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AI and sustainability regulation in the midst of the global twin transition: How can the EU do better?

Charlotte **DUCUING** & Sara **GARSIA**

Centre for IT & IP Law, KU Leuven and imec

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A global twin transition, the EU and AI *

EU depicts itself as value based → Including ecological transition policies

BUT → the EU ecological transition objectives are impacted by geopolitical tensions and is characterized by a model of green growth driven by technological and prominently digital innovation

The link between the **ecological transition and digital technologies** from **practical, factual and contextual** becomes **political** →**Twin transition**

Artificial intelligence (AI) is a manifestation of this dynamic → framed by EU policy-makers as a technology that **is ontologically exceptional** and **revolutionary**, a **prerequisite for EU strategic autonomy** and **a driver of ecological change**

* 'Twin transition': *the move towards a climate-neutral and a digital society and economy are deemed as mutually reinforcing.*

A conversation on “AI and sustainability” is forming along a **binary framing** that also **informs the law**



AI carries **significant environmental impacts**

‘Sustainability *of* AI’

AI is an **indispensable driver of the ecological transition**

‘AI *for* sustainability’



By centering technology (functionalities), this framing **misconceptualises how technology and society interact.**

This framing generates epistemic assumptions, misleads the questions on the relationship between AI and the ecological transition and locks up imaginaries.



There are **alternative entry points to the AI and sustainability** debate!

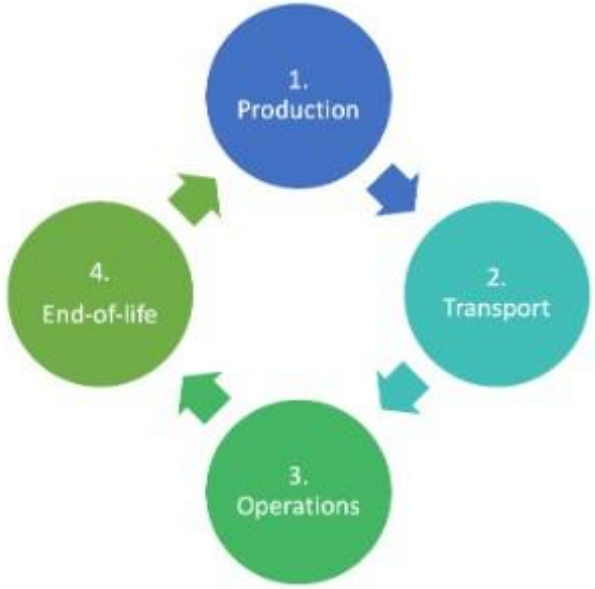
They **unlock imaginaries** and **effective environmental sustainability regulation.**

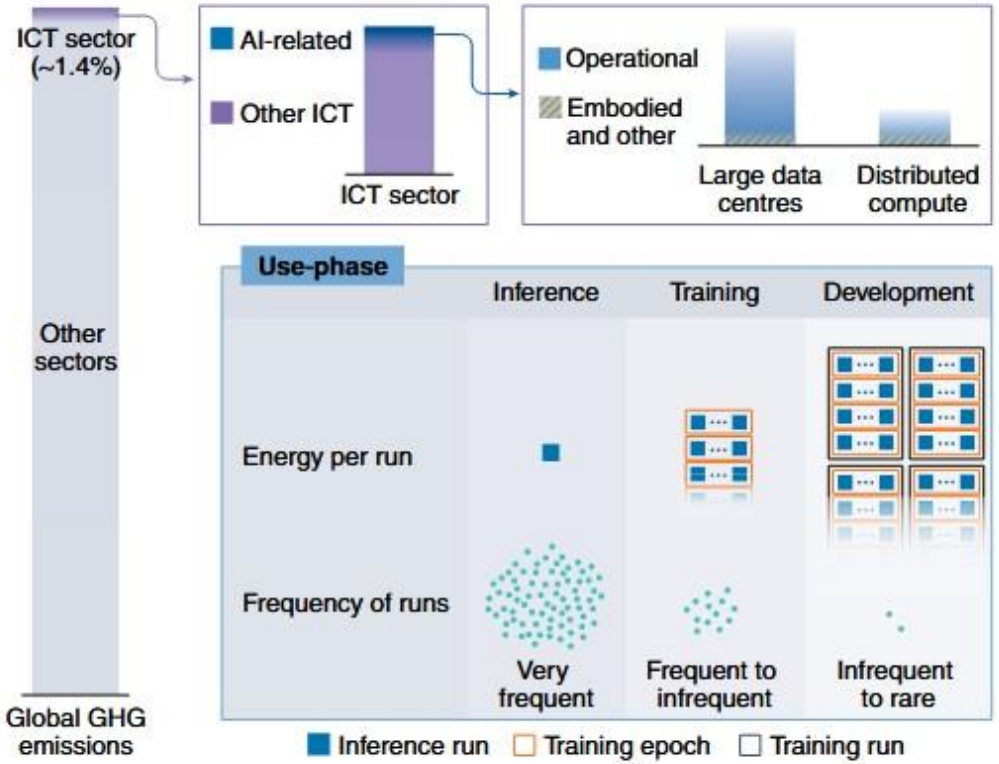
The basics of AIs' environmental impacts

→ Not "AI" but "AIs"

- Generating images or video vs. generating text
- General purpose machine learning models vs. task-specific models
- […]
- "Convivial AI" vs. Majority AI

→ Each phase of AIs' lifecycle entails different environmental impacts



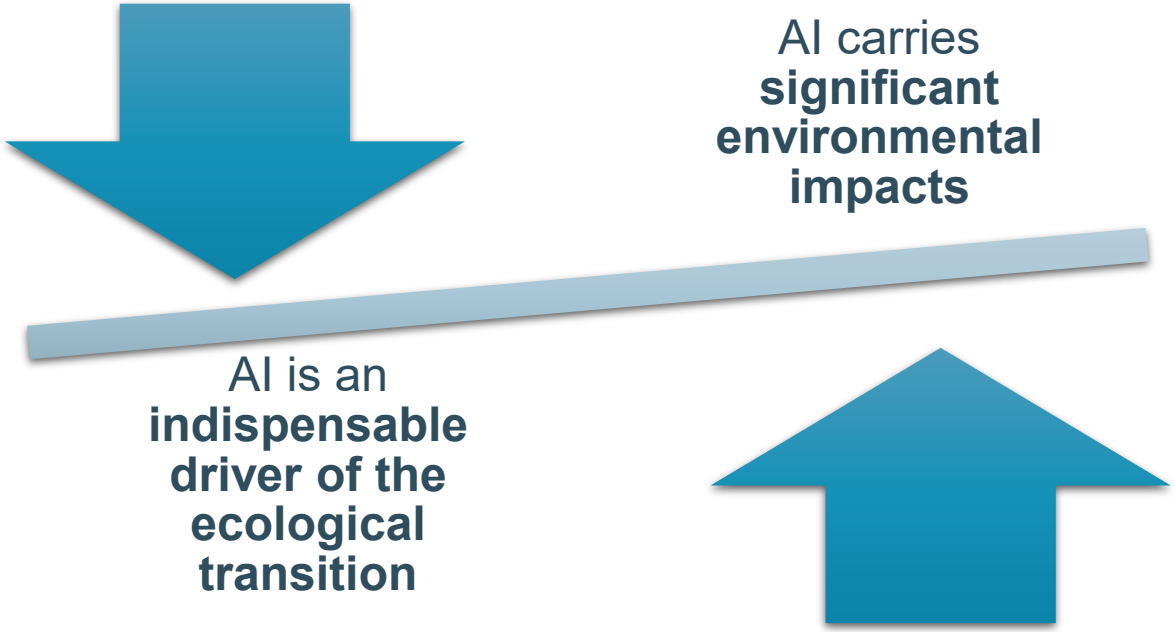


Kaack, Donti, Strubell *et al.*, Aligning artificial intelligence with climate change mitigation, Nature Climate Change vol., 2022, p. 520

OECD, Measuring the environmental impacts of artificial intelligence compute and applications: The AI footprint, OECD Digital Economy Papers, No. 341, 2022, OECD Publishing, Paris, p. 23

AIs and sustainability regulation in the EU

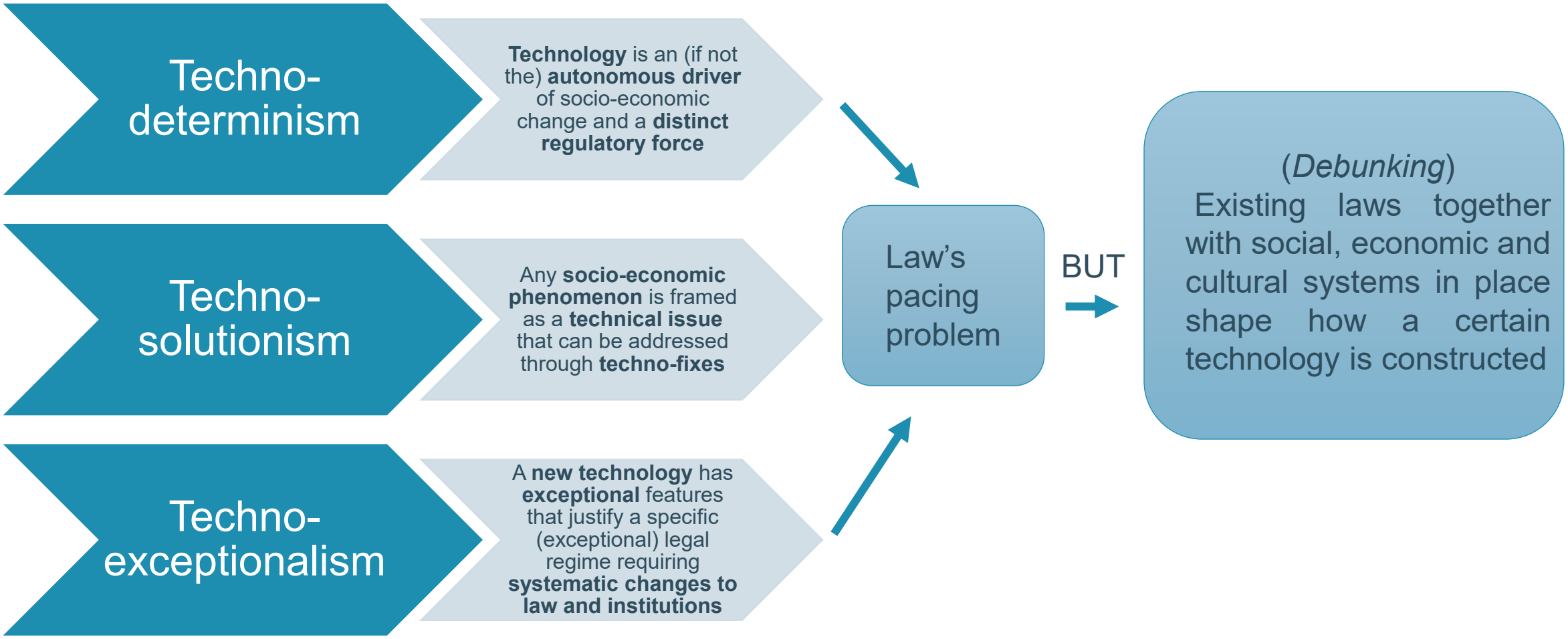
- EU policies and (EU-funded) projects using AI 'for' the ecological transition (optimization of processes and data-driven planning for the ecological transition).
- Exceptions to AI Act requirements where AI is deemed to be 'pro' ecological transition.



- Disclosure obligations re environmental impact of AI, data centers (Energy Efficiency Directive, AI Act…).
- Requirements and 'kind invitations' for companies to mitigate 'environmental risks' (AI Act, E-Waste Directive, …) > risk management, standards, codes of conducts, 'clean energy' requirements.

- Prevalence of **procedural** and **reporting requirements** and **self-regulation** over substantive environmental requirements
- **Emerging normative** literature → focus on **AI** as a **resource intensive** technology as **starting point** → normative arguments centred around a **risk-management** approach

Law and Tech → representation of the relationship between law and technology



Lessons learned for the sustainable AI discussion
→ The 'techno-focus'

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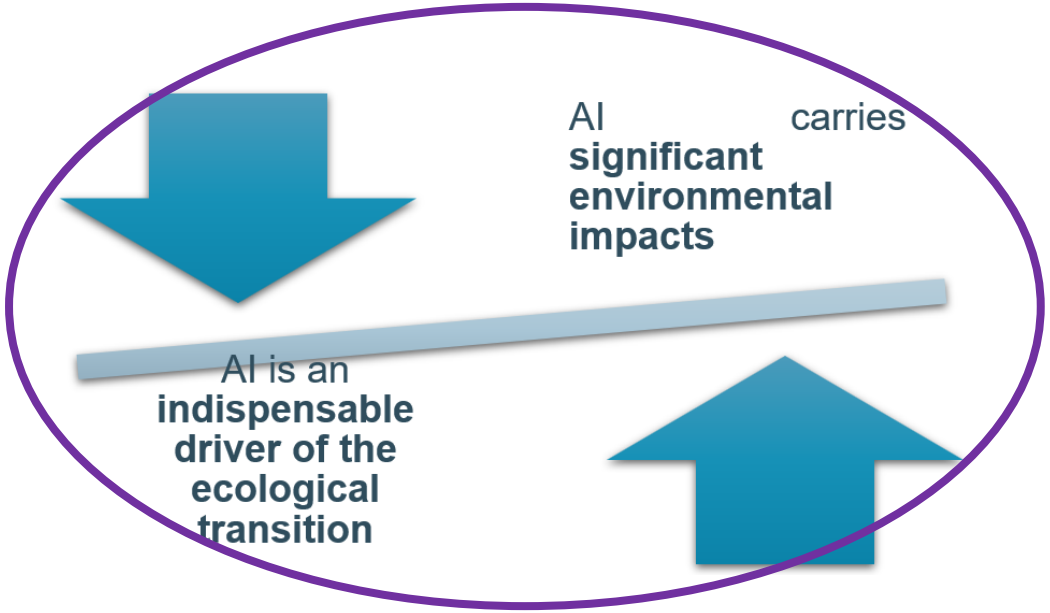


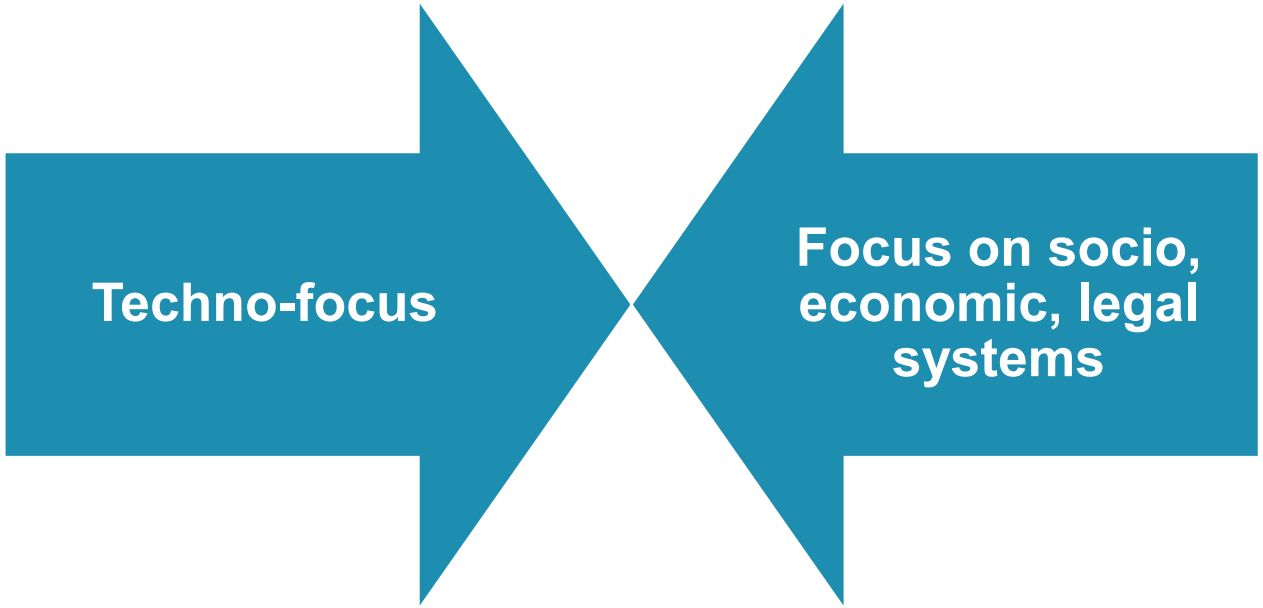
- Disclosure obligations re environmental impact of AI, data centers (CSDDD, Energy Efficiency Directive, AI Act…).
- Requirements and 'kind invitations' for companies to mitigate 'environmental risks' (AI Act, CSDDD, E-Waste Directive, …) > risk management standards, codes of conducts, clean energy' requirements.

- **Technology (AI), identified as a unique block, as starting point because a (deemed naturally) resource-intensive one > regulatory object**
- **Technology (AI) as an autonomous and uncontrollable / inevitable driving force (techno-determinism)**

- **Technological fixes envisaged as solutions for socio-economic phenomena, framed as technical issues (techno-solutionism)**

- **AI as a revolutionary technology > disrupts the law > requires dedicated legal regimes (techno-exceptionalism)**

Why and how to do differently?



WHY

- Techno (including AIs!) always embedded / channeled / sustained by socio, economic and legal systems

- Social, economic, legal systems underpinning AI can be identified… and addressed by the law!
- Restores law as a driving force

HOW

- 'majority AI' as a magnifier of (knowledge & material) extractivism and profit maximization endeavors through complex global value chains

- Not need for 'more data' to regulate; We are familiar with the issues already!
- Prophylactic regulation acting on the cause (i.e. not the symptoms)

Regulatory solutionism

By looking at the AI and sustainability Regulation through the prism of Law and Tech



we forge the concept of **regulatory solutionism**

'*the political avoidance of the confrontation of hard choices by legislators through the adoption of obligations that, on paper, exhaust the matter at hand while being devoid of any substantive - and thus meaningful – content*'



<u>Legislative inaction that takes the form of legislative activism</u>

Applied to the environmental sustainability of AI regulatory solutionism manifests – epistemic, legislative, political – greenwashing that contributes to keeping doing (environmental impactful) business as usual

Conclusion and direction for the future

EU policy and legislation initiatives reflect technological determinism, exceptionalism and solutionism, as they are based on the idea that **AI would ontologically consist of a revolutionary, exceptional and ineluctable – thus, a-historical – technology**.

As a reaction to this framing of AI, **regulatory solutionism** generates **frustration** for the citizenry, creates **bureaucratic costs** for smaller business, **trumps democratic commitments** and leads to a **rejection of ecological legislation** altogether.

By unraveling technological determinism, exceptionalism and solutionism at play, we can restore the driving force of the law and **imagining alternatives for impactful legislation** that do not focus on AI as an abstract exceptional object but that consider **it embedded in existing and specific socio, economic and legal systems.**

Legal research is needed on → **Substantive legal requirements on AI development and value chains, attention towards convivial-minority AI, targeted applications through small models, digital degrowth**

Thank you for your attention!

Charlotte **DUCUING** & Sara **GARSIA**

charlotte.ducuing@kuleuven.be
sara.garsia@kuleuven.be

KU Leuven Centre for IT & IP Law (CiTiP) - imec
Sint-Michielsstraat 6, box 3443
BE-3000 Leuven, Belgium
http://www.law.kuleuven.be/citip



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