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Imagining Circular Carbon: A mitigation (deterrence) strategy for the chemical industry

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Introduction

- The petrochemical industry is placed amid the climate, plastics, and toxicity crises (Nielsen et al. 2020)
- Circular economy discourses have been invoked as a solution by policymaking and the plastic industry (Palm et al. 2021)
- The emerging imaginary of circular carbon reframes carbon from being a problem to being a solution
- We have been interested in the mechanisms through which the circular carbon imaginary risks delaying climate mitigation



Data collection

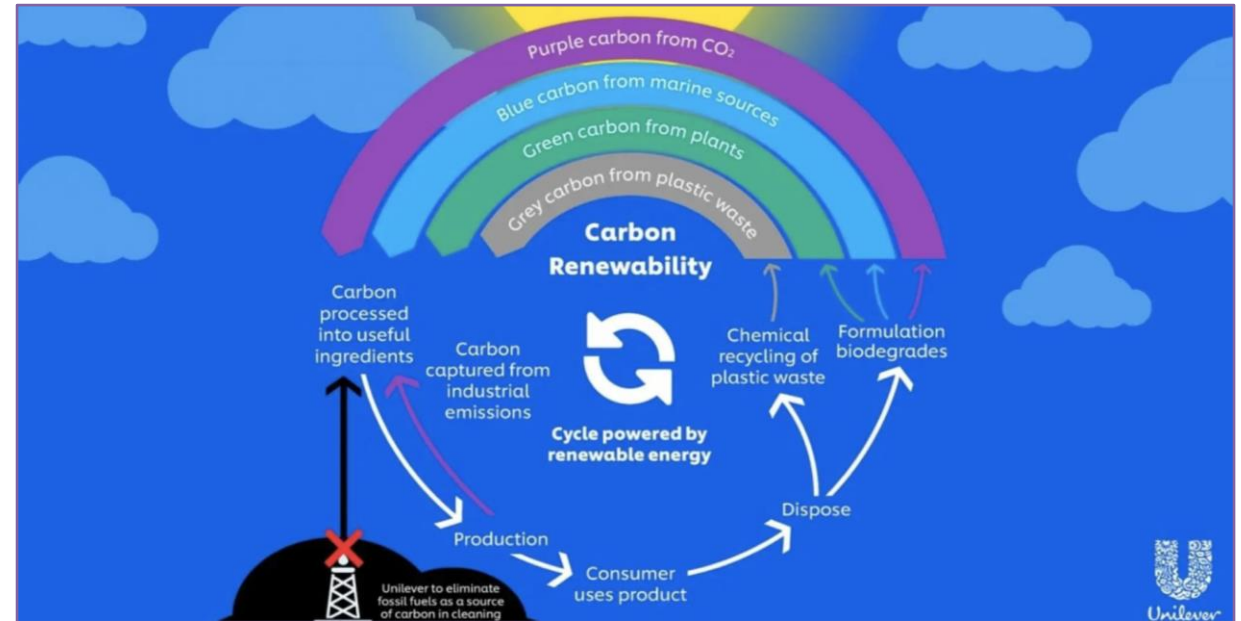
- To include many kinds of representations of the imaginary
- The plastics industry world fair K2022 in Düsseldorf (Germany)
- Web conferences, seminars
- Targeted literature search
- Data triangulation



The circular carbon imaginary

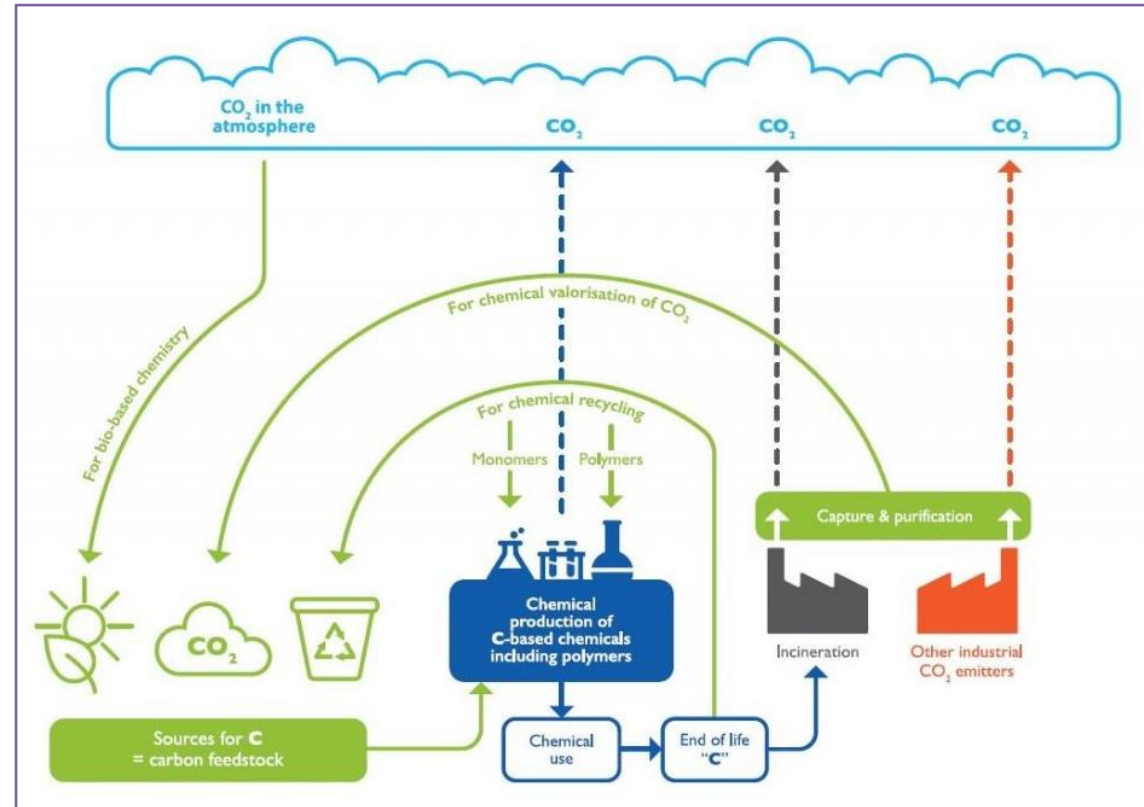
Circular and diversified carbon flows

- Carbon is “the atom of life, of our societies and economies” (European Commission, 2021, p.1)
- Building on the cyclical nature of carbon in the environment

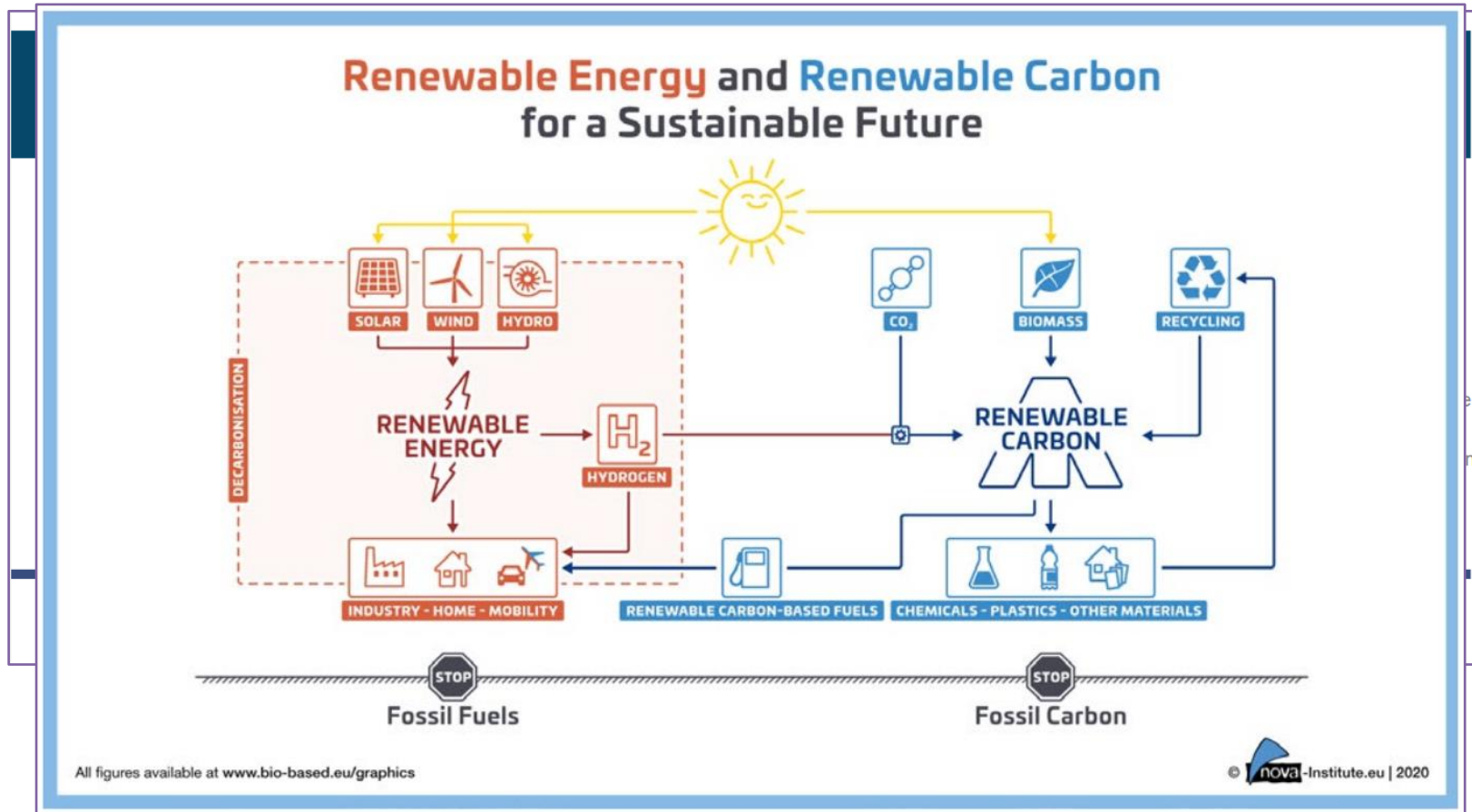


Framing the climate crisis as carbon mismanagement

- Advocating better management of the carbon flows
- Decarbonisation -> Defossilisation



Fitting different innovation and political regimes



A circular distraction:
The circular carbon imaginary as a promoter of
mitigation deterrence

Framing out low-risk and short-term mitigation pathways

- Low-risk, low-tech and near-term pathways are framed out
- Increased production is foregrounded as part of the mitigation strategy

“Plastics is the most carbon efficient material [and] the more plastics that are used in a variety of applications, the lower the carbon footprint will be”

(Alliance to End Plastic Waste, 2022)

“we cannot deprive society from the benefits of plastics”

(Plastics Europe, 2022)



Normalising unproven technologies

- Relying on unproven and risky technologies and feedstocks such as
 - carbon capture and utilisation
 - chemical recycling
 - bio-based feedstock
- Renewable energy and resource requirement

Changing the system to fit the industry

- Policymakers are asked to facilitate the demands of the petrochemicals sector
 - E.g. certification schemes and mass-balance approaches, infrastructure, R&D funding
- Industry actors can claim that they are ready for a transition and well underway (Tilsted et al., 2022).
- “Now we just need the policy conditions to make it go even faster” (BASF, 2022).

Conclusion

- The circular carbon economy is an emergent imaginary promoted as a mitigation strategy by the chemical industry
- However, it promotes mitigation deterrence by framing out alternative reduction pathways, relying on unproven technologies and bracketing crucial risks
- Policymakers should be aware of the risks associated with the circular carbon imaginary



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