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Dangers of disposable “fast technology”

In a consumerist society, convenience trumps environmental responsibility, leading to the proliferation of disposable products. Disposable technology, or “fast tech,” is of particular concern. Vapes—pocket-sized devices that simulate tobacco smoking—include a range of potentially harmful waste (1). The growing fast tech industry has also seen a rise in items like mini-fans, decorative lights, and single-use headphones (2). The production and disposal of fast tech undermines environmental goals.

Disposable vape sales in the UK quadrupled between 2022 and 2023, with consumers throwing away 5 million devices each week in 2023 (3). In the US, consumers throw away 4.5 disposable vapes each second (4). Vapes and other single-use, cheaply manufactured fast tech contain valuable, often hazardous, resources such as lithium and other rare earth elements (1). Many of these resources, including lithium, are crucial for green industries like electric vehicle batteries (5), and resource extraction practices have diminished their availability to critical levels (6).

The need for reform of disposable electronics practices in the tech industry is urgent. Disposable vapes, although marketed as recyclable (1), are sold without clear recycling instructions, accessible recycling infrastructure, or a deposit-return scheme, leaving minimal incentive to return the valuable materials at end of use. Moreover, recycling, albeit important, is the least favorable waste management solution. Disposable vapes and similar products perpetuate linear consumption and hinder the transition to a circular economy.

Progress tackling e-waste has been obstructed by poor corporate responsibility, recycling infrastructure (7), and market failure to incentivize reuse, repair, and recycling. To avoid continued resource depletion and environmental degradation, a global effort must address the growing fast tech industry. Recent progress can serve as a guide. For example, the strategies implemented to decrease the use of disposable plastic bags (8) could be applied to fast tech. In addition, the adoption of universal charging cables in the European Union (9) could provide a model for longer-lasting products. The global treaty on plastics (10) could provide a framework to ensure a responsible technology industry.

However, the premise of disposal electronics should be questioned at its core. These products may be too dangerous long-term to justify keeping on the market. The recent disposable vape ban in Australia (11) and announced ban in the UK (12) are steps in the right direction.

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