Do you really need it?
Reducing consumption of personal electronic devices in Scandinavian countries

Aim:
Excessive consumption of personal electronic devices in the global North has a huge environmental and social impact. Reducing this type of consumption can improve health and reduce emissions and electronic waste on a global scale. Policies aimed at supporting circular economy that promote recycling, sustainability and awareness can help mitigate this risk.

Key points:
- Overconsumption of personal electronic devices in Scandinavia contributes to climate change in a myriad of ways, ranging from production to the disposal of devices.
- Moving towards a circular economy will promote global health equity and climate justice
- Reducing this kind of overconsumption requires impactful policy actions, strong individual commitment and collective efforts.

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1. Background

Consumer electronics contribute significantly to climate change, primarily due to energy-intensive manufacturing processes and the resulting e-waste. Globally, merely 22.3% of e-waste was documented as formally collected and recycled in 2022 (WHO, 2024). Producing electronics requires vast amounts of energy and resources, including mining minerals and metals, and manufacturing components. This process releases substantial greenhouse gas emissions. When electronics are discarded, they often end up in landfills, where they decompose and release harmful chemicals and CO_2 into the environment. Improper disposal of e-waste contaminates soil, air, and water. The social impact of consumer electronics production and wastage is also considerable, particularly in the areas of labor exploitation in supply chains, and environmental and health risks associated with electronic waste (Kiddee et al., 2013).

Technology is deeply embedded in Scandinavian lifestyles, but overuse is a common concern. A 2023 survey found that 60% of Scandinavians felt they used their phones excessively, with youth aged 16–17 being most affected (Deloitte, 2023). Among youth, buying the latest gadgets yearly is sometimes seen as irresponsible. This shift in social narrative emphasizes responsible tech use and environmental consciousness (Savanta, 2023). Trends show that consumers want to avoid buying more products than they need. This finding is also supported by recent growth in the second-hand and refurbished device markets. In fact, about one-quarter of Nordic consumers regularly purchase second-hand electronics (Statista, 2021; BCG, 2024). Still, green purchasing behavior varies. One survey showed 58% value sustainability, but only 29% report their purchases reflect this (BCG, 2024).

2. Analysis

Minerals that are needed to produce electronics are often mined in regions with weak labor laws and substandard environmental regulations (Diprose et al., 2020). Mining for these rare earth elements and metals often leads to deforestation, habitat destruction, and human rights concerns (Nayar, 2021). Marginalized communities in low- and middle-income countries (LMIC) face toxic exposure, unfair and exploitative working conditions and public health challenges while wealthier nations evade responsibility (WHO, 2021; Thinyane & Sassetti, 2020). Children and pregnant women are especially vulnerable to the health risks posed by the improper disposal of e-waste. This issue requires us to highlight the concepts of equity and justice. Distributional justice is about the distribution of the benefits and burdens of climate change and climate policies (Tribaldos and Kortetmäki, 2022). In accordance with the One Health framework, the interconnectedness of animal, human and ecosystem health must be considered as a whole (Frazzoli et al. 2022). Distributional justice should therefore focus not specifically on human health, but on One Health.

To successfully push the change towards more sustainable production and use of consumer electronics, people need to be motivated for behavioral change. Key companies such as Apple, Samsung, Huawei, HP, Dell, and Sony must be pushed towards sustainable product design and development. Consumers should be encouraged to choose devices with longer durability and re-usability, and to demand this from the companies producing the devices. People need to be encouraged

to invest in devices that can "do it all", rather than buying several devices for different tasks (Li et al. 2014). As shown in the introduction, Scandinavian people do want to buy sustainable products, but there seems to be an intention-action gap; while most believe personal action matters, price and convenience often override climate concerns. Only about 20% of Scandinavia consumers actively consider a company's carbon footprint when making purchases (Deloitte, 2024). Leveraging our consumer power to encourage companies to develop in a more sustainable direction is essential.

Policy provisions such as Sustainable Development Goal 12 (United Nations Economic Commission for Europe, 2021) and several European Directives aim to reduce consumption of electronic devices by promoting waste reduction, recycling, sustainable purchasing, and consumer awareness. The Waste Electrical and Electronic Equipment Directive sets targets for e-waste collection and recycling for the countries by different categories (The European Parliament and the Council, 2012), while Energy Efficiency Directive aims to reduce energy consumption by at least 11.7% by 2030 (The European Parliament and the Council, 2023). Likewise, EU directives on empowering consumers for green transition demand comprehensive information for the consumers for sustainable choices (The European Parliament and the Council, 2024). Despite international agreements, wealthy nations continue exporting hazardous e-waste to poorer countries, undermining safe disposal efforts (WHO, 2024).

3. Conclusion

The overconsumption of personal electronic devices is a pressing issue that has an extensive environmental and social impact. Scandinavian consumers want to make environmentally friendly choices but lack incentives that convince them to turn their thoughts into actions. Influencing individual consumer choices requires adjusting mindsets, cultural change, and education. Additionally, their environment and the market must promote and reward sustainable choices. Legislation must aim at requiring transparency and accountability from companies that produce electronic devices and handle e-waste. Corporations must adjust their core values and goals to reflect environmental and social responsibility. Each chapter in the life cycle of electronic devices, from production to disposal, should be optimized to promote sustainable practices that include longevity, repairing, re-using, and recycling.

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4. Recommendations

> - Providing consumers with information that will promote sustainable choices (e.g. transparency, labeling, public campaigns)
> - Promoting a circular economy through incentives geared towards consumers and companies (e.g. higher taxes on new products, lower taxes on second-hand products)
> - Improving the global system for production and disposal of e-waste (e.g. promoting worker rights, proper recycling and stricter regulations)

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