



THINK 2030

Policy brief

How digitalisation can help or hamper in the climate crisis

Two global megatrends—climate change and digitalisation—will continue to shape EU policy for decades. The years 2020 and 2021 have seen policy shifts in the EU in these areas with changes explicitly joining the digital and sustainability agendas. The synthesis of these policy areas has also been accelerated by the EU recovery package, which requires EU Member States receiving coronavirus-recovery funds to make significant economic investments in both areas.

The climate effects of digitalisation will depend heavily on the policy frameworks that leverage those climate opportunities that digitalisation unleashes while effectively addressing the energy use, resource consumption and rebound effects of deploying digital technologies. The Think2030 paper “How digitalisation can help or hamper in the climate crisis” examines these challenges, highlighting the top concerns, recent policy developments and key policy principles that can guide effective transitions in these areas.

Authors:

Aaron Best, Senior Fellow
(Ecologic Institute)

Full paper



Timeline of recent EU policies – climate and digitalisation

19 February 2020	European Commission releases its communication " Shaping Europe's digital future "
11 December 2020	European Commission releases its communication " The European Green Deal "
9 February 2021	European Parliament passes the EU's €672.5 billion Recovery and Resilience Facility (37% of MS expenditure must be devoted to climate investment & reforms and 20% to foster the digital transition)
9 March 2021	European Commission launches " Europe's Digital Decade: digital targets for 2030 "
21 April 2021	European Commission releases the " EU Taxonomy Climate Delegated Act " presenting implementing rules under the EU's sustainable finance taxonomy, defining criteria for "green" investment
12 May 2021	European Commission launches a public consultation and discussion on EU digital principles as a follow-up to "Europe's Digital Decade"

Digital innovation for a green recovery: Core policy principles

The Digital Revolution will continue to have profound effects on economic, social and environmental systems as well as our lives as individuals. Digitalisation will also continue to have countervailing effects on the Earth's climate—with its net effects determined in large part by the frameworks of rules and incentives put in place by governments. There is enormous scope for a positive contribution of digital technologies to addressing the climate crisis.

- **Embedded digitalisation:** Digital strategies should be explicitly embedded in both the concept of sustainable development (anchored to the SDGs) as well as the fight against climate change (anchored to climate targets and international climate commitments).
- **Getting the incentives right:** Specific technological solutions should not be dictated if a more flexible approach can be implemented to achieve environmental objectives, especially when technology can change rapidly.

Because digitalisation is so pervasive and flexible, public policy should help ensure that price signals tell the environmental truth and that regulatory frameworks are ones that foster innovation and spur creative solutions.

- **Complementarity effects:** For systemic issues like digitalisation and climate change, the effectiveness of any individual policy regime can be further increased by understanding synergies and complementarities with other policy aims. The European Green Deal provides an excellent framework for institutionalising such an approach at scale within the EU.
- **Green input | Green processing | Green output:** Processing inputs and outputs is the essence of computing. This extends beyond information to include physical aspects: the supply chains of materials into electronic devices, the amount and types of energy used to power them, the purposes to which digital capabilities are put, and how obsolete technologies are returned full circle to become the raw materials for new devices. Along every part of this path, opportunities exist to reduce negative environmental impacts and increase positive ones.
- **Addressing algorithms:** The Internet of Things, big data and artificial intelligence (and the algorithms that drive them) are frequently tied to ethical choices with complex systemic effects that can scale rapidly. Better interdisciplinary work is needed across the digitalisation and environmental policy communities to develop effective policy measures for these novel developments.
- **Governance and democracy:** Central elements of democratic governance and civil society are under threat via developments in social media, disruptions to the business models of media outlets, and growing levels of disinformation and propaganda. Effective climate and environmental policies are dependent on functioning governance frameworks and the erosive dynamics of the present moment should not be ignored by those concerned about effective environmental policy in a democratic context.

Reproduced from the Think2030 paper "How digitalisation can help or hamper in the climate crisis" by Aaron Best (Ecologic Institute), Fernando Diaz Lopez (inno4sd and Stellenbosch University) and Massimiliano Mazzanti (Unife).

THINK2030

Think2030 is an evidence-based, non-partisan platform of leading policy experts from European think tanks, civil society, the private sector, and local authorities. Find out more at Think2030.eu.



This project is implemented with the support of the LIFE Programme of the European Union. The work reflects only the views of the authors.