6 Concluding remarks

This chapter highlights key aspects of the publication, focusing on broader sustainability issues and the risks of over-relying on biomass as a future feedstock. It emphasises the importance of a unified policy language, particularly in differentiating between CCU and CCS technologies, and stresses the need for careful evaluation of technologies ahead of the 2050 net-zero carbon deadline, highlighting the significant infrastructural changes required.

This publication is not primarily about climate policy

While climate underlies it, this publication is more about sustainability more generally, and about the realisation that biomass as a feedstock for the future cannot replace fossil carbon in its entirety. More importantly coming to overly rely on biomass could have serious negative repercussions for humanity and the planet. For this and other reasons, the short size of Definitions and terminology facilitate communication belies its importance. It is essential that governments, when formulating national policy but also when interacting with other governments, speak a unified language. It seems particularly relevant to 'CCUS' as CCU and CCS are very different. CCU, if deemed part of the climate and sustainability solution, will be heavily dependent on R&D subsidy for long periods. As this report demonstrates, the range of technologies of interest is very large, magnified by the emergence of hybrid technologies, and time is short.

Time and scale

A word that complements 'time' is 'scale', and the two are inextricably linked. As pointed out, 2050 is not far off, representing as it does about two innovation cycles for the chemicals industry. Any number of interesting laboratory studies can arise between now and then, and governments will be tasked with making tough funding decisions, assessing the commercial viability of technologies with limited information. A great deal seems to depend on rapidly developing renewable energy around the globe. Thus choice of technology paths to fund will depend on renewable feedstocks but also critically the energy burden. Let a critical message from this report be that net-zero carbon by 2050 involves a gargantuan scale of infrastructure change, much of it based on technologies not currently ready. Taking more time deciding technology paths by careful interrogation of the feedstock, energy and environmental implications will prevent expensive mistakes as global warming and its consequences continue.

History is the future

Henry Ford was famously unenthusiastic about history (Swigger, 2014). Thus we might airbrush from history that the Ford Model T, produced from 1908 to 1927, was an original flex fuel vehicle (FFV), being able to burn gasoline or ethanol. Or the fact that Ford produced a prototype car with bioplastic panels in 1941. The dominance of the internal combustion engine was settled with the conventional oil discoveries in the Middle East.

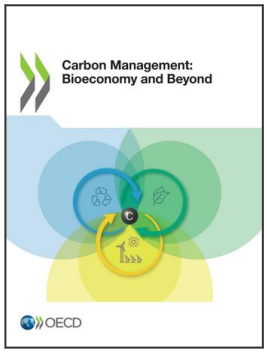
Some other pertinent lessons from history are directly related to the consumption of fossil resources. First, the fossil era ushered in a lifestyle unimaginable by many at the start of the 20th century. By mid-century, fossil resources began to shape and re-shape geopolitics. As the century began to wind down the complications of societies reliant on fossil resources began to emerge. By century end, the implications of weaponisation of fossil fuels and conflicts, and proof of climate change, had started the search for alternatives.

A more even distribution of renewable material and energy could change these dynamics. However, it is important that countries and their governments back new technologies to prevent being left behind. The transition is not simply all countries getting behind the climate crisis but is also about the other far-reaching social and environmental challenges identified. Planetary boundaries, a term born this century (Rockström, 2009) but still buried in the arcana of its professional cadre, may become mainstream as we learn to live within those boundaries.

References

Rockström, Johan, et al. (2009) "Planetary boundaries: exploring the safe operating space for humanity." Ecology and society 14.2. https://doi.org/10.5751/ES-03180-140232.

Swigger, J. (2014), “"History Is Bunk": Assembling the past at Henry Ford's Greenfield Village”, University of Massachusetts Press.



From:
Carbon Management: Bioeconomy and Beyond

Access the complete publication at:
https://doi.org/10.1787/b5ace135-en

Please cite this chapter as:

OECD (2023), "Concluding remarks", in *Carbon Management: Bioeconomy and Beyond*, OECD Publishing, Paris.

DOI: https://doi.org/10.1787/4e33d442-en