

Plastic Futures: Dystopian world building for a true circular plastics economy

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The dominating circular plastics economy (CPE) discourse is focused on downstream interventions. A true CPE must consider the whole system. Speculative design offers an opportunity to challenge the dominating discourse, through story telling and world building, which provoke innovative thinking and allow the researcher to observe behaviours and interactions for system mapping.

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A False CPE Discourse

Why are we not making the progress needed to tackle the plastics waste crisis?

The CPE discourse has been co-opted by the plastics value chain, containing the CPE policy agenda through regulatory capture, focused on recycling (Kovacic, Strand, and Völker 2019, Mah 2021). Meanwhile, plastics production is on a steady rising trend, with 88 new production capacity expansion projects between 2012 and 2019 (Bauer and Fontenit 2021).

A preliminary thematic analysis using Nvivo evidence this co-optation process in Australia.

> partners partnership cleanaway initiatives approach latest also solutions development first concerns terms food packaging news future shell collected great subscribe support business used economy facilities produce model products recycling sustainable donate offers climate waste plastic environment state pollution working year group pact circular local reduce crates across value resources addition industry landfill australia materials provide health emissions health emissions challenge principles management help contain government australian environmental

Figure 1: Word Cloud produced with Nvivo from 10 sources found in a Google Search with the terms "Plastics" AND "Circular Economy".

Systems Thinking for Circular Plastics Economy

A true CPE is rooted in systems thinking, tackles complexity, identifies connections, and futureproofs (Ellen MacArthur Foundation 2013). It must consider the whole system, including regulatory frameworks, consumer behaviours, disruptive upstream interventions, and their interactions.

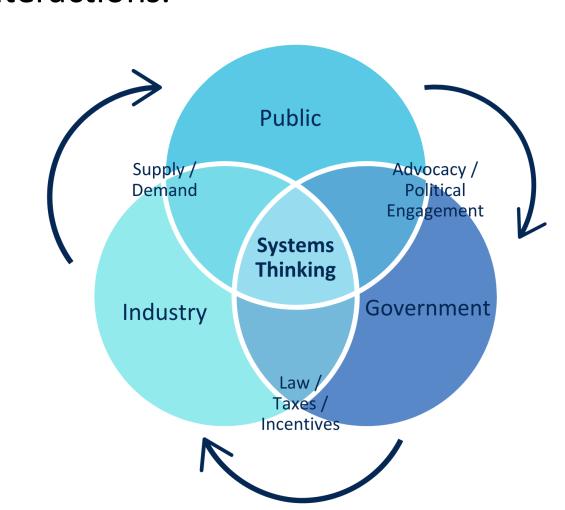


Figure 2: Systems Thinking for a Circular Economy highlighting interactions

Critical Design Theory (CDT)

CDT is based on the "double movement of ontological designing" (Escobar 2011). The plastics crisis is a design crisis. Not only because the production and disposal systems we have designed are failing us, but the consumer patterns the system we designed has in turn created are at the centre of the problem. In this tradition, a sustainable future will not be forged solely by technological advances, but a concomitant cultural shift is imperative (Fry 2010; Ehrenfeld 2008).

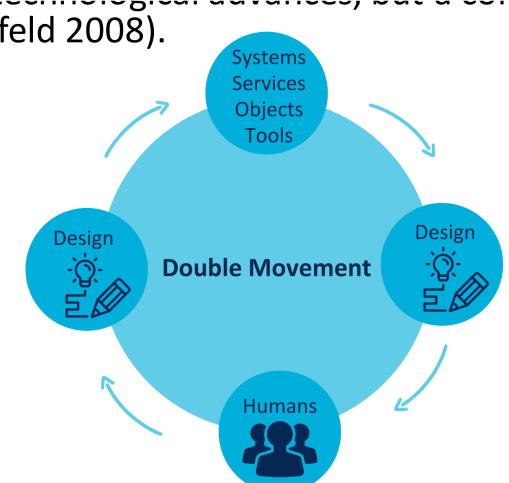


Figure 3: Double Movement of Ontological Design Adapted from Escobar, 2011

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Fry, Tony. 2010. Design as Politics. Berg. Kirchherr, Julian, Denise Reike, and Marko Hekkert. 2017. "Conceptualizing the Circular Economy: An Analysis of 114 Definitions." Resources, Conservation and Recycling Meadows, Donella. 2008. Thinking in Systems: International Bestseller. Chelsea Green Publishing.

Methods

Speculative Design Workshops

Speculative design is a tool within CDT used to challenge dominating discourse through a shared practice of world building and story telling. This allows us to envision different futures, not constrained by reality, to leverage creative and disruptive problem solving.

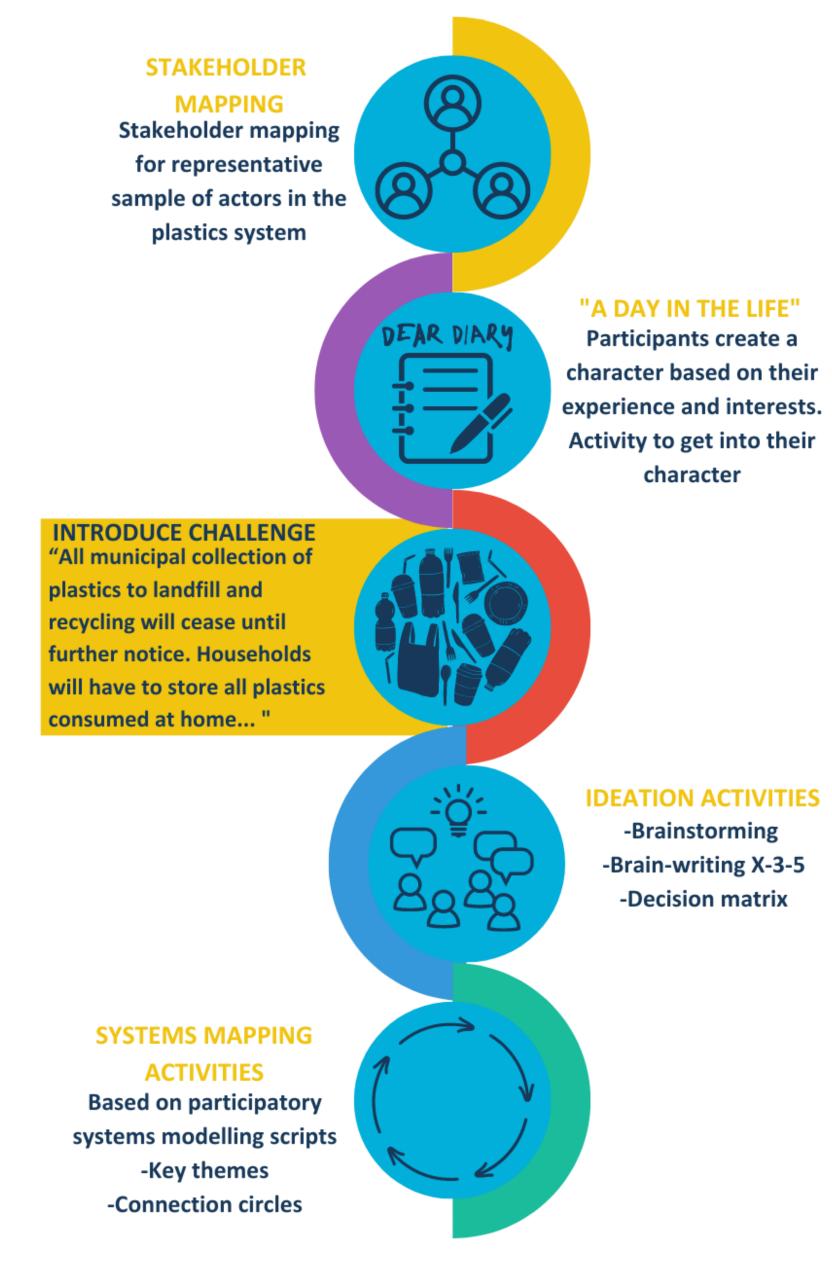
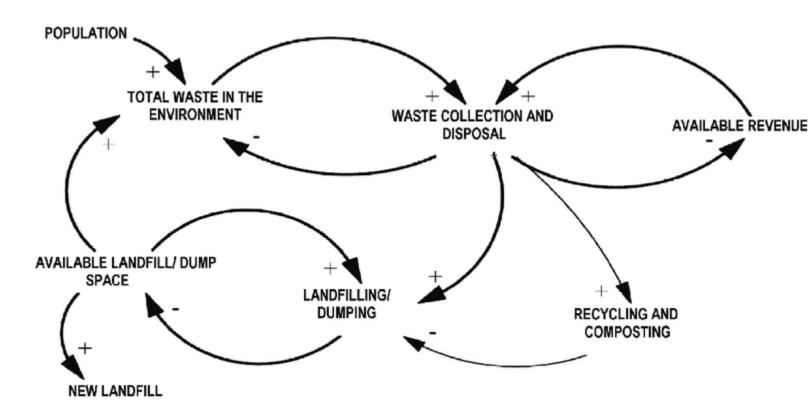


Figure 4: Speculative Design workshop activities roadmap

Expected Results

- 1. Innovative ideas to tackle the plastics waste crisis to inform future research supporting the CPE.
- 2. Observations of participant's behaviours and attitudes towards the plastics waste crisis that contributes to the cultural sustainability movement.
- 3. A conceptual systems map (causal loop diagram) of the plastics system in Queensland that can help identify leverage points in the plastics system for policy intervention



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Figure 5: Example of a Causal Loop Diagram for waste management systems Schiopu & Gavrilescu, 2010

INTERESTED IN PARTICIPATING IN WORKSHOP? Please use QR code to message me on

