



Dual Track Governance for (sustainable) plastics recycling



Laura Nieboer and René Kemp

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Prof. Dr. René Kemp

Prof of Innovation for Sustainable Development at Maastricht University and professorial fellow at UNU-MERIT



Laura Nieboer

Founder and owner at Innowastion, Future Flavors (Harvest Hub) & Toppler; Chemelot Circular Campus



Despite the EPR system being created for recycling

- In the Netherlands, **only about 7% of plastic packaging is reused as material for new packaging**, according to the Rijksinstituut voor Volksgezondheid en Milieu.
- **About 50% is burned and the remainder is predominantly down-cycled**
- **Attempts to achieve higher percentages proved “policy resistant”.**

The situation in Europe

- In 2024, about **41% of plastic packaging waste was recycled** in the European Union (EU) , which is 9% below the target of 50% for 2025.
- In Europe, a substantial share of plastics collected for recycling is either incinerated, landfilled, exported or littered.
- After years of steady growth, **plastic recycling is currently experiencing a crisis in Europe because of low prices of virgin plastics** inducing price-sensitive recyclate users to shift to virgin plastics.
- **In the Netherlands, during 2024 and the first half of 2025 seven plastic recyclers went bankrupt.** According to Plastic Recycling Europe, preliminary 2025 figures indicating a roughly 50% increase in closures, leading to almost 1 million tonnes of recycling capacity lost over three years

The example of Heliac in Maastricht

- It took about a year and a half for Alberts and his team to address the factory's teething problems. In 2023, the factory was operating at full capacity. But while everything was running smoothly inside, the world outside was changing rapidly.
- After the Russian invasion of Ukraine, energy prices skyrocketed. And with the high inflation came higher labor costs. **Plastic recycling became much more expensive.**
- At the same time, **new plastic became cheaper.** "Russia had to finance its war and sold its oil to India and China," says Alberts. *"They turned that oil into plastic pellets. These pellets came to Europe. Meanwhile, the US ramped up the production of plastic from cheap shale gas. Our entire market was flooded."*
- The price of new plastic dropped. "From €2.20 per kilo to €0.90. We were around €1.50. **The long line of customers who wanted to go circular with us suddenly—mostly—vanished.** They said: we're willing, but this way we're structurally more expensive than our competitors."



Marcel Alberts

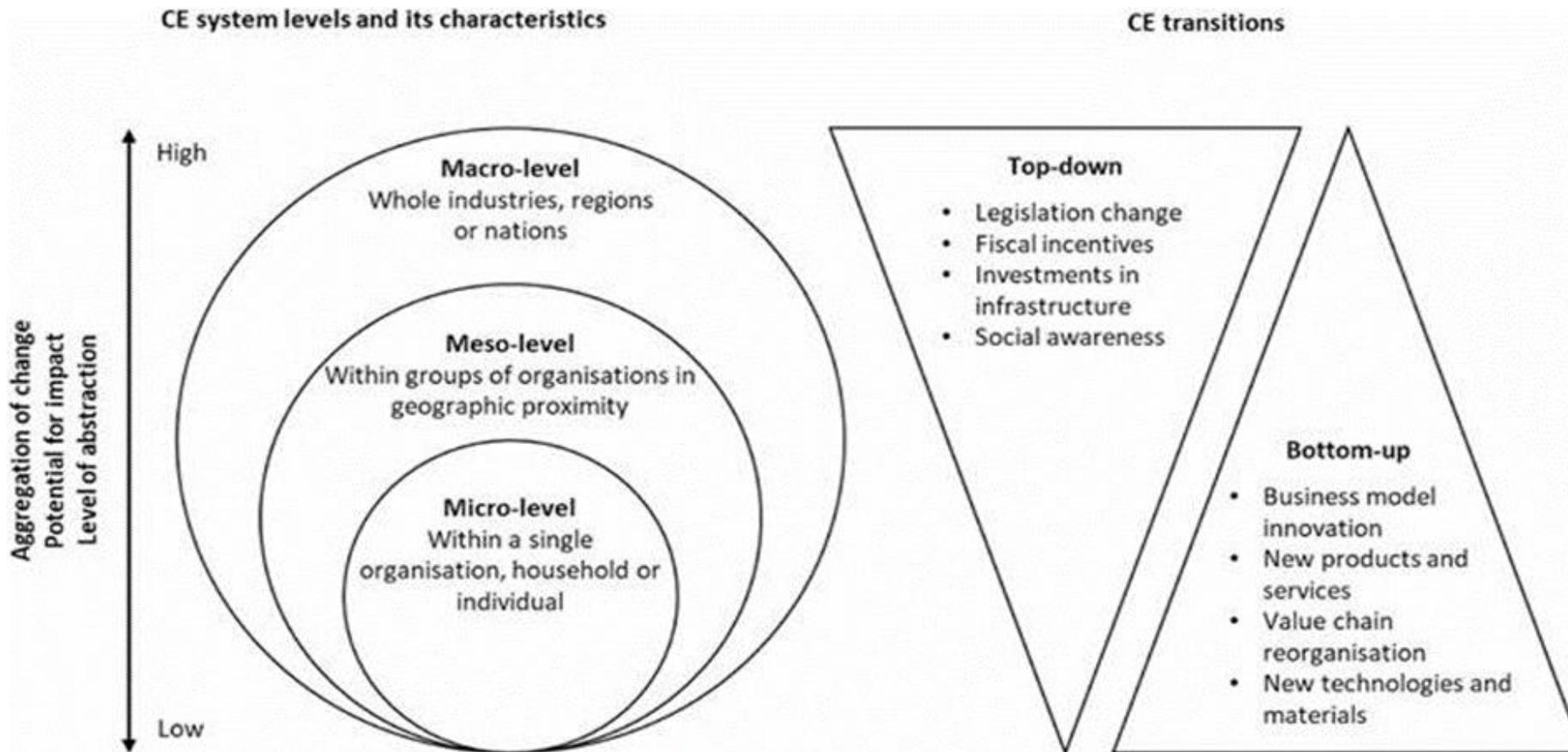
Source: <https://www.nrc.nl/nieuws/2025/09/25/waren-we-naief-vraagt-de-zoveelste-recycler-zich-af-die-moet-vertrekken-a4907332>

Our approach

- To investigate the **playing field of plastic recycling** production and use, with special attention to *what is keeping back progress*.
- This insights are used to formulate **recommendations** for governance, instrument choices and the use of a transition approach with an important role for ***coherent policy packages & coordinated actions by value chain actors***

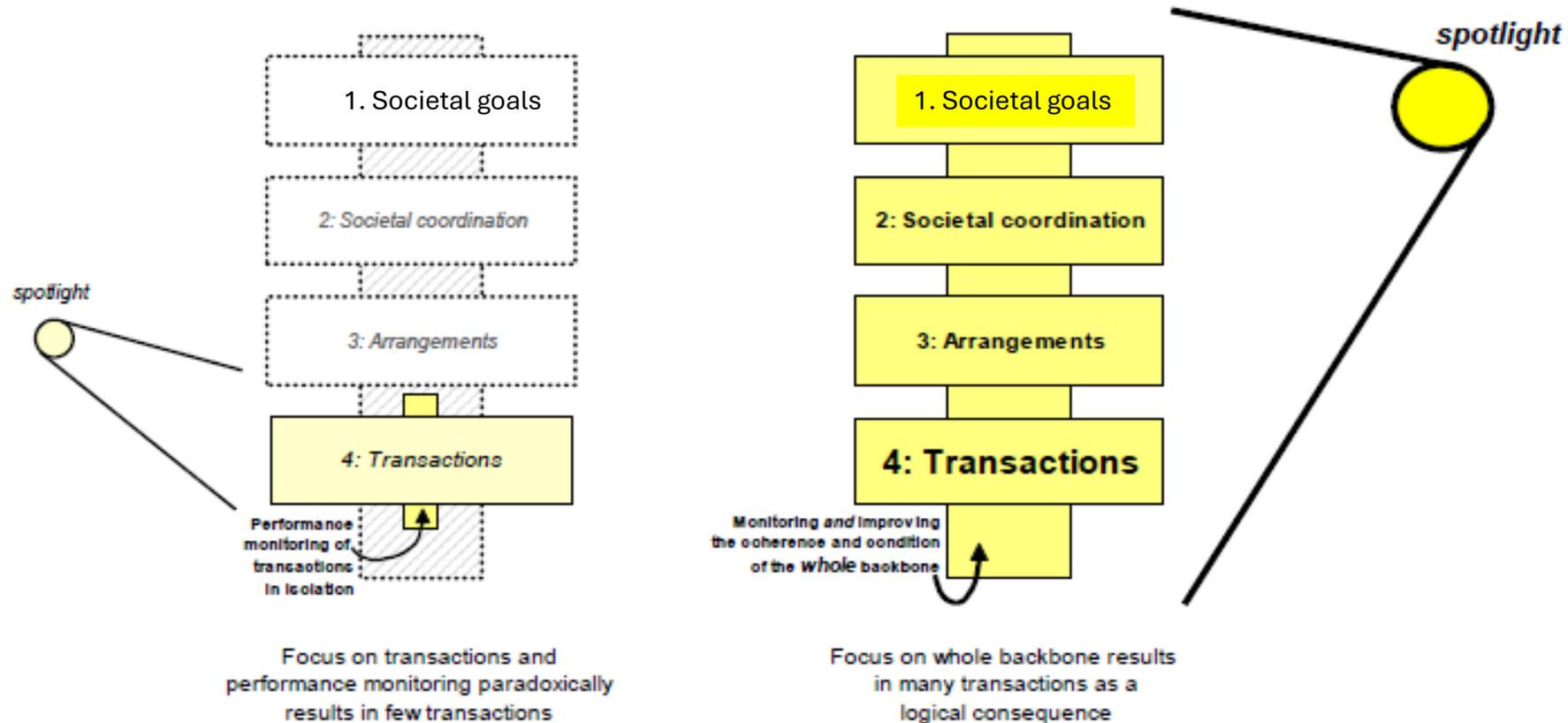


Ensuring that “top-down” and “bottom-up” developments work *in tandem* is the goal of DTG



Source: Guzzo et al. 2022)

Our proposition: circular transactions require changes at higher layers of the backbone

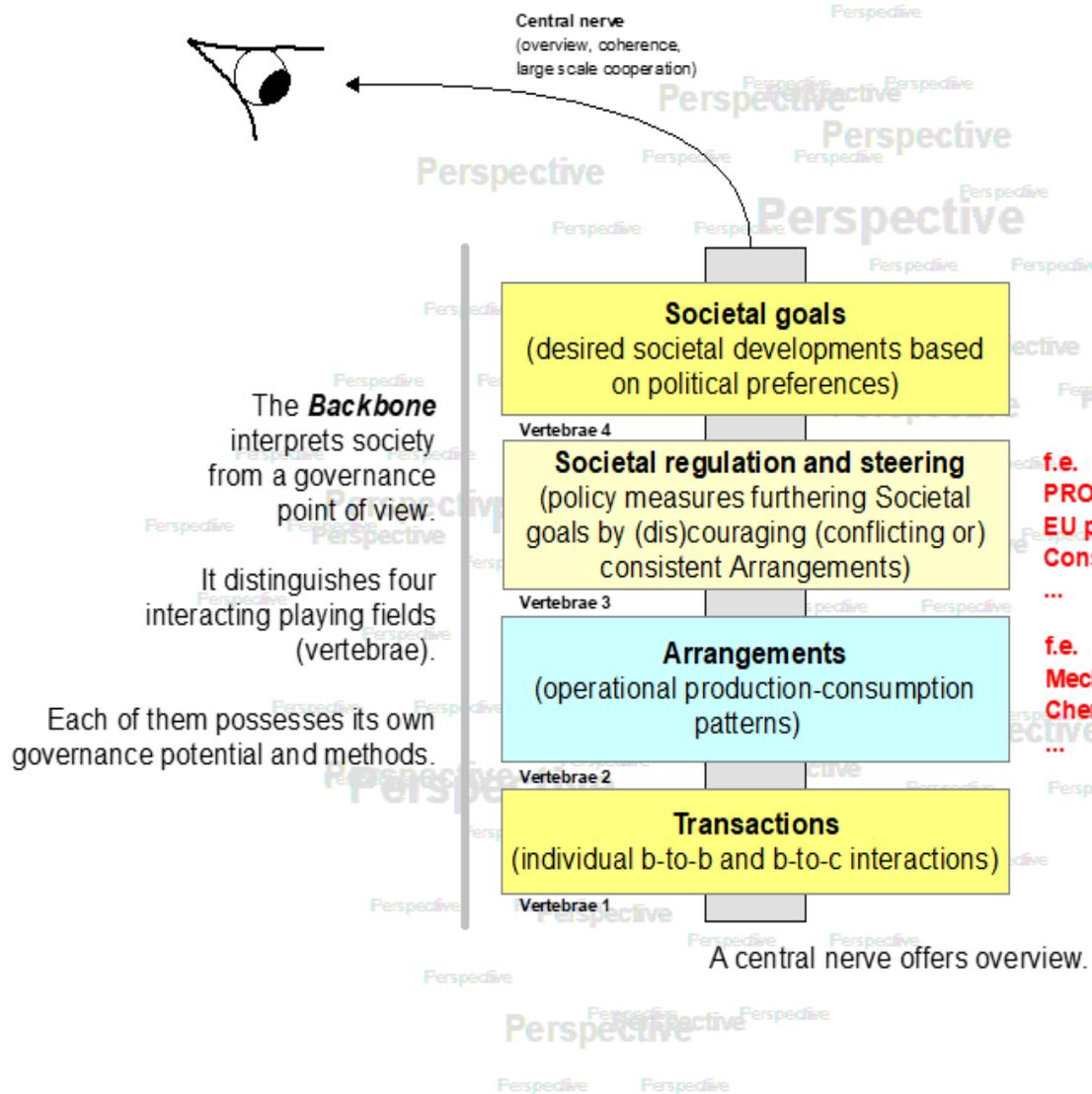


Dual track governance

- Dual track governance (DTG) for plastics recycling is a governance approach that combines **state-led policy targets and instruments** with **coordinated actions** by business actors and other non-state stakeholders to align private business cases with societal goals related to circularity and sustainability.
- DTG recognizes that sustainability transitions require coordinated action but acknowledges that **governance is carried out by embedded actors** with differing interests, resources, degrees of power, and perspectives on appropriate policy interventions.
- DTG seeks to **make steering actions** (by multiple actors) **more coherent**

Are the 4 layers for (net zero) plastics recycling well-aligned? **NO!**

Structural causes



Sector agreements to use less plastic and recycle more, **without economic incentives and obligations to go beyond minimum standards**

Households are nudged to hand in waste separately. **Payments for municipalities and recyclers are insufficient**

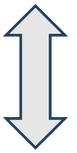
Recyclers go bankrupt, collected plastics are incinerated

f.e. PRO org, Brand Owner fees, Municipalities

EU policies
Consumer nudging

f.e. Mechanical Recycling
Chemical Recycling

No great social urgency

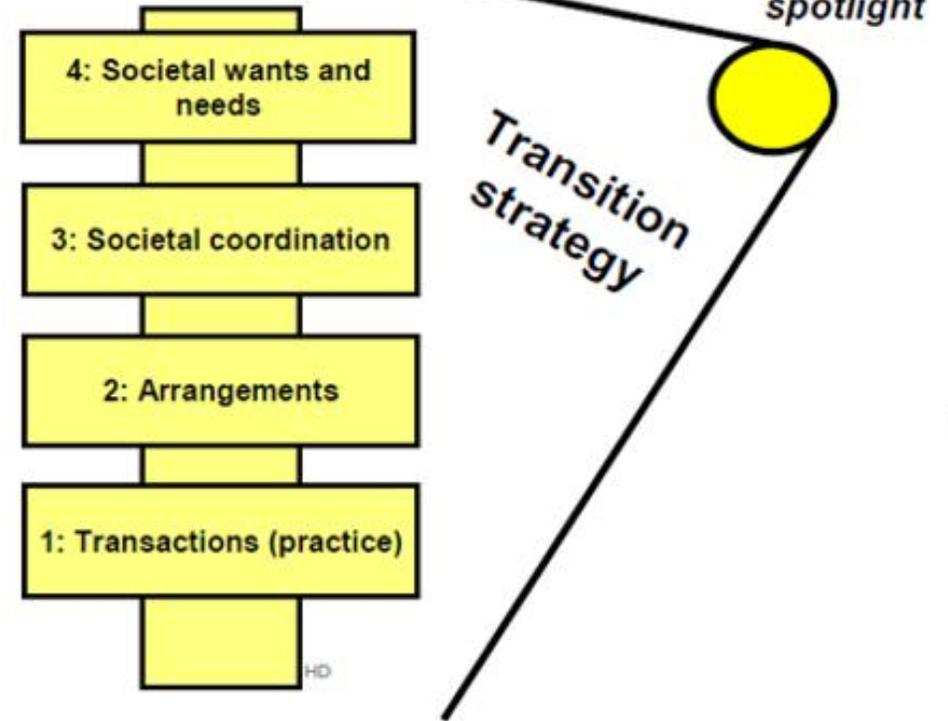
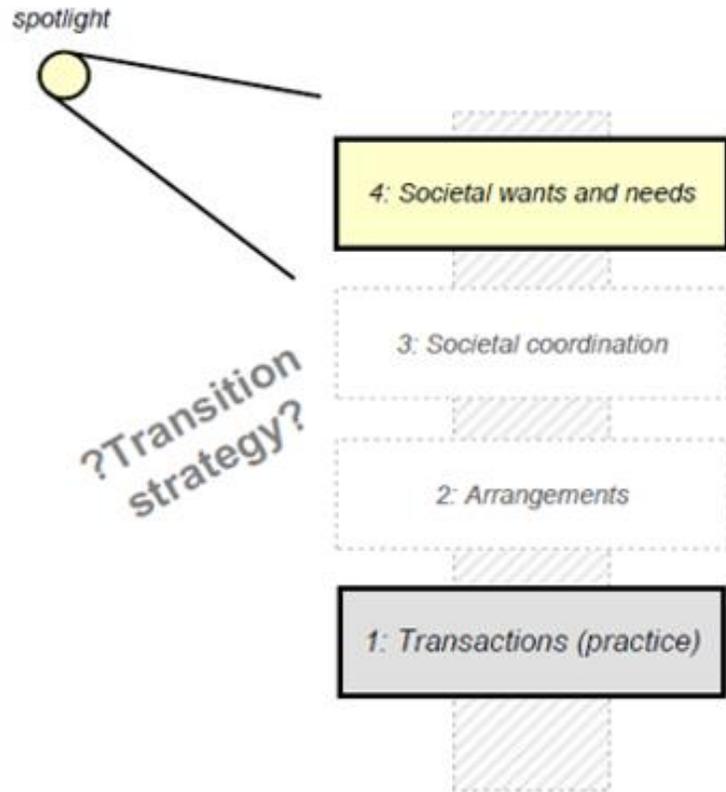


PROs have a dominant position in the system



No attractive deals for recyclers, packers and citizens

The problem resides in the middle



Four packages of DTG

Policy package one: a circular plastics norm for *brand owners* with a **trading system in plastic recyclate credits** and information requirements for brand owners on recyclate use in packaging of FMCG

This system will give a positive incentive for doing more than what is legally required and flexibility for those who can't meet the standards

The system is transparent as to recyclate use (which the present system is not)

Policy package three: a **protectionist policy** by the EU for the plastic industry and chemical recycling

To keep plastic production in Europe the EU engages in a protectionist policy for green plastics (low-carbon and high percentage of circularity). The greenness is used as a 'shield' for keeping out foreign competitors

(Policy) Package two: Coordinated business actions for a SCPE with the help of innovation policy and voluntary standards

In this package, front runners engage in coordinated action for innovation and market development.

In those efforts they are helped by innovation policy and special funds



Policy package four: Eco-modulation of EPR fees

Packaging that is easily recyclable and contains high levels of recycled material qualifies for lower fees, while packaging that is difficult to recycle and contains little or no recycled content is subject to higher fees. Various combinations of discounts and penalties are possible. An alternative name is tariff differentiation in the EPR system

A transition strategy for (sustainable) plastics recycling

- Has a goal and narrative that is politically accepted and accepted by the public and government layers
- **Is attentive to the need for business to make money** (which requires tilting the playing field / an enabling environment)
- Is oriented at altering production-consumptions systems, as something that requires a lot of coordinated action (by business and platforms for this)
- **Involves push and pull policies but also a transition agenda, the creation of institutional responsibilities** for achieving a transition and the creation of knowledge about interventions points and governance
- Is oriented at **fostering dynamics** through a Theory of Change
- **Is concerned with its own functioning**, through evaluation and a diagnostic system (about barriers and complex dynamics)

Advantages of Dual Track Governance

- **It is informed by knowledge about barriers and opportunities**
- **It creates a collective/concerted action frame for individual actors**, based on individual improvement perspectives (frames) and societal wants
- Issues of (meta-)governance (the “steering of steering”) are being foregrounded
- It is concerned with the **politics & knowledge aspects** of transition processes
- It accepts that in transitions, **position-practices and commitments change endogenously** (through collective action and changing circumstances).

Literature on (Dual Track) Governance

Bos, A.P.; Grin, J. (2012). Reflexive interactive design as an instrument for dual track governance. In M. Barbier and B. Elzen (eds.) *System Innovations, Knowledge Regimes, and Design Practices towards Sustainable Agriculture*, INRA: Paris, France, pp. 132–153.

Diepenmaat, H. (2018), *The path of humanity: societal innovation for the world of tomorrow*, Parthenon Publishing House, Almere, The Netherlands.

Diepenmaat, H., Kemp, R., Velter, M. (2020), **Why sustainable development requires societal innovation and cannot be achieved without this**, *Sustainability* (special issue "Sustainable Innovation and Transformation"). 12(3), 1270 <https://doi.org/10.3390/su12031270>

Diepenmaat, H., Kemp, R., Nieboer, L. (2025). D1.3 Case Report Multi-Actor Governance Model: Application 2.0 -, Report for SYCHEMIQ project, March 2025. **Dual Track Governance: Understanding and steering the societal playing field towards a sustainable circular plastics economy.**

Kemp, R., Diepenmaat, H., Nieboer, L., Wynarski, J. (2025). D8.10 JOINT CCRI deliverable - SYSCHEMIQ Policy briefs and guidelines on the circular systemic solutions adopted – Update.

Kemp, R., Diepenmaat, H., Nieboer, (2026). **Dual Track Governance for plastic packaging recycling in The Netherlands**, submitted to *Journal of Circular Economy*

Torring, J., Peters, B. G., Pierre, J., Sørensen, E., (2012). *Interactive governance: Advancing the paradigm*. Oxford University Press.

van Assche, K., Beunen, R., Duineveld, M. (2014) **Evolutionary Governance Theory: An Introduction**, Springer. (Free access)

van Assche, K., Beunen, R., Greuzmacher, M. (2024) *Strategy for Sustainability Transitions. Governance, Community and Environment*, Edward Elgar.

“There is a method in the madness” - Shakespeare

Remember this slide

Collective action can be conceptualized in different ways

- A **coordination problem** of knowledge about the efficacy of policy actions
- A **political problem** of dealing with the influence of coalitions resisting policy change
- A transition frame helps to take short-term action for long-term change
- Steering is needed to change stakes and alter interdependencies.
- Sticks, carrots and sermons are instruments of steering, which are **co-shaped by choices about direction, responsibilities and re-organising governance.**