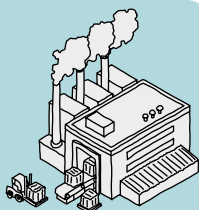


# BIG TOILET PROJECT

## Policy Brief Summary

Approximately 3.6 billion single-use nappies are sent to landfill or incinerated annually in England alone, these nappies account for around 4% of residual waste, burdening waste management infrastructure, increasing disposal costs for local authorities, and contributing to plastic pollution and carbon emissions.

**3.6 billion**  
nappies annually  
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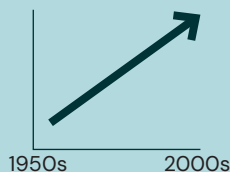


In collaboration with industry, health and early-years professionals and citizens, we analysed four intervention strategies: reduce, reuse, recycling and composting. Of these, reducing disposable nappy use emerged as the

route with the greatest environmental, social and economic benefits.

One way to reduce disposable nappy waste is to address the rising average toilet training age. For decades the age at which children are being toilet trained in the UK has been rising, with one in four children starting school in 2024 still in nappies. Committing to efforts that reduce disposable nappy use is a crucial step to tackling this plastic waste stream, meeting the Plan for Change target of 75% of children being school-ready by 2028, achieving the goals of the Child Health Action Plan and of the Department for Education's Sustainability and climate change strategy.

**Rising**  
average toilet  
training age



Later toilet training increases the risk of developing wetting and soiling issues and also prevents the early identification of bladder and bowel problems, including childhood constipation, which cost the NHS £168 million in 2018/9, the equivalent of funding 7304 newly-qualified nurses in that year. With 1.5 million children in the UK currently living with a bowel or bladder problem, a figure higher than the incidence of asthma in children, delayed toileting has significant impacts on health, educational and social welfare, and the economy.

**1.5 million**  
UK children living  
with bladder and  
bowel problems



Our collaborative research recommends that reducing disposable nappy use requires a harmonised approach underpinned by updating Department of Health & Social Care guidance to evidence-based guidance that promotes

**(1) children being toileted once they are sitting comfortably, and**

**(2) being fully out of nappies between 18 to 30 months,**

recognising that current guidance of waiting for readiness signs is not based on evidence and is exacerbating a huge problem of pollution.

## Research Aims

1. Identify key behavioural, environmental and economic issues impacting toilet learning through working with citizens, researchers, healthcare and early years professionals, and charities.
2. Enhance understanding, support and resources for parents navigating toileting.
3. Produce practical recommendations for citizens, stakeholders, industry and policy makers towards the reduction of plastic waste from single-use nappies.

## Policy Context

Most single-use nappies are made with plastics through carbon-intensive chemical processes involving petroleum; after use, over 99% are incinerated or end up in landfill or in the environment. This should be of concern for the **Circular Economy Taskforce**, and poses a challenge to the legally binding target to achieve net zero emissions by 2050 set out in the **Climate Change Act 2008** (2050 Target Amendment) Order 2019, and the supporting **Department for Education's Sustainability and Climate Change** strategy. From 2028, every plastic-based nappy which is incinerated will incur additional costs for waste processors and local authorities under the **UK Emissions**

**Trading Scheme**, estimated between £33 million and £51 million in the year the scheme is launched.

Beyond the environmental policy context, current guidance promoting the use of nappies at older ages is against health evidence that delays can have long-term negative health impacts. Delayed toilet training is linked with negative bladder and bowel health and impacts on the educational and social welfare of children. The government's **2024 Plan for Change**, with its target of 75% of children being school-ready by 2028, and the **Child Health Action Plan** to remedy the poor health outcomes through which UK children are falling behind their international counterparts may not be met without updates to Department of Health & Social Care, Department for Education, and Ofsted guidance lowering the age at which children are to be toiletled.

## Research Findings

1. The NHS guidance on toilet training is unclear and unsupported by current evidence. A majority of parents (78.8%) know how to approach toilet training, however, just over half of all parents are unsure of the appropriate timing, added to which, various barriers, including being in work during this period, inconsistent childcare support, and the convenience of disposable nappies lead to further delays in actual completion time.

2. A majority of children (72.5%) spend routine time with nursery staff at the time toilet learning is recommended. Key enablers for toilet training by parents are following a consistent plan and having support from childcare providers. There should be no additional cost to nursery settings to change their training in line with an updated NHS guidance on earlier toileting, yet nappy waste could be cut by up to 30% along with disposal costs and costs to parents of about £400 per child per year.
3. Supported interventions include expert-led training, better advice and guidance, and flexible working policies. Health Visitors could incorporate earlier toileting support during their mandated contacts with children between 9 and 12 months old and at 2 years, so that underlying problems, including in disabled children with typically developing bladder and bowel function are less likely to be missed.
4. The UK Emissions Trading Scheme could add 30% to local authority waste disposal costs, but have limited levers to cut disposable nappy waste without upstream interventions from the NHS, Department for Education and Ofsted.

## Key Takes

1. Disposable nappies are a major contributor to municipal solid waste in the UK.
2. Reducing the recommended timeframe for toilet training reduces nappy waste, **a win-win-win environmentally, socially and economically.**
3. Guidance that **children should be out of nappies between 18 and 30 months** should form consistent messaging from Department of Health & Social Care, Department for Education and Ofsted, and in support provided in early years education settings and by health visitors and healthcare professionals.

## Research Team

The UCL Plastic Waste Innovation Hub is a multidisciplinary team of researchers taking a systems approach to plastic waste. The team is led by Mark Miodownik, UCL Professor of Materials and Society.

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## Funding

The research informing this policy brief is funded by UKRI EPSRC as part of the 'Comfort Loop: A systems approach for sustainable hygiene products' project.

## Policy Implications

1. Create clear **NHS guidance** aligned with current evidence supporting the benefits of earlier toilet training from sitting comfortably, or about six months of age; followed by the adoption of this guidance by the **Department for Education** and **Ofsted**.
2. Commit to restoring workforce capacity and funding for health visiting services, ensuring timely, face-to-face developmental reviews that include training at all key milestones, as part of the **Healthy Child Programme**. In line with recommendations from the Institute of Health Visiting, this means embedding continence support earlier and reinstating later reviews currently lost due to service reductions.
3. Beyond reduce strategies, **Circular Economy Taskforce** should consider policies supporting recycling infrastructure and technological R&D for recycling nappies, adult incontinence products and period pads.



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