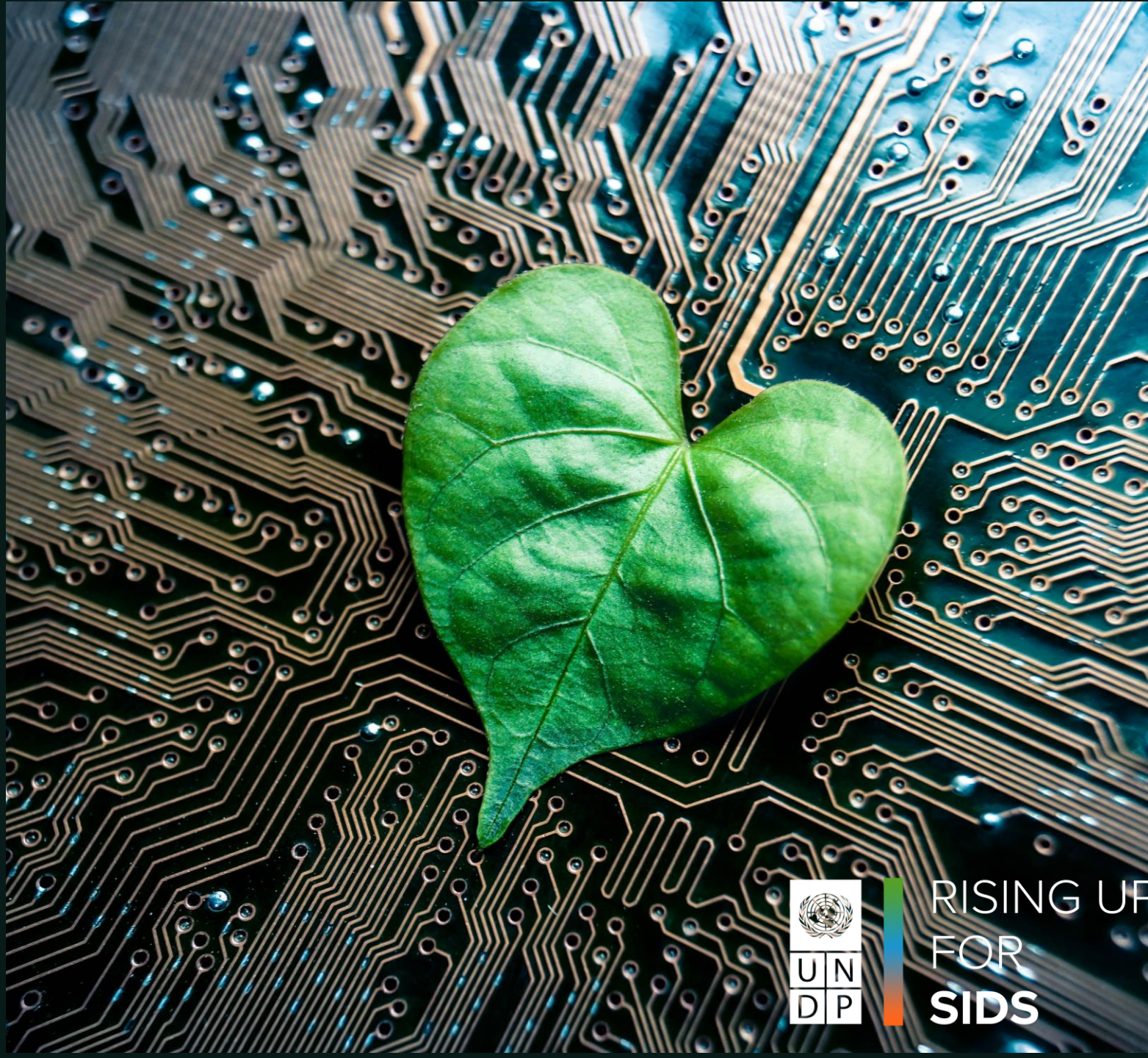


The Internet and The Environment

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The internet has been a phenomenal force for people and planet.
Providing communication, connectivity, culture, and commerce.





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The internet has exciting positive externalities and multiplier effects.

In the past decade, global internet use has more than doubled. From 2.18 billion users at the start of 2012, to 4.95 billion at the start of 2022.

Last year, for the first time, more than half of the world's population were using mobile internet.



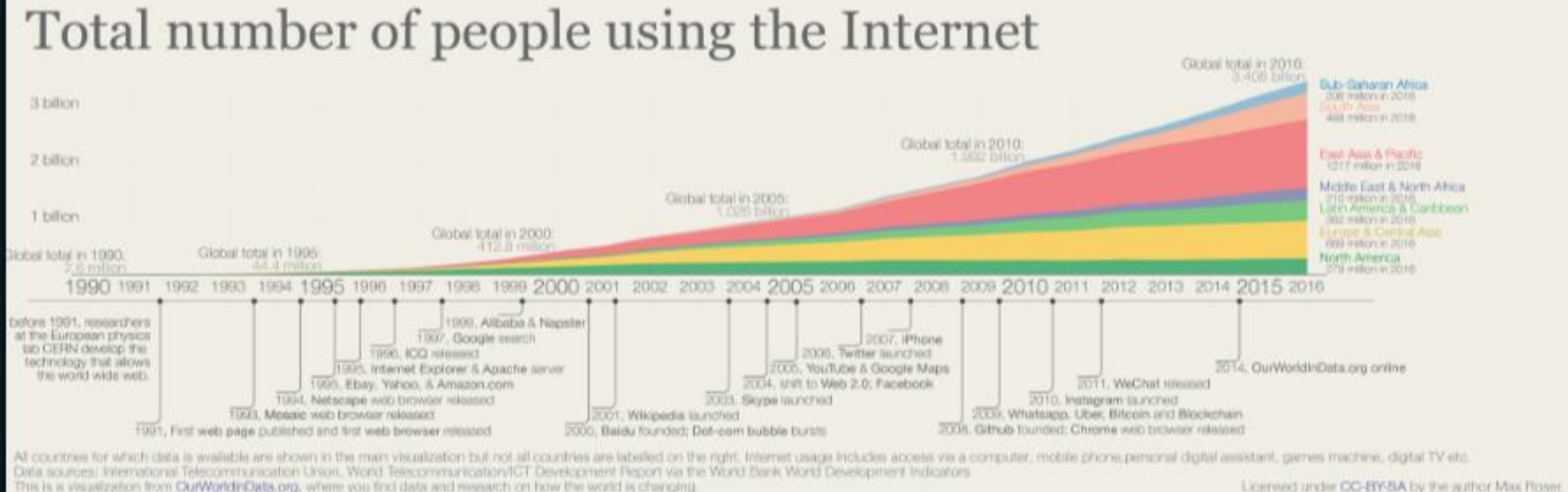
The world is rapidly becoming connected



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On any day in the last 5 years, there were on average 640,000 people coming online for the first time.

That's 27,000 people every hour.

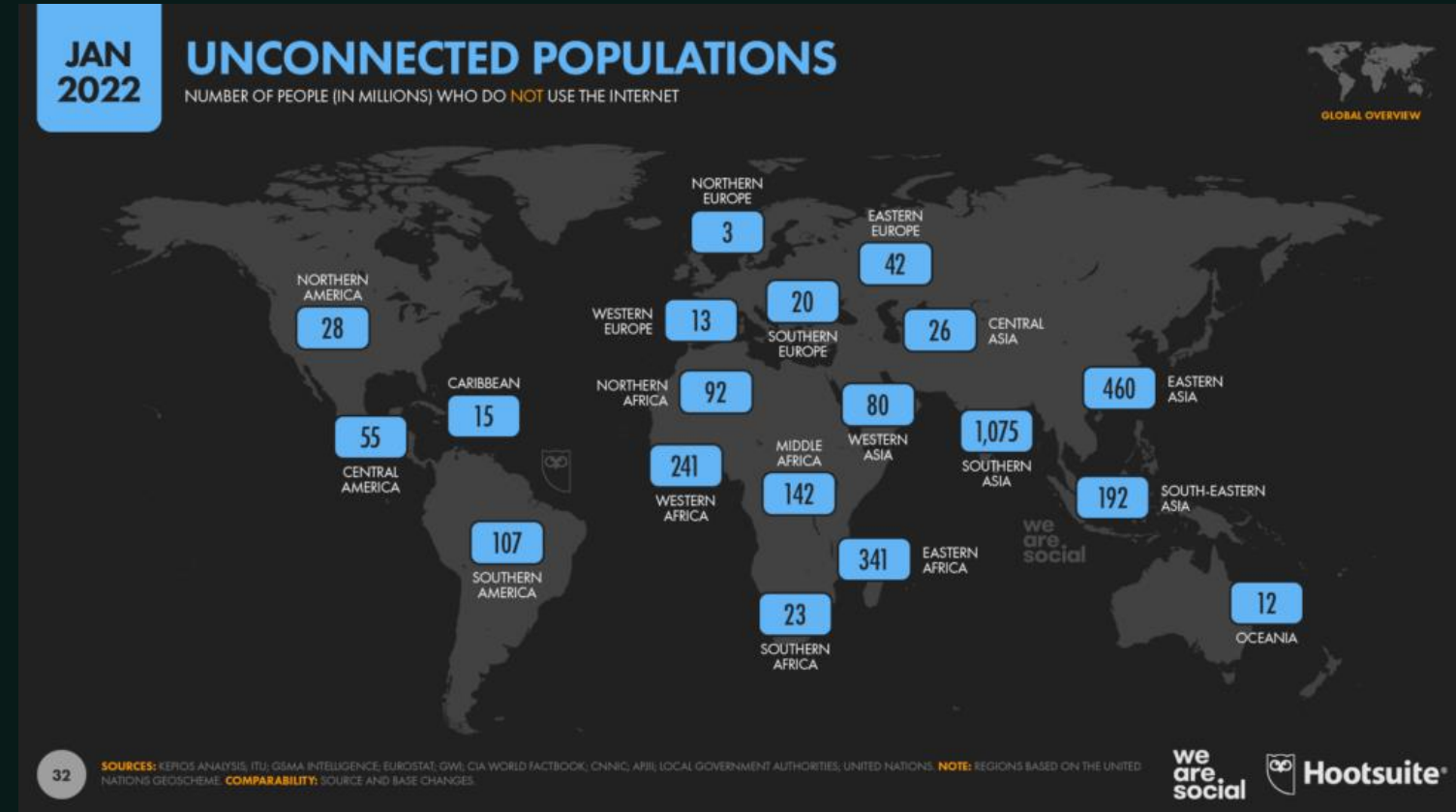


SIDS are rising up to face their connectivity challenges



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- The number of people who remain “unconnected” to the internet has now dropped below 3 billion people for the first time, but the inequity is stark.
- 1 in 4 people across lower- and middle-income countries are still unaware of even the existence of mobile internet.
- The negative consequences of the internet are also often disproportionately felt by lower-income countries and marginalised communities - particularly SIDS.



Negative multiplier effects of the internet



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The emissions & environmental impact of the internet depend on devices, connections, resolution, time of day, and much more.

These numbers are changing all the time, with both improvements in efficiency - but also increases in usage, and changes in user behaviour.



Internet value chain— Foundational internet infrastructure

We're seeing cities and towns around the world explore how to increase the efficiency of digital infrastructure rollouts.



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Dig Once policies that improve the coordination of fibreoptic installations can also reduce the emissions caused by traffic congestion



For wireless connectivity, switching away from diesel generators could have significant impact.



Mobile Network Operators, such as Cellcard in Cambodia, increasingly using renewable energy across their network infrastructure.



Cloud technology can also reduce emissions, by leveraging computing resources elsewhere that can be powered by renewable energy.

Data centers consume incredible amount of energy and requires lots of equipment & water cooling



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We're seeing positive efforts, including Microsoft's commitment to be carbon negative by 2030.

This includes providing granular data on cloud IT emissions to customers and policymakers.

We need an accelerated drive toward renewable energy to power cloud infrastructure.



Leveraging internet-driven innovations: Big Data and AI



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The carbon footprint of training a single artificial intelligence system can be considerable. One study noted that the computing power of training a relatively basic model emitted as much as 284 tonnes of carbon dioxide—five times the lifetime emissions of the average car.

Increasing transparency can in turn drive adaptation and clean energy policy.



Internet value chain— End user

We also need to focus on the end-user, which presents several challenges and opportunities.



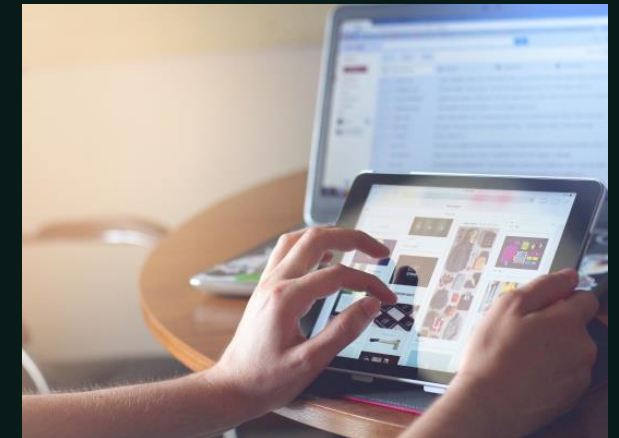
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Priorities include tackling e-waste. In 2019, 53.6 million tonnes of e-waste was generated globally – but in the same year, only 17.4 percent of e-waste was recycled.



Increased usage of delivery and platform economy apps during the pandemic saw considerable increases in plastic waste that accompanied those deliveries.



One study noted that if 70 million streaming subscribers lowered the quality of their video, it could reduce monthly greenhouse gas emissions by up to 3.5 million tons.

Building the digital economy



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- In digital, we're driven by user-centred design. We must ensure that the products and services we build are founded on the needs, realities, and aspirations of users.
- We should start thinking more about environment-centred design & building products and services that mitigate negative impact on the environment
- The abilities and opportunities of the most marginalised to participate in the digital economy. Access to information should be founded on resilient and reliable infrastructure.



UNDP's work in SIDS



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Foundational infrastructure

We're working across several SIDS on foundational infrastructure. From underlying connectivity, to leveraging Internet of Things and drones to improve data-driven decision-making.

Collaborating with private sector

We're collaborating closely with the private sector, to drive the sustainable implementation of emerging technologies. And to drive new developments in key catalysts such as renewable energy.

Inclusive-driven strategy

We're driven by inclusion. From shaping basic digital skills so everyone can benefit from the potential of the internet, to supporting local innovators and entrepreneurs to design the products and services that their communities need the most.



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