Print to Play: The Environmental Shift from Books to Digital books

Haithem Kchaou

Ceo & Co-founder of Reedz

Outline

1. Presentation
2. Numbers
3. Supply chain
4. Carbon footprint comparison:
5. Which option is greener

Reedz in a nutshell

Home

Text

Audio

Video

Reedz in a nutshell

- **100k downlaods**

- **2 offices (Tunis / Dubai)**

- **VC-backed**

Physical book industry (U.S)

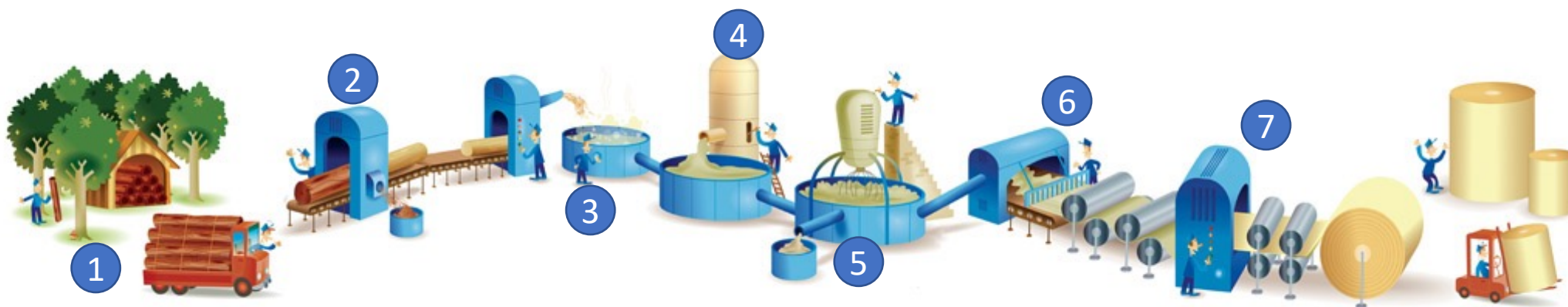**788.7** **million**
U.S.book sales units

$ 14 **Bn**

32 million trees
in order to produce books each year.

40 million
metric tons of CO_2.

How paper is created

1.**Harvesting**: Trees are cut down and transported to a paper mill.
2.**Debarking**: The bark is removed from the tree trunks.
3.**Chipping**: The wood is then chipped into small pieces.
4.**Pulping**: The chips are cooked with chemicals to break them down into pulp.
5.**Bleaching**: The pulp is bleached to remove color and impurities.
6.**Forming Sheets**: The pulp is spread out on screens to form sheets.
7.**Pressing and Drying**: The sheets are pressed and dried to remove moisture.

Consequences of the publishing industry: Tree Farming

1. **Biodiversity Loss**: Monoculture plantations often lack biodiversity compared to natural forests. This can harm ecosystems and reduce habitat for wildlife.

2. **Soil Degradation**: Deforestation and the establishment of plantations can lead to significant changes in soil properties, affecting nutrient storage, carbon storage, and water filtration. These changes can persist for decades.

3. **Impact on Local Communities**: Large-scale plantations can lead to land grabbing and negatively affect local communities, including indigenous populations, by depriving them of land and resources.

4. **Chemical Use**: Tree plantations often require substantial use of fertilizers, herbicides, and pesticides, which can have environmental and health impacts.

5. **Water Usage**: Plantations, especially those in dry areas, can consume large amounts of water, potentially leading to water scarcity.

6. **Climate Change Misconception**: While tree plantations absorb carbon dioxide, they are not as effective as natural forests in combating climate change due to their lower biodiversity and carbon sequestration potential.

7. **Deforestation**: In some cases, natural forests are cleared to make way for tree plantations, contributing to deforestation.

Digital book industry (U.S)
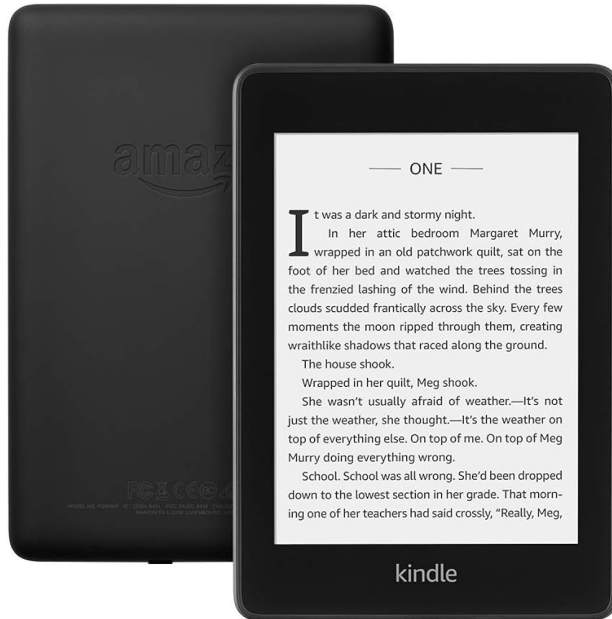
20% of the total book market

$2Bn Ebooks

$980 Millions audiobooks last year

ePUB

PDF

E-books and their E-readers

- E-books have a battery that contain coltan, lithium or other elements. The printed circuit board contains principally copper and gold, but also cadmium, tin, lead, palladium and tantalum (one of the components of coltan).

- The extraction of 1 tonne of gold involves moving 50,000 tonnes of earth. 240 kg of fossil fuels, 22 kg of chemicals and 1,500 litres of water are needed to make one computer.

- 45% of the digital energy footprint corresponds to the manufacture of devices and 55% to their use.

Comparision between e-readers and Physical books

	Physical book	E-reader
Production	7.5 kg of CO2	168 kg of CO2
Papers	300 – 400 pages	1 million pages (up to 15 000 books)
Lifespan	Undefined	3 to 5 years
Postproduction CO2	O	50%
Ease of recycling	Easy	Hard

Which option is greener ?

- If you are reading more than 22 books, the E-reader becomes a better alternative.

- If you own a smartphone and using it for other purposes, digital books (whether Audio or Text) are a better alternative.

- Around 7% of total global energy consumption resulted from what some people call digital capitalism.

- If the internet were a country, it would be the 6th biggest polluter, and if we add all the emission generated by the electronic devices we need to browse the web, it is by far the industry that generates most emissions.

What can the physical book industry do decrease its carbon footprint ?

1.**Energy Efficiency**: Improving the energy efficiency of data centers, servers, and other infrastructure. This includes using more energy-efficient hardware and optimizing software for lower energy consumption.

2.**Renewable Energy Sources**: Shifting to renewable energy sources for powering data centers and offices. This can be achieved through on-site renewable energy generation or purchasing renewable energy credits.

3.**Sustainable Design**: Designing products and services with sustainability in mind, such as extending the lifespan of devices, improving repairability, and using recyclable materials.

4.**Reducing Data Waste**: Optimizing data storage and transmission to reduce waste. This includes cleaning up redundant data and using data compression technologies.