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Harnessing social tipping dynamics for the ecological transition: the case of the electric car



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Chapô

Researchers and practitioners are paying growing attention to the possibility of a fast transition in practices and technologies that could accelerate the achievement of emission reductions targets. Although these rapid transitions are usually identifiable in retrospective, experts argue that a transition from combustion engine cars to electric vehicles is imminent. Why do they think a tipping point is about to be reached? What can be done to create the right conditions for the transition to electric vehicles?

Présentation longue

Why social tipping matters

The warning from the International Panel on Climate Change could not be starker: 'Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.'^[1] Behind this urgency is a growing scientific understanding that we are reaching critical thresholds at which small disturbances could cause large, abrupt and persistent transformations in parts of the Earth system by activating self-enhancing dynamics^[2]. These changes threaten to undermine the integrity of ecological processes, human well-being and the conditions for civilised life.^[3] The key point here is that because there is a direct relation between accumulated emissions and increases in temperatures, the climate system^[4] responds to levels of greenhouse gases in the atmosphere, hence the need to stop emissions swiftly before tipping points are reached. Globally, emissions need to fall by 7.6 per cent each year (year on year) between 2020 and 2030 and in wealthier

countries this needs to be over 10% if we are to have a chance to keep temperatures below 1.5 degrees.^[^5] This scale of change is unprecedented. While acknowledging the severity of the situation, sustainability and climate researchers and activists are paying growing attention to the possibility of a fast transition in practices and technologies that could accelerate the achievement of emission reductions targets. In the same way that there are swift, self-reinforcing dynamics in the Earth system, they argue, there are also similar dynamics shaping socio-technical systems. But can we identify positive social tipping points? And, more importantly, can we trigger them? Researchers studying social tipping argue that we can at the very least help to create the conditions under which social tipping arises, and note that one of the areas in which a tipping point may soon be reached if the current trends persist and additional enabling conditions are created is the transition from combustion engine cars to electric cars. This article discusses these developments without implying that a mitigation approach in mobility can rely solely on this technology. Before doing so I introduce the notion of social tipping.

The notion of tipping point in the social sciences

The *Oxford English Dictionary* defines tipping point as ‘the point at which a series of small changes or incidents become significant enough to cause a larger, more important change.’ In complex systems thinking it refers to a critical point at which a small additional quantitative change in the system shifts radically and potentially irreversibly into a different equilibrium state (qualitatively different system). Although the term tipping point has gained prominence in debates about climate through the work of Earth system scientists ^[^6], it first emerged in discussions about social change. In 1958 political scientist Morton Grodzins observed in his study of racial integration in US neighbourhoods that ‘once the proportion of non-whites exceeds the limits of the neighbourhood’s tolerance for interracial living, whites move out.’ ‘This ‘tip point’ varies from city to city and from neighbourhood to neighbourhood.’^[^7] Since Grodzins’ pioneering work, the notion of tipping point has informed studies of social and environmental change.^[^8] These studies discuss mainly the existence of tipping points as illustrated in John Urry’s article *The System of Automobility*^[^9]—probably the first text discussing social tipping in relation to climate change:

A tipping or turning point will occur during the 21st century, when the steel and petroleum car system will finally be seen as a dinosaur (a bit like the

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Directions in the Study of (routledge.com). The possibility of rapid change is acknowledged by transition scholars such as Frank Geels, but the main bulk of research is still devoted to relatively long-term transitions. See Typology of sociotechnical transition pathways - ScienceDirect

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Visuel

point bascule sociale electric cars EV

Thématique

Cars

Ecological transition

Concepts

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