DIMPACT

Insight to action on digital carbon impacts

Measuring the GHG emissions of serving digital media and entertainment products

The problem

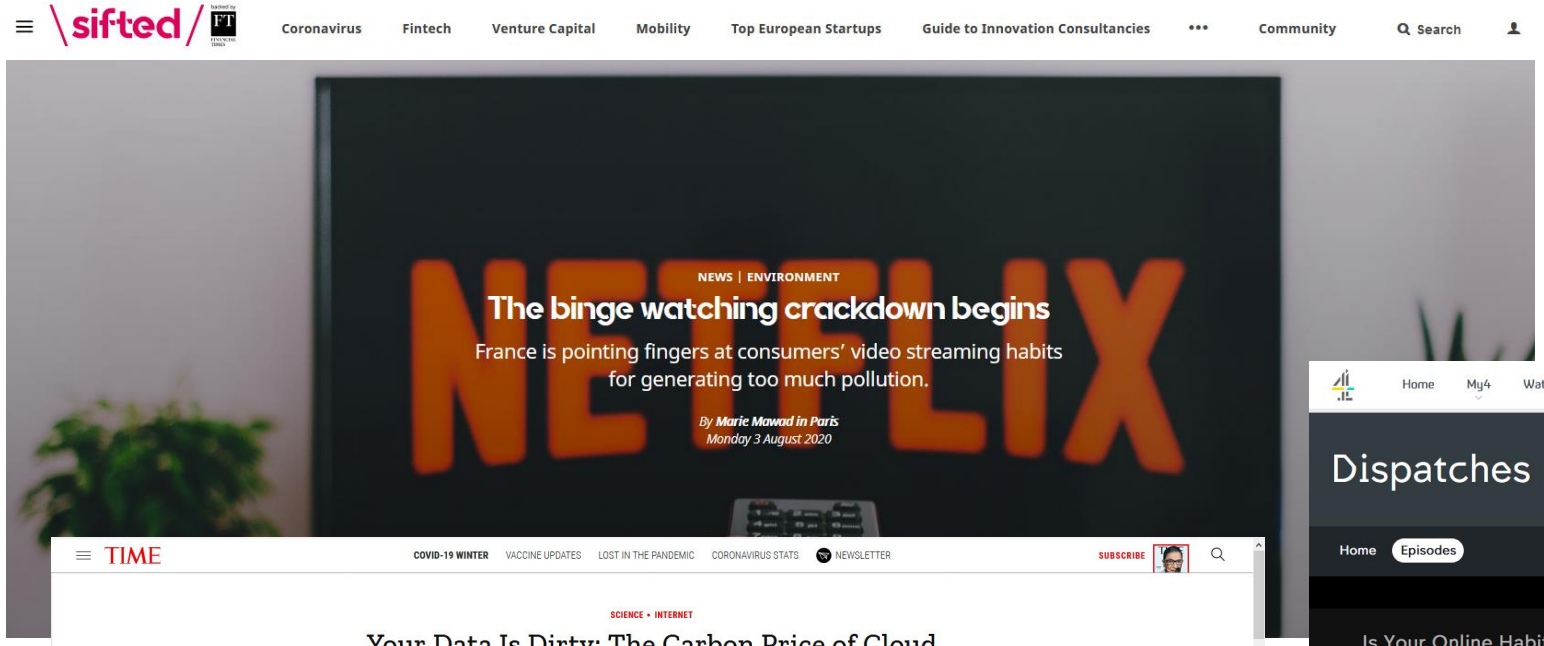
- ***Expectation on carbon reporting is increasing, especially to report and reduce emissions across their entire value chain***. For media companies, this includes emissions of purchased services and product end use (scope 3 emissions).
- ***Increased consumption of, and transition to, digital services*** is leading to an increase in the energy use and carbon footprint of the digital media sector.
- ***Complex and shifting technological systems*** underpinning digital media delivery presents a barrier to effectively mapping and measuring its carbon impact.

In 2020, UK adults spent 4hrs hours per day online, up from 3hrs 11 mins in 2019 (Ofcom, 2020)

49 Media & Telecom companies have committed to **science-based targets** (Science Base Targets, 2020).

More than half of DIMPACT participants have committed to **net-zero emissions**

Video will account for **82% of all internet traffic by 2022** (Cisco, 2018).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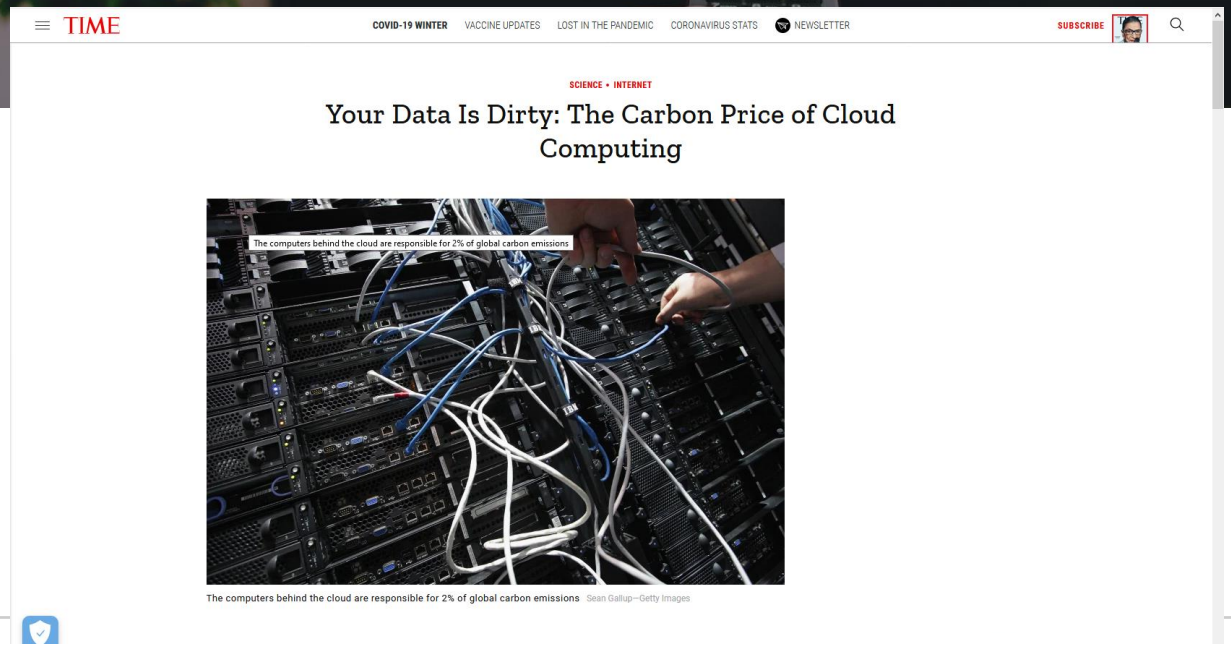
The binge watching crackdown begins
France is pointing fingers at consumers' video streaming habits for generating too much pollution.
By Marie Mawad in Paris
Monday 3 August 2020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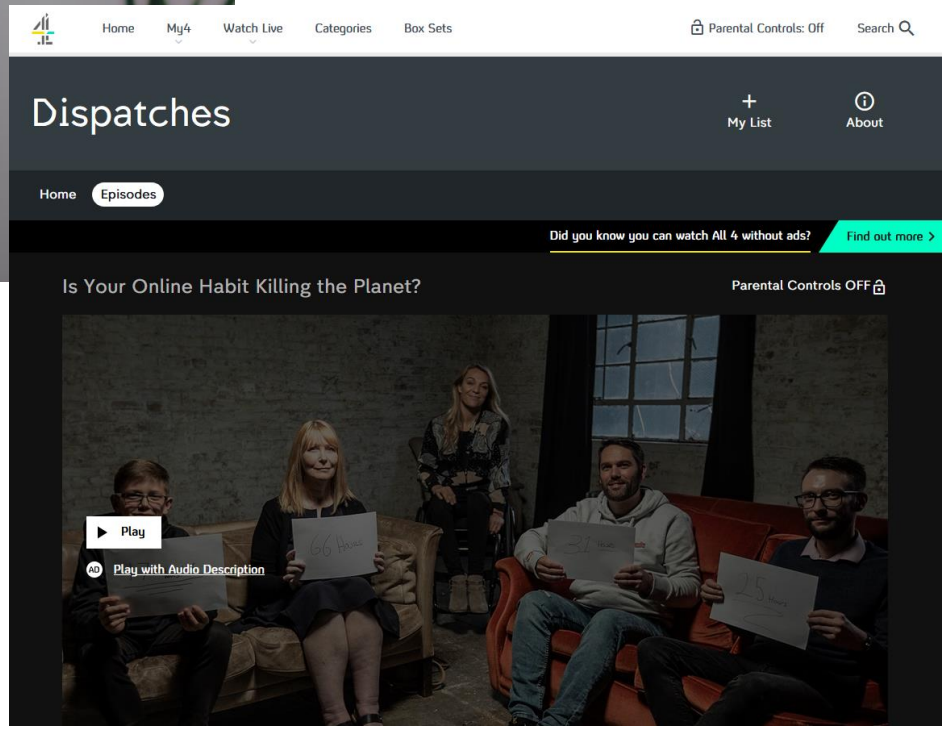
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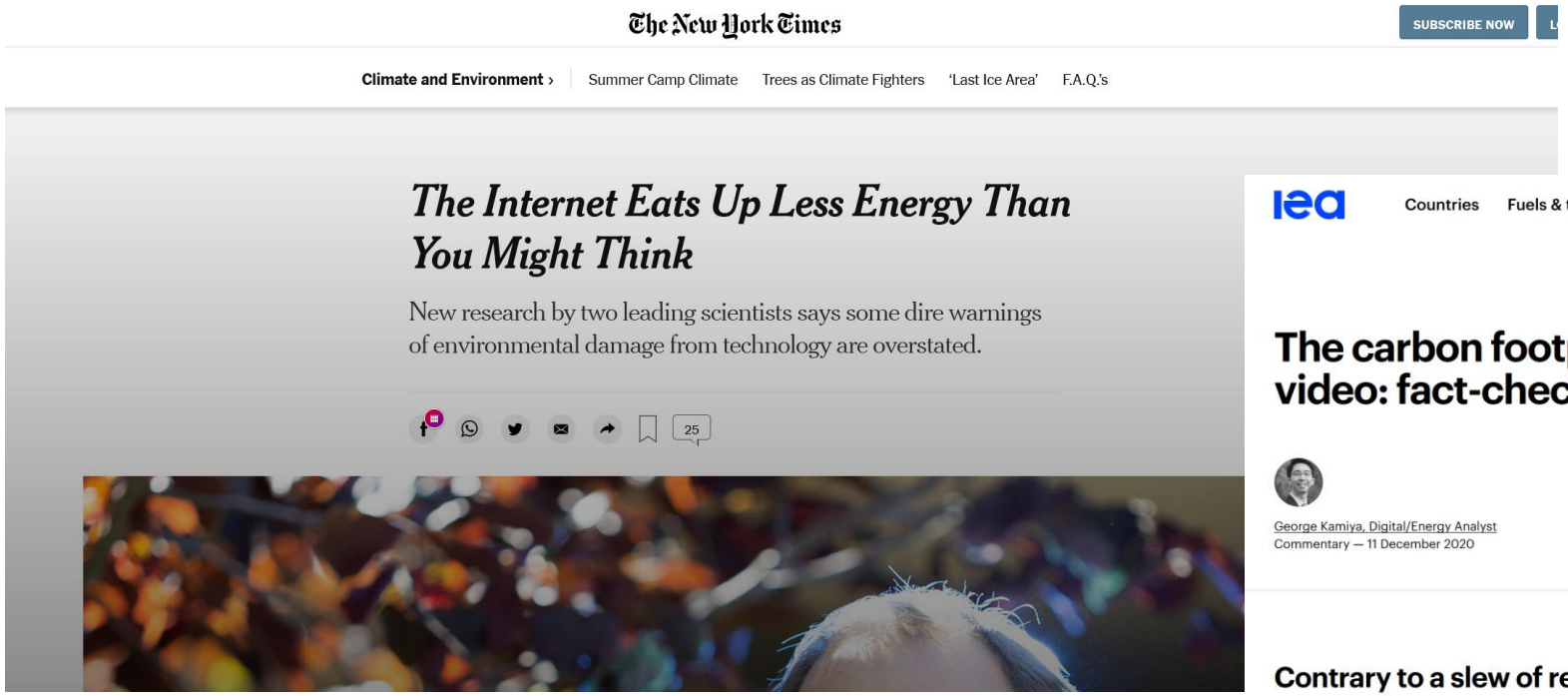

The New York Times

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The Internet Eats Up Less Energy Than You Might Think

New research by two leading scientists says some dire warnings of environmental damage from technology are overstated.

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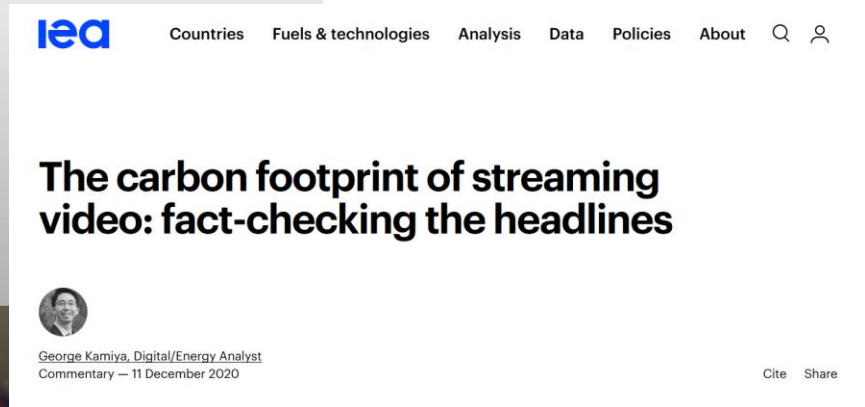

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The carbon footprint of streaming video: fact-checking the headlines

George Kamiya, Digital/Energy Analyst
Commentary — 11 December 2020

Cite Share

Contrary to a slew of recent misleading media coverage, the climate impacts of streaming video remain relatively modest

A version of this commentary was originally published in Carbon Brief.

Even before millions were confined to their homes by a global pandemic, improvements in internet connections and service offerings had led to an exponential increase in the use of streaming video around the world. With few options left for entertainment, streaming services are taking off. In this commentary, we examine the carbon footprint of these services.

Streaming services are associated with energy use and carbon emissions from devices, network infrastructure and data centres. Yet, contrary to a slew of recent misleading media coverage, the climate impacts of streaming video remain relatively modest, particularly compared to other activities and sectors.

What is DIMPACT?

Some current participants

BBC
Cambridge University Press
itv
RELX
Pearson
informa
Schibsted
sky
dentsu
NETFLIX
BT
The Economist

- DIMPACT helps create **robust estimates** of digital value chain emissions for their own context using a life-cycle assessment (LCA) methodology
- An **online web application** guiding organisations through the process of calculating these emissions
- **Developed collaboratively** with leading media companies, leveraging expertise from computer scientists from the University of Bristol
- A **community of organisations**, interesting in working with organisations across the value chain to reduce overall emissions, and bring transparency to consumers, businesses, policymakers and the sustainability community.

Use cases

Now & future

Digital delivery of media has some common processes in the digital value chain, regardless of whether you're serving ads, video, or an online book. Understanding and modelling these systems is useful across the different companies.

DIMPACT is currently focussed on four key forms of digital media.

Video streaming

Online banner advertising

Digital publishing

Business intelligence/data services

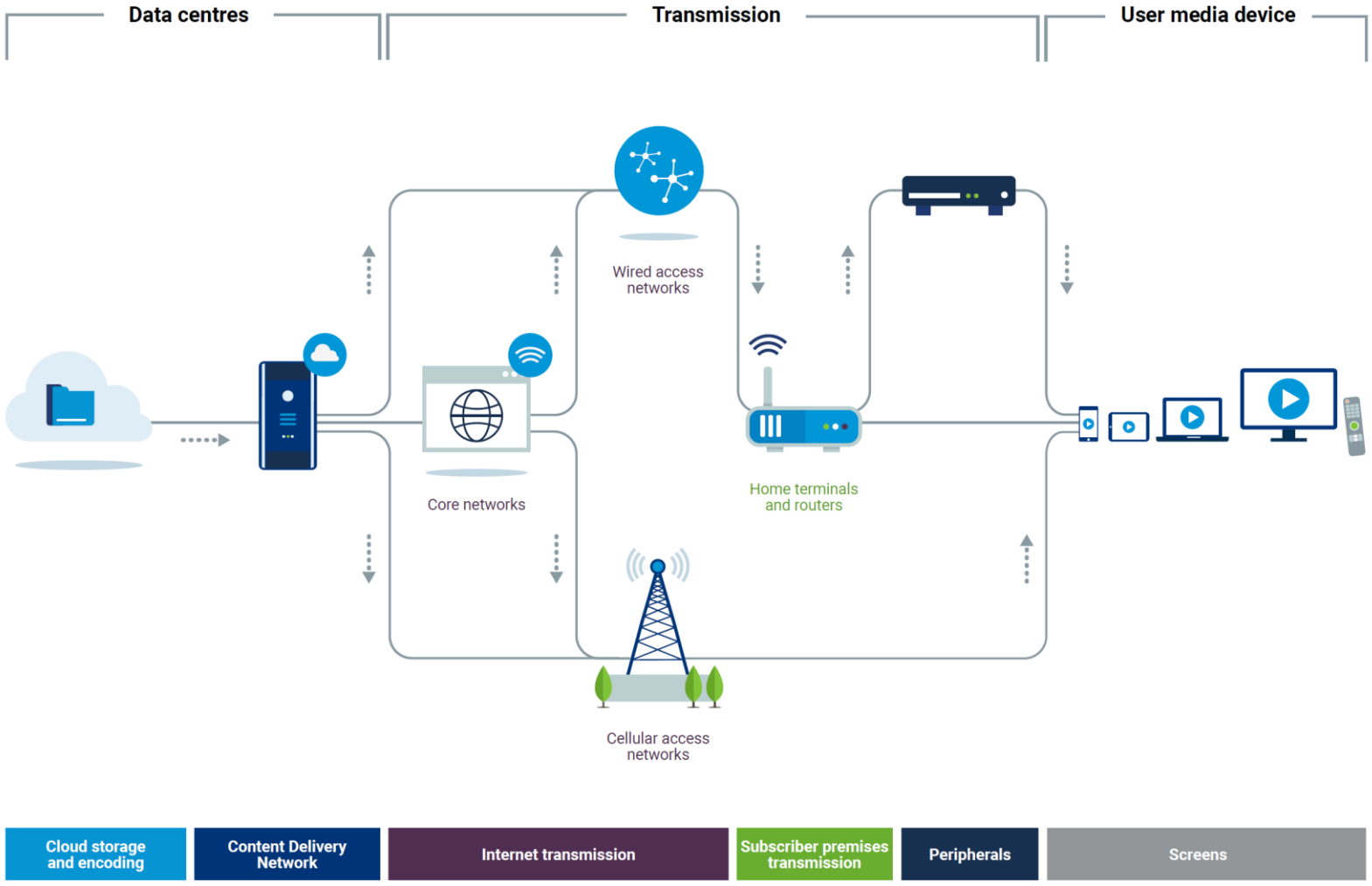
Under development

Music streaming

Video conferencing

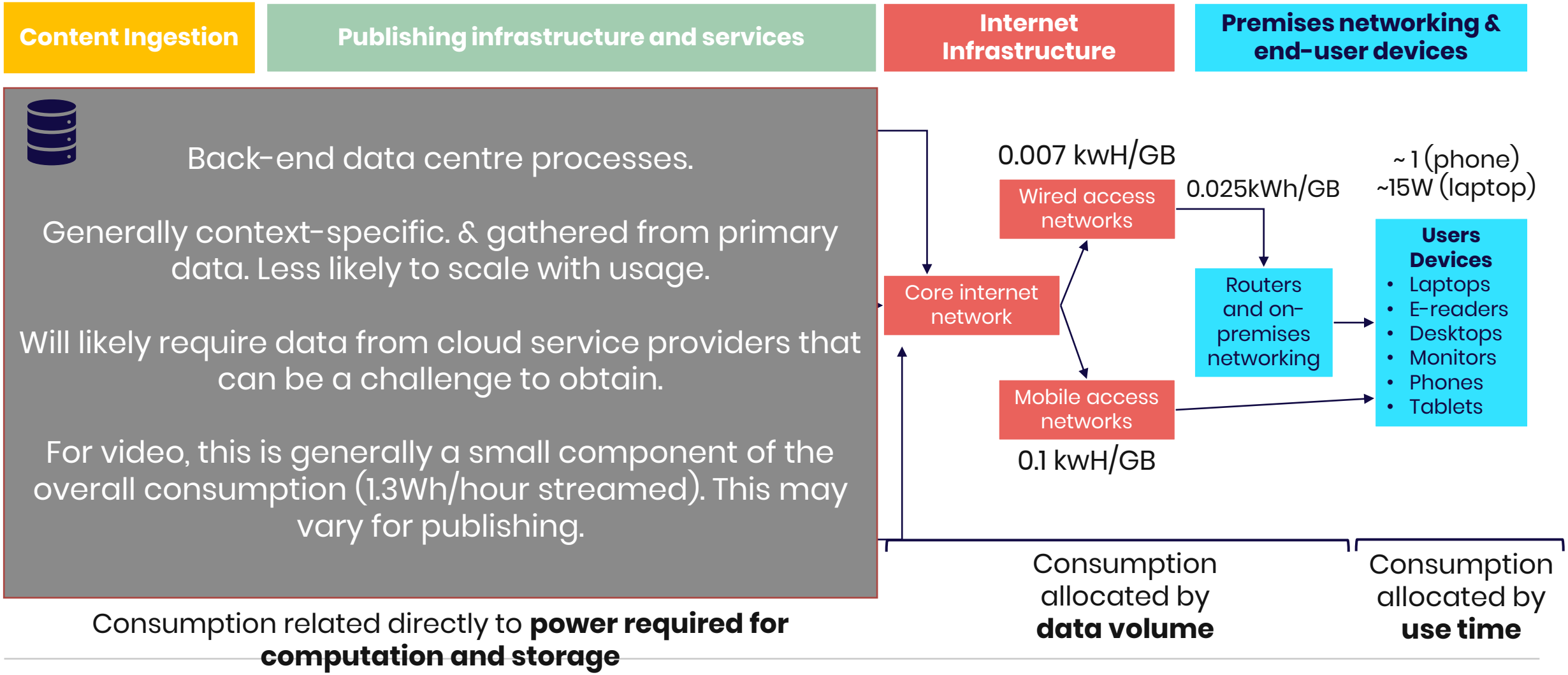
Gaming

The digital value chain



Source: Carbon Trust (2021) *Carbon Impact of Video Streaming*

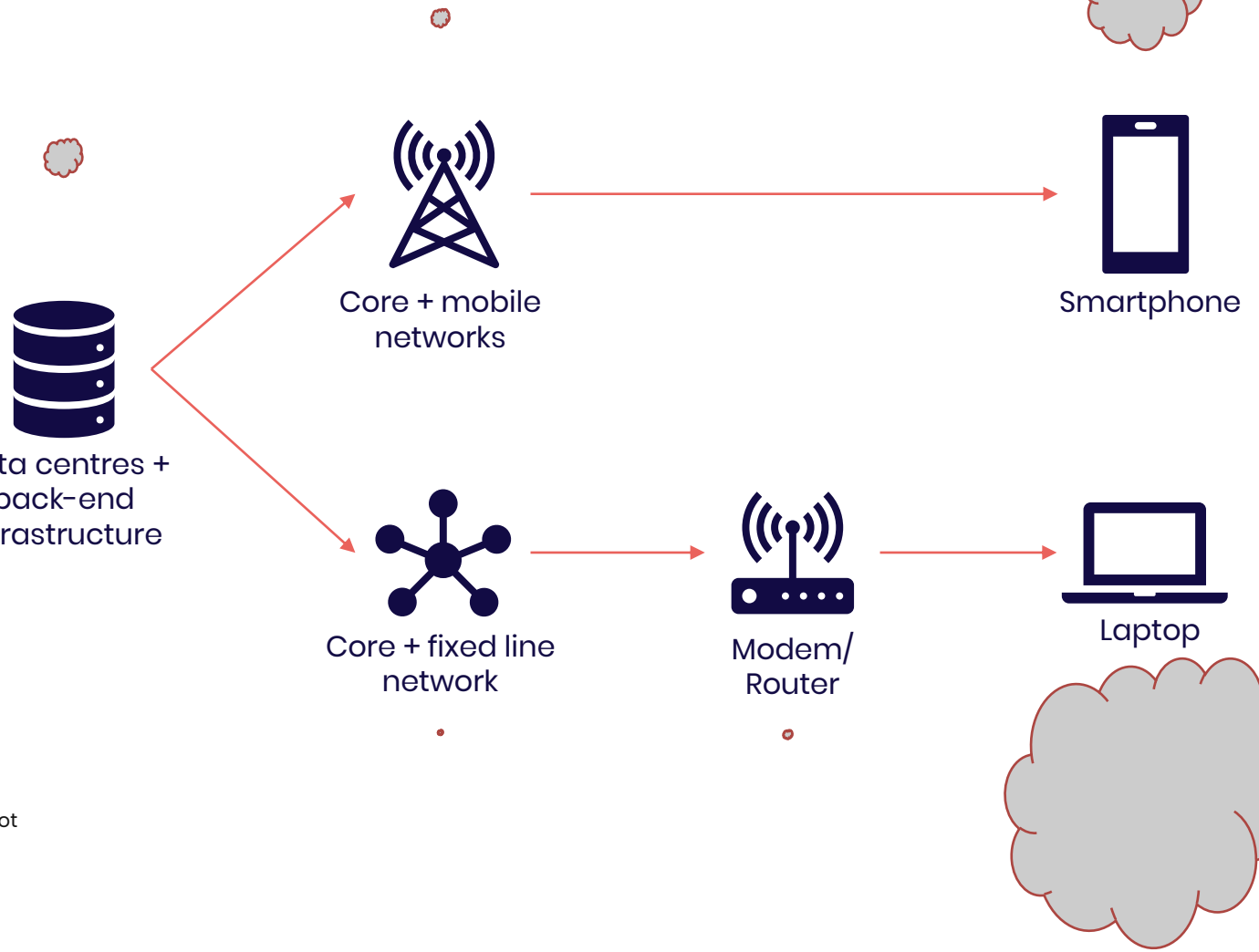
How it works: simplified publishing model for one book



Use-phase energy for one online book

Key parameter:
File size

Key parameter:
reading time



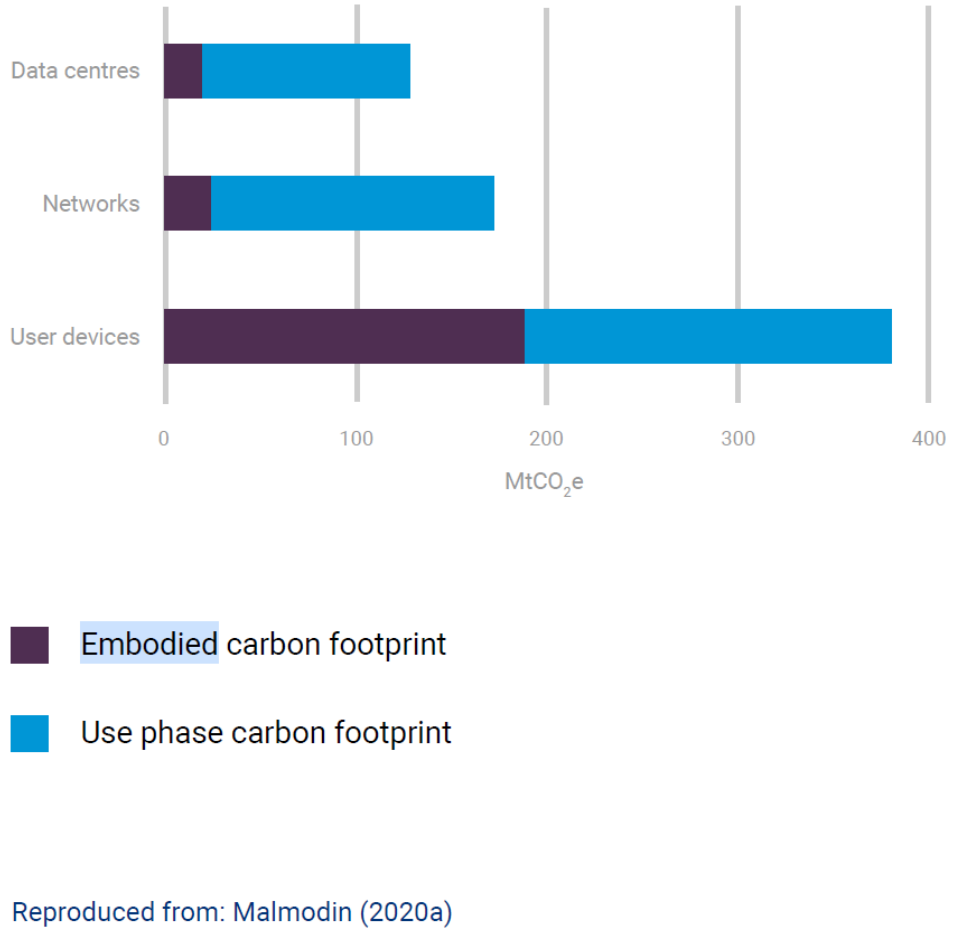
Some caveats:

- These are ball park indications, not based at all on any DIMPACT participant's primary data.
- Usually publishers are interested in the overall emissions, not just the unit emissions per book, or per user.

Embodied emissions also must be considered

Note that embodied carbon footprint is not currently included in the DIMPACT modelling.

Other studies seem to compare the embodied phase of e-books only. DIMPACT can help to model this.



Reproduced from: Malmodin (2020a)

As well as other considerations

- Quality of customer experience
- Different use patterns of physical books and e-readers likely to be different for different publishers & customer segments
- Wide variety of footprints of books, based on supply chain choices
- The wider social & environmental impacts of manufacturing e-readers and other user devices

DIMPACT is part of the picture

DIMPACT helps build up a picture of the in-use phase of digital products.

This can be used to inform comparisons of print vs. digital, but this is context specific and not done within DIMPACT.

End-user devices a key driver of emissions. Both for in-use and manufacturing stages. DIMPACT participants are starting to engage with these manufacturers.

Data centres and back-end processes also a source of emissions… and uncertainty. We're currently working to increase transparency from 3rd party cloud providers

Thank you

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Insight to action on digital carbon impacts

Will Pickett

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