

Opportunities and challenges of the Green and Digital Twin Transition

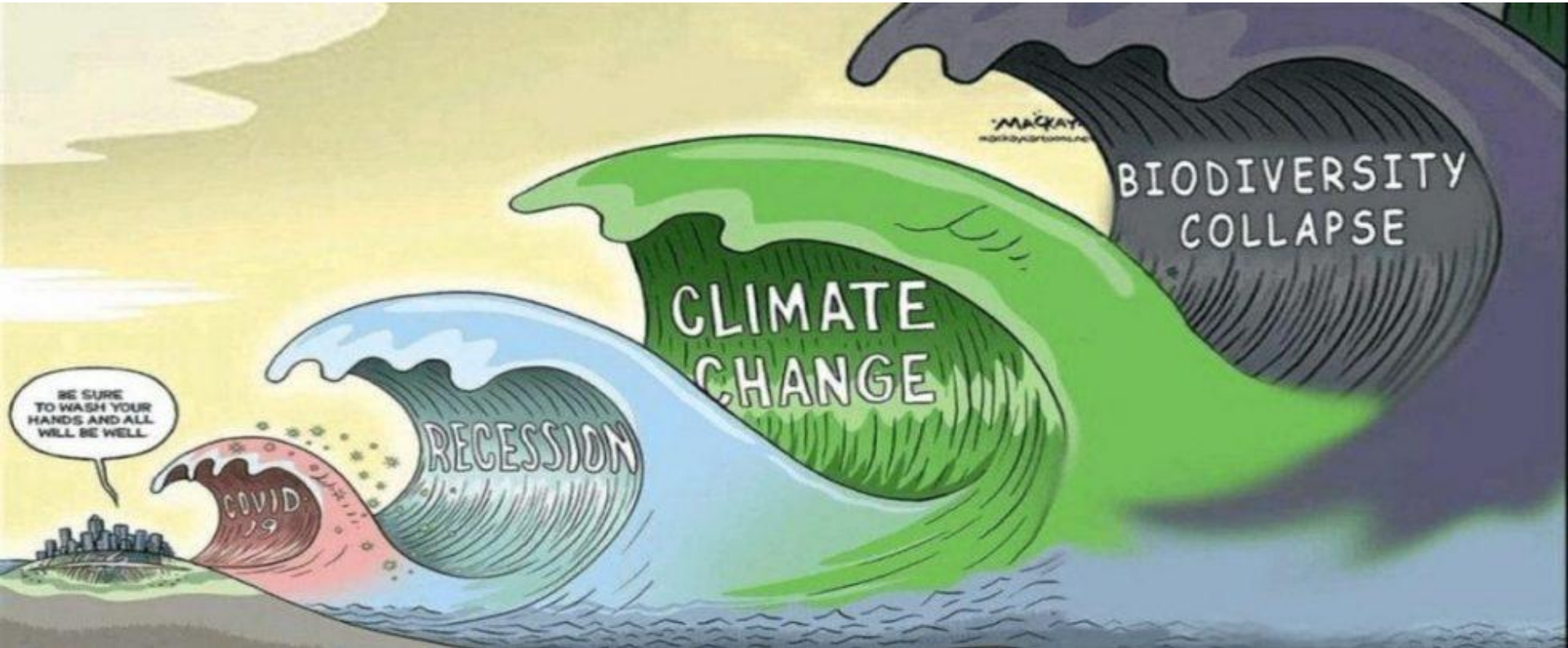


Green Digital for Sustainable Transformation

31 May 2022 at 10:30 CET
online event

**NEXT
GEN
EU** 

Where we stand... no time to waste





Commission Priorities



- **A European Green Deal**
- **A Europe fit for the digital age**
- *An economy that works for people*
- *Protecting our European way of life*
- *A stronger Europe in the world*

'...a once-in-a-generation opportunity to ensure democracy leads the way on the **twin ecological and digital transitions**'.

Synergies

- Digital transformation for climate neutrality. Projections say D can **reduce 15-20% of total GHG emissions** (enabling/ D4G).
- Green transition creating new jobs and business models and helping access to sustainable financing (G4D)

Conflicts

- **ICT footprint:** 2.1 and 3.9% of global GhG emissions; eWaste - fastest growing waste category, today only 17 % of e-waste is recycled.
- Green transition may block certain digitalisation patterns (built in obsolescence, energy intensive blockchain mining, single use electronics, etc).

Next

- **Today's** focus is mostly on the **conflicts** because **measurable**. Enabling effects are still based on projections
- **Aim: maximise** benefits / synergies for sustainability and D, define purpose and be aware of system boundaries
- **How: Science based methods to measure the net contribution of digital to environment** □ leading to sustainable finance for green digital (EU Taxonomy, Green Public Proc., international finance)

Sustainable Digital Technologies

Climate Neutral and highly energy efficient datacentres by 2030: review **JRC's CoC**, the Energy Efficiency Directive and the Taxonomy Regulation



Greener electronic communications by 2030:

- Transparency measures
- Administrative incentives for green deployment

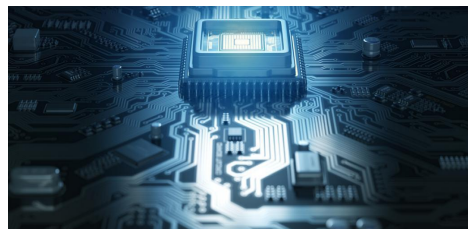


Circular Electronics Initiative: Better durability, reparability, refurbishment, recycling for consumer and industrial electronics & IoT

“Right to repair” for consumers.



Low power processors, software and AI: investing in new ultra-low-power



Digital contribution to environment & climate

Digital for Circularity / Digital product passport:

Data for circular business models, creating a sustainable, integrated Single Market

Smart mobility: reduction of transport emissions est. up to 37%; **smart buildings** with emissions reduction est. up to 17%; smart energy systems appr. 23 %

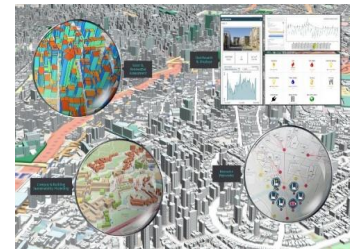


Also: precision farming, Blockchain for emissions accounting, smart cities; AI for climate; smart manufacturing/digital twins;

Digital contribution: reduction by up to 15%-20% of total emissions with deployment of today's technology.

Destination Earth / digital twins:

High Performance Computing, AI for better anticipation of extreme events prediction, climate modelling.



RRPs: Missed opportunity to use digital solutions for climate action

EU countries to lead on G / D Transformation

Digital Day- March 19, 2021



26 Member States as well as Norway and Iceland have signed a **declaration** to **accelerate the use of green digital technologies** for the **benefit of the environment**.

Example of commitments made:

- Making **green public procurement** the default option;
- Support the **deployment of green digital solutions** that accelerate the decarbonisation of energy networks, enable precision farming, decrease pollution, combat the loss of biodiversity and optimise resource efficiency;
- Propose permits for deployment of networks and **data centres** that comply with the highest environmental sustainability standards;

<https://digital-strategy.ec.europa.eu/en/news/eu-countries-commit-leading-green-digital-transformation>



26 CEOs of ICT companies, that lead their own transition to climate neutrality by 2040, have committed on behalf of their companies to take action in the following areas:

- Investing in the **development and deployment of green digital solutions** with significant energy and material efficiency that achieve a net positive impact in a wide range of sectors.
- **Developing methods** and tools **to measure the net impact** of green digital technologies on the environment and climate by joining forces with NGOs and relevant experts.
- Co-creating, with representatives of other sectors, recommendations and **guidelines for green digital transformation of these sectors** that benefit environment, society and economy.

Currently 34 CEOs signed the EGDC Declaration, supported by an EU financed project: <https://www.greendigitalcoalition.eu/>



Ecodesign for Sustainable Products Regulation 30.3.2022

- Digital product passport - Digital for Circular economy

European Decade – 2030 Targets; Declaration on Digital Rights and Principles – 26.1.2022

- Annex VI: Sustainability – Greening the ICT & deploying ICT for Green

Europe’s Digital Decade – Digital targets for 2030 – 9.3.2021

- Secure and sustainable digital infrastructures

European Digital Strategy – 19.2.2020

- Circular electronics; Sustainable data centres by no later than 2030
- Transparency measures for electronic communications

Circular Economy Action Plan – 11.3.2020

- Regulatory measures for mobiles, tablets, laptops, printers and consumer chargers
- ‘right to repair’, including a right to update obsolete software; take back schemes