

Inside the matrix – what environmental impact for our equipment?

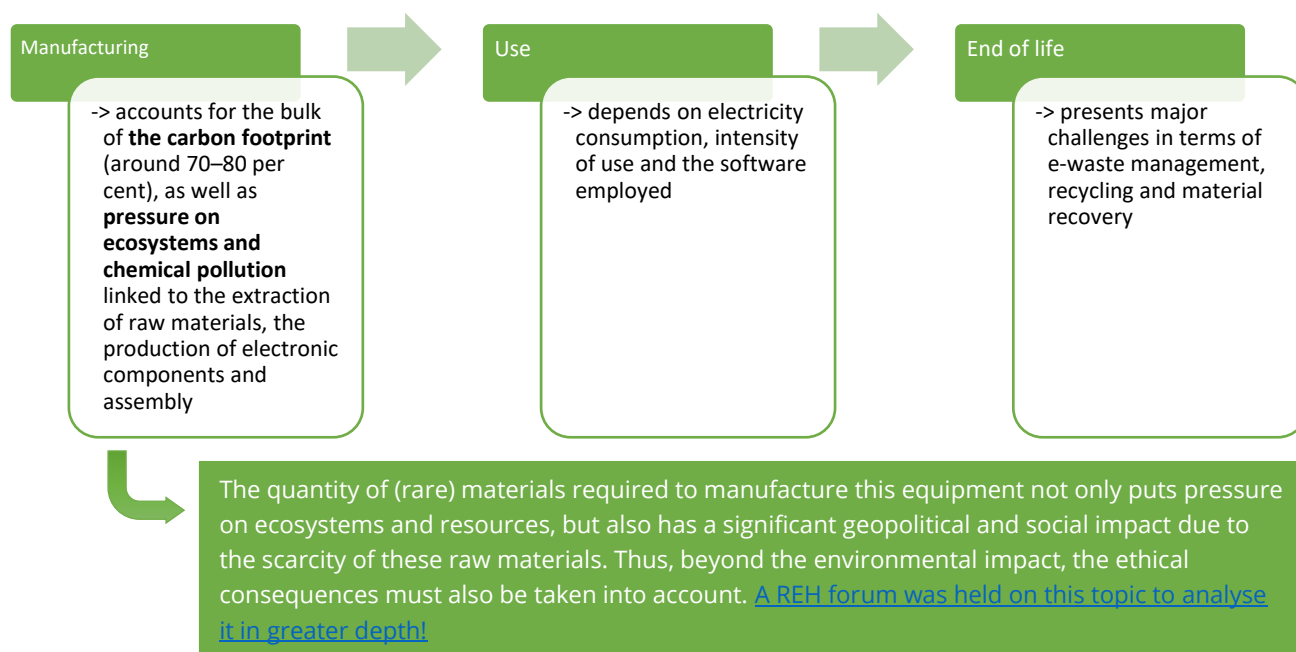
CONTEXT AND CHALLENGES

Faced with worsening climate and environmental crises and their disproportionate impact on the most vulnerable populations, the [Humanitarian Environment Network](#) (REH) has, since 2020, been supporting a collective initiative involving international solidarity organisations. Adopted in December 2020 by 10 organisations, the [Statement of Commitment by International Solidarity Organisations on Climate and the Environment](#) has gradually brought together 15 signatory NGOs, committed to reducing their environmental impacts and transforming their operational practices. They have set a **target to reduce their operational carbon emissions by 50 per cent by 2030**, compared with an individually defined baseline year.

A key issue is digital technology, as it currently accounts for around **4 per cent of global greenhouse gas emissions** – more than the aviation sector. Added to this is a material footprint, the explosion in electronic waste, and significant impacts on natural resources and biodiversity. Within humanitarian organisations, digital equipment (computers, phones, tablets, printers, etc.) has become indispensable to day-to-day operations. However, its environmental impact is often poorly understood. The REH's Carbon Working Group (WG) therefore wished to explore this issue in order to identify ways to reduce it.

WHAT EXACTLY IS THIS IMPACT?

The environmental footprint of digital equipment is not limited to its electricity consumption. It must be analysed **across its entire life cycle**:



A few figures help to illustrate this impact:

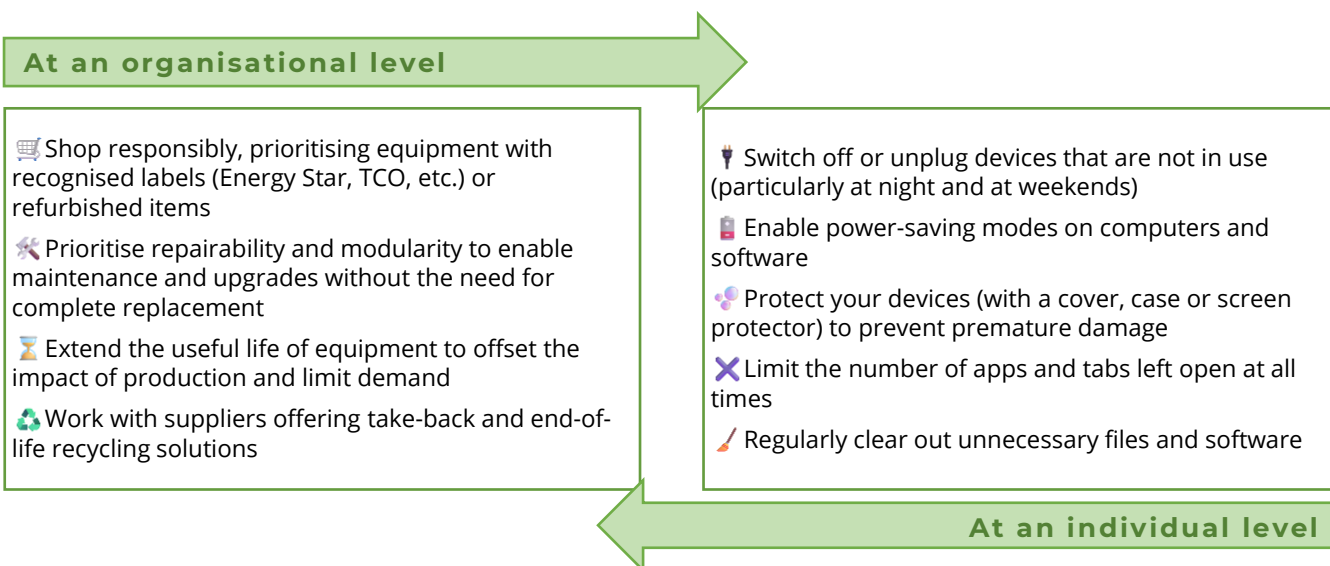
- **Laptop**: approximately **200 kg of CO₂e during manufacture**, average annual energy consumption of around **50 kWh**, average lifespan of **5 years**;
- **Desktop computer**: around **350 kg of CO₂e during manufacture**, annual energy consumption of around **120 kWh**, average lifespan of **7 years**;
- **Smartphone**: around **70 kg of CO₂e during manufacture**, annual energy consumption of around **5 kWh**, average lifespan of **3 years**.

We can therefore see that it is indeed the manufacture of equipment that accounts for the largest share of carbon and environmental impacts. Consequently, **extending the lifespan of equipment** is one of the most effective ways of reducing this impact. Amortising the cost of a smartphone over 5 years rather than 3 helps to spread the impact of production and reduce the device's overall footprint!

In fact, since the bulk of the footprint stems from the manufacturing process, a device's environmental impact is largely determined by its **lifespan** and the conditions under which it is manufactured, far more so than by its use alone.

IN PRACTICAL TERMS, WHAT CAN WE DO?

The action points identified by the Carbon Working Group are based on **simple steps** that are compatible with the constraints of the humanitarian sector:



WHAT ARE THE CRITERIA FOR SUSTAINABLE PROCUREMENT?

As one of the most effective ways to reduce the carbon footprint associated with equipment is to extend its lifespan, incorporating sustainable procurement principles is therefore essential. The Sustainable Procurement Working Group has developed the [SPCD, a simple tool that enables specific criteria to be incorporated for teams](#), particularly regarding communications equipment. Here are a few examples of the criteria included in the tool (available in three languages):

EVALUATION CRITERION	EXPLANATION OF EVALUATION CRITERION	SUGGESTED RATING	GUIDANCE / COMMENTS
Sustainability scorecard or equivalent	Offer a buy-back scheme to recover laptops and their components.	the Ecovadis assessment form or membership of the United Nations Global Compact.	
Lifespan of laptops/repairability	Provide a life cycle assessment (LCA) for each product.		
low energy consumption	Tenderers shall supply durable goods with a long expected lifespan.	10/10 – Tenderer supplying the most energy-efficient appliances. 0/10 – Tenderer supplying the least energy-efficient appliances. Other tenderers are rated on a scale from the best to the least efficient supplier.	For example, the purchase of laptops fitted with high-performance batteries, energy-efficient screens, etc.
Durability of the asset	The tenderer offers the NGO the option to return any hardware (e.g. laptops, keyboards, etc.), which will be reused, recycled or disposed of safely.	10/10 – The tenderer supplies the item with the longest expected useful life 0/10 – The tenderer supplies the item with the shortest expected useful life. The other tenderers are ranked on a scale from the best to the least favourable supplier.	IT equipment can have a very high carbon footprint. This is why we must prioritise the purchase of items with a long service life, so that we do not have to buy replacements as frequently. This reduces the negative impact on the environment as fewer items need to be produced, and it also prevents items from being thrown away and wasted.

BEYOND COST REDUCTION, WHAT OTHER STRUCTURAL BENEFITS MIGHT THERE BE?

This approach offers several benefits issues:

- Some measures are low-cost and can be implemented quickly,
- A significant **cumulative** effect at a collective level when implemented across an organisation
- A concrete first step towards a **comprehensive digital moderation strategy, in which we question our actual usage and needs for equipment**, in order to reduce unnecessary volumes and adopt simple practices that are accessible to everyone

Feedback – Limiting the impact of equipment aligns with the organisation's advocacy: the case of Médecins du Monde

Médecins du Monde (MDM) is working in Manila, in the Philippines, in the San Andres and Tondo neighbourhoods, with informal recyclers of electronic waste and their families to protect them from the risks associated with hazardous waste (heavy metals, including lead). The organisation also lobbies local authorities to recognise the role of informal waste sector workers in resource management, and to ensure the provision of services and the allocation of resources at local level to address environment-related health risks. This programme **illustrates the links between health and the environment in the work of humanitarian organisations**. Here, the awareness campaign on the environmental impacts of digital technology – including digital equipment – as part of the organisation's implementation of its [environmental responsibility policy](#), takes on its full significance, in line with the 'Do No Harm' principle, extended to the environment. *For more information on MDM's Health and Environment campaign: <https://www.medecinsdumonde.org/action/sante-environnement/>*

CONCLUSION

After almost five years of sustained momentum, reflection and dialogue amongst NGOs regarding decarbonisation targets and monitoring, organisations are considering and seeking various ways to reduce their environmental footprint. This report therefore highlights the environmental impact associated with our use of digital equipment, and how to reduce it both individually and collectively. The Carbon Working Group therefore conveys the following message:

*The bulk of negative environmental and social impacts occurs **even before the equipment is used**, during its manufacture and replacement. Extending the lifespan of equipment, questioning actual needs, limiting software obsolescence and adopting responsible purchasing practices are key, collective and immediately actionable measures for reducing the digital footprint within organisations.*

This factsheet forms part of a broader project on the digital footprint undertaken by the REH's Carbon Working Group. [Further factsheets on the environmental footprint of email systems and artificial intelligence are also available](#). If you have any questions, or if you are interested in working on this topic, please do not hesitate to contact: carbone@environnementhumanitaire.org