1	38

Drop off location for ‘vape’: <https://www.recycleyourelectricals.org.uk/electrical-recycling-near-me> *One way travel time data from City Centre (main railway station):* [Google Maps](#)

Mythbuster

*Claim: banning disposable vapes will harm the nation’s health as fewer people switch to vaping from smoking damaging tobacco cigarettes.*¹⁹

Reality: Health organisations including the Royal College of Paediatrics and Child Health recently joined environmental groups in calling for a ban disposable vapes.²⁰ There is particular concern that disposable vapes are increasingly popular among teenagers and young adults; meaning that these are new smokers rather than smokers switching from tobacco cigarettes. This has led to some health experts warning that we are “sleepwalking into a public health catastrophe”²¹ and creating a generation of young people hooked on nicotine,²² with increased risks of chronic lung conditions.²³ Studies have also indicated that

¹⁷ <https://www.letsrecycle.com/news/bmra-calls-for-ban-on-batteries-in-household-hins/>

¹⁸ See <https://www.recycleyourelectricals.org.uk/electrical-recycling-near-me>

¹⁹ See <https://hansard.parliament.uk/Commons/2022-11-29/debates/8E8521A9-2990-4F8C-BE71-CD21636DD400/DisposableVapesEnvironmentallImpact?highlight=vapes%20elf#contribution-24F5D332-4194-40AF-9ECE-204CA451C430>

²⁰ <https://green-alliance.org.uk/wp-content/uploads/2022/11/Letter-to-ministers-on-disposable-vapes.pdf>

²¹ <https://www.theguardian.com/society/2022/jul/23/child-vaping-epidemic-risks-becoming-public-health-catastrophe-in-uk-experts-warn>

²² <https://www.telegraph.co.uk/news/2022/09/06/nearly-one-ten-children-now-vape/>

²³ [https://www.ajpmonline.org/article/S0749-3797\(19\)30391-5/fulltext](https://www.ajpmonline.org/article/S0749-3797(19)30391-5/fulltext)

young people are particularly susceptible to the way in which vapes are marketed.²⁴ For teenagers aged 11-17, there has been a seven-fold increase in those favouring disposables over reusables.²⁵ Further, a ban on disposable vapes would not impact rechargeable and refillable vapes which currently comprise a greater share of the vape market.²⁶

Claim: A ban on disposable vapes would place England as an outlier, taking an overly punitive approach

Reality: Other Governments are already exploring bans to tackle the growing harm of disposable vapes. The Scottish Government has recently commissioned an independent review into the environmental impact of disposable vapes. The review will be conducted by Zero Waste Scotland and set out possible policy options, including a potential outright ban.²⁷ In the Republic of Ireland, Ministers have announced plans to bring forward a ban on disposable vapes due to their environmental harm.²⁸ Further, in a sign of rising concern among businesses, Waitrose has stopped selling disposable vapes due to their negative environmental impact and the potential harm to young people's health.

Claim: The Government already has the tools it needs to tackle this issue. The Waste Batteries and Accumulators Regulations 2009 cover obligations linked to the batteries contained in vapes. And retailers and internet sellers of vapes also have obligations under the Waste electrical and electronic equipment (WEEE) regulations to take back used vapes on supply of new vapes to their customers.²⁹

Reality: While used disposable vapes are classed as WEEE, the two leading brands of disposable vapes (Elf Bar and Geek Bar) are not on the WEEE register.³⁰ Consequently, they are not meeting the minimum producer requirements such as providing clear information on reuse and recycling. Further, the Government has accepted that the WEEE regulations are not currently well-designed for vaping, noting that they "were developed at a time when the vaping industry was in its infancy".³¹ Rather than reviewing the WEEE regulations, the Government should accept that disposable vapes are fundamentally flawed in their design and inherently unsustainable products, meaning an outright ban will prove more effective than attempts to recycle more vapes.

²⁴ <https://dev.cruk.org/sites/default/files/e-cigarette-marketing-in-the-uk-executive-summary-march-2021.pdf>

²⁵ <https://ash.org.uk/uploads/Use-of-e-cigarettes-among-young-people-in-Great-Britain-2022.pdf?v=1661866458>

²⁶ <https://www.materialfocus.org.uk/press-releases/one-million-single-use-vapes-thrown-away-every-week-contributing-to-the-growing-e-waste-challenge-in-the-uk/>

²⁷ <https://news.sky.com/story/disposable-vapes-face-ban-as-scotland-launches-urgent-review-12791017>

²⁸ <https://www.independent.ie/news/environment/minister-defends-plan-to-ban-disposable-vapes-theyre-making-the-world-worse-42071990.html>

²⁹ See Minister Rebecca Pow's speech on this issue <https://hansard.parliament.uk/Commons/2022-11-29/debates/8E8521A9-2990-4F8C-BE71-CD21636DD400/DisposableVapesEnvironmentalImpact?highlight=vapes%20elf#contribution-2E2BFCAA-6F51-4368-A77A-1CB8B62D3D6F>

³⁰ <https://news.sky.com/story/millions-of-disposable-vapes-containing-valuable-metal-ending-up-in-landfill-12652211>

³¹ <https://www.gov.uk/government/consultations/commonly-littered-single-use-plastic-items-call-for-evidence/outcome/summary-of-responses-and-government-response>

In response to a series of Written Parliamentary Questions, the Government conceded that it has made no assessment of the proportion of disposable or reusable vapes which are recycled,³² nor have they made an estimate of the cost of the collection and treatment of disposed vapes.³³ Without an understanding of the scale of the problem, it is clear that the Government cannot effectively tackle the harms of disposable vapes.

Recommendations

Momentum is building for a ban on these products, with Dr Caroline Johnson MP recently introducing a bill to Parliament to deliver this. The former Health Minister told MPs that “by banning the sale of disposable vapes, we will encourage a more sustainable way of utilising e-cigarettes as quitting aids and make vaping less accessible to children, preventing an epidemic of teenage nicotine addicts and protecting our planet.”³⁴ Through the Environmental Protection Act 1990, the Government has the power to ban ‘injurious substances’ that damage the environment or harm human health.³⁵ A ban on disposable vapes can therefore be achieved using these powers, as was the case with bans on plastic straws and other single-use items.

Decisive action from the Government could prevent this emerging environmental problem from becoming a major issue, and head off a health crisis among young people. This decision would not hinder people who choose to use vapes to quit smoking, as reusable vapes are readily available.

Wildlife and Countryside Link (Link) is the largest environment and wildlife coalition in England, bringing together 67 organisations to use their strong joint voice for the protection of nature. See <https://www.wcl.org.uk/about.asp> This briefing is supported by the following Link members:

- A Rocha
- Environmental Investigation Agency
- Marine Conservation Society
- RSPCA
- Whale and Dolphin Conservation

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³² <https://questions-statements.parliament.uk/written-questions/detail/2022-12-08/106456>

³³ <https://questions-statements.parliament.uk/written-questions/detail/2022-12-08/106459>

³⁴ [https://hansard.parliament.uk/Commons/2023-02-08/debates/D9DE57D8-C7FD-4611-B4A4-E74648B6B85C/DisposableElectronicCigarettes\(ProhibitionOfSale\)#contribution-7C797762-BA55-456E-AEE2-4A90A2A5F37F](https://hansard.parliament.uk/Commons/2023-02-08/debates/D9DE57D8-C7FD-4611-B4A4-E74648B6B85C/DisposableElectronicCigarettes(ProhibitionOfSale)#contribution-7C797762-BA55-456E-AEE2-4A90A2A5F37F)

³⁵ <https://www.legislation.gov.uk/ukpga/1990/43/section/140>