

Circular economy by task-democracy

Exploratory questions as a startup tool for transformative action and transdisciplinary research

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Abstract

This paper presents a tool for visionary initiators of task-democratic circular economy collaboration. It intends to help in gathering initial data and guides through first steps. Circular economy is of critical importance to the preservation of our biosphere, our natural resources and our civilisation, but progress is way off track and a radical acceleration is needed. In previous work we presented the task-democracy model as a pathway to such acceleration. The model outlines societal coordination between complementary task groups, integration in public administration, and establishment of task-democratic coordination platforms on any level. We summarise the model, its relevance in current local, national and global contexts, and practical barriers to experiments and implementations. Next, we focus on the first mover: the influential visionary person who wants to initiate CE-collaboration for a given product group in a given geographical domain, using the task democracy model. Getting started has appeared to be complex and the model implementation method has so far offered only limited guidance. We therefore set out to develop a better tool. It takes the shape of a generic questionnaire template, designed for use in person-to-person dialogue and for reproducibility and proliferation. The questions focus on area, product and actor identification, transition urgencies and options, benefits and risks of task division, and task group responses. The set may be used by SBM-researchers and by platform initiators. During 2026 we invite opinion leaders of five transition task groups (science, citizens, government, businesses, non-profits) on multiple territorial scales to reflect on this.

Keywords

Circular economy, task democracy, product councils, transition projects, societal coordination

Main text

Introduction

Reports on climate change and sustainability progress are increasingly pessimistic (United Nations General Assembly Economic and Social Council, 2023; UK Government Department for Environment, Food & Rural Affairs, 2026). If mankind is to preserve the biosphere, its natural resources and its civilisation, circular economy (CE) is of critical importance. CE progress, however, is minimal or even negative (Hanemaaijer, Muller, De Krom, *et al.*, 2025).

From their extensive literature review, Ghisellini *et al.* conclude that the transition towards CE requires the involvement of all actors of society and their capacity to link and create suitable collaboration and exchange patterns (Ghisellini, Cialani & Ulgiati, 2016). In previous work we have argued that such involvement may be possible through value based societal coordination of transitions, using a model we indicate as ‘task-democracy’ (Faber, Bootsma & Pennink, 2022). In the theory section of this paper we provide a brief review and discuss its relevance for CE and its application in coordination platform such as product councils. In subsequent papers we have elaborated on the ‘bootstrapping’ process of developing a product council for CE-transitions (Faber, Pennink, Bootsma, *et al.*, 2023), and the importance of visualisation (Bootsma, Pennink & Faber, 2024). In this paper we focus on the first mover: the influential visionary person who wants to initiate CE-collaboration for a given product group in a given geographical domain, for instance a municipality, the global market, or anything in between.

Our visionary person has to overcome multiple challenges. One is that many or even most product chains are branched out across the world, which makes it sheer impossible to gather all stakeholders for a joint project. This also implies that local or regional initiatives have limited reach and influence. Nevertheless, small wins may proliferate, which justifies bottom-up efforts. Another challenge is scaling up from pilot projects to an area wide transition project resulting in lasting system change. Popular wisdom has it that ‘pilots never fail and never scale’. Yet another hurdle is finding out where and how to begin. Even when a product council is envisioned as an effective transition platform, vested interests, market pressure, consumerism, political competition and insufficient data, render the first steps crucial and far from trivial.

The objective of this paper is to present a tool for visionary initiators of CE-collaboration that helps them to gather initial data and guides them through their first steps.

We start with a theory section about the task democracy model for societal coordination of transitions. We discuss its relevance in CE contexts and implementation barriers we observed. Given this model, its field behaviour and the above outlined startup challenges, we design a stepwise approach. We present this in the shape of a questionnaire template, to facilitate transdisciplinary field experiments on various geographical scales. By the time of writing of this paper multiple experiments are in preparation. Finally we look ahead to the evaluation of such experiments.

Theory

The task-democracy model

Task-democracy is a scalable model for coordination between groups in society that are able to fulfil transition tasks (Bootsma, 2024). The model builds on the assumption that collective efforts are easier to negotiate between mutually dependent sub-groups, as in round tables, than between competing sub-groups, like political parties in liberal democratic parliaments. Furthermore, the model assumes full representation of society, to create conditions for social tipping points (Hauser, Rand, Peysakhovich, *et al.*, 2014).

Task-democracy consists of a structure model, a process model and an implementation model. The structure model assumes five societal task groups that are expected to be relevant in all sustainability transitions, on any level from local to global, see Table 1.

Task group	Representation	Generic transition tasks
Science	Networks of academic disciplines or knowledge fields	Measure capitals and trends, explain history, predict future, identify development pathways, fundamental and applied research
Citizens	Grouped on a non-ideological dimension, e.g. area or age	Adjust lifestyle, create communities, raise children with sustainability values, vote
Government	Public administrators of government institutes	Encourage sustainability, tax or forbid unsustainability, foster innovation, ensure level playing fields, be launching customer

Businesses	Associations of self-employed, SME, multinationals, industry branches, business parks	Invest and innovate for sustainability impact, initiate supply chain action
Non-profits	Networks of health care, education, housing, sports, culture, NGO's, life view	Inspire people, qualify students, build and connect communities, inclusion

TABLE 1: TASK-DEMOCRACY STRUCTURE MODEL

Based on this structure model a round table transition coordination platform is designed. In such platforms, the five task groups receive equal positions and collaborate under rotating leadership.

The primary process of task-democratic platforms is coordinating voluntary efforts from five task groups to form joint society wide transition projects. The process model details this in its main cycle:

- prioritising sustainability issues;
- Initiating and monitoring society wide transition projects for top priorities;
- Measuring sustainability trends and project impacts,

and in its additional activities:

- Initialising and facilitating territorial product councils for CE.
- Proliferating to surrounding, neighbouring and enclosed territories.
- Anchoring its societal position and developing inner rulings.

The implementation model is a 'bootstrapping' procedure, starting from the perspective of a single influential visionary within a single task group. The procedure suggests to first find likeminded influentials in the other task groups, then work towards a transition project experiment, and finally institutionalise.

Gradually, a toolkit for the task-democracy model has been developed, currently containing a task group mapping tool, a CE visualisation tool, an online task-democratic voting system, a transition project design canvas, a product council manifesto template, and more.

Task-democratic platforms may be implemented as transitions chambers for territorial sustainability transition management, and as product councils for CE. In all cases, these platforms may be seen as part of the political system, representing all of society to address societal issues.

Model relevance

The task-democracy model may be considered relevant for CE efforts, as it presents a pathway for upscaling from innovation pilots, business alliances and business ecosystems,

to society wide transitions. Bringing all supply chain stakeholders together in task-democratic round tables inspires research agenda's and sets a stage for mobilising the demand side of markets for mass adoption of innovations, for negotiating regulations and level playing fields, for development of new market wide standards and for triggering knowledge dissemination through the educational system. This perspective creates a two-way potential benefit for circular businesses. At first, new business models may attract more investments when a pathway to upscaling beyond pilot projects is in place. And second, task-democratic product councils may decide to actively create conditions for new business models, triggering experiments, innovations and start-ups. In addition, task-democratic platforms may provide societal context and support for CE efforts. This would mitigate a deficit: current CE policies focus on technical solutions and business innovations which do not address the manyfold social and political implications of a circular future (Friant, 2022, p.241). Including more of these aspects contributes to an integrative approach, which adds complexity but in the end may accelerate transitions. Yet another benefit for CE of above-market transition platforms is that it will bring business branch representatives to the table, rather than competitors, which would be problematic given competition law and conflicts of interests (Politeknika & Dam, 2024). While CE transitions may be achieved through liberal democratic government or sectoral societal agreements, dedicated, we expect that equality based and scalable coordination platforms will be more efficient and more effective, by reducing delaying effects of political competition and by systematically involving all stakeholders.

Implementation barriers

Since 2020, simulation of task-democratic product councils for CE in various workshops, suggests that equality of non-competing societal task groups contributes to enthusiasm and synergetic outcomes. These results resemble similar findings in collaboration experiments, where massive increase in individual motivation have been observed in contexts of society wide participation (Hauser, Rand, Peysakhovich, *et al.*, 2014). Initiatives to organise real life experiments with task-democratic round tables, however, have had limited success so far. Several barriers have been encountered, of which some are inherent to the concept:

- The concept is under development, relatively unknown, and differs significantly from traditional liberal democratic organisation of political processes, and also from innovation models such as triple helix and its variants. The model may thus be perceived as risky, theoretical or utopian.
- The concept gives minority positions of only 20% to each of the five task groups. This may conflict with self-images, perceptions of other task groups, interests or power dynamics.
- Implementation requires, by design, a joint effort of five task groups, rather than a single initiator. This easily creates a deadlock in which the groups wait for each other to take first steps.

- The bootstrapping procedure covers initial projects but offers limited guidance in the very first steps of implementation, leaving possible initiator questions unanswered. In this paper we focus on this issue.

Two more barriers are related to perceptions of the model:

- The concept is sometimes perceived as an extra layer of societal organisation, rather than an upgrade of current upscaling or transition efforts. This may be perceived as complicating, bureaucratic or costly. While task democracy indeed is about new coordination bodies, we argue it may boost synergy, increase public support and prevent suboptimisation, and thus add to overall effectiveness and efficiency of sustainability transition efforts.
- The concept has in one case been perceived as corporatism and in conflict with pluralism and liberal democracy. We consider this a misnomer. The task democracy model is intended to integrate in public government and to improve the polycrisis handling capacity of societies.

Tool design method

The objective of this paper, as stated above, is to present a tool for visionary initiators of CE-collaboration that helps them to gather initial data and guides them through their first steps. The typical use case of this tool is the dialogue between the initiator and task group representatives, e.g. chairpersons of task group networks or institutes, or influential task group members.

To design the tool, we start from a definition of transdisciplinary methods. Considering the multi-stakeholder nature of the model and its practical implementation challenges, the intended tool may be seen as a transdisciplinary instrument, to be used for both research and interventions for impact. Transdisciplinary methods are increasingly seen as a promising approach to address complex societal challenges (Lüdeke-Freund, Rauter, Nielsen, *et al.*, 2021). Fischer *et al.* describe transdisciplinary methods as structured, reproducible tools that integrate diverse ways of thinking, mitigate power imbalances, and develop problem-oriented solution strategies (Fischer, Gugerell, Laa, *et al.*, 2025). Possible methods include in-depth stakeholder interviews, serious games, citizen knowledge projects, transdisciplinary transition design, etc.

Our first design choice is to create a structured set of questions, rather than e.g. a recipe or protocol. This way, the tool can be more generic and open to diverse ways of thinking, and thus compact and reproducible.

Next, we want the tool to be relevant for CE coordination platforms on all scales from local to global. To achieve this without compromising the generic nature of the tool, we stick to a single set of questions and add distinct hints for three levels: local, national and global. This way, the set becomes a questionnaire template. We expect this to contribute to

reproduction across levels and to multi-scale experiments, which may accelerate proliferation (Faber, Bootsma & Pennink, 2022).

The questions themselves are based on the task-democracy model, which at its core is about task group equality and transition task division, and thus about mitigating power imbalances and sustainability solution strategies.

The questionnaire template, presented in the next section, is structured in four parts:

- *Identification.* Part A is about identification of a territory and a specific product family and supply chain within that territory. These choices may influence the selection of persons to interview. Territorial factors such as natural resources, agglomeration, knowledge infrastructure and culture may enable circular economy transformations (Tapia, Bianchi, Pallaske, *et al.*, 2021). However, in order to keep the questionnaire generic and workable, an investigation of such factors is not included here and postponed until specific transitions are to be considered by the round table, outside the scope of the questionnaire. On the other hand, as CE transitions ultimately involve all of society, the identification questions extend into task group mapping.
- *Transitions.* Part B contains questions about sustainability issues and possible collective actions. This presents the initiator with an opportunity to detect issues that are both urgent and actionable. Considering issues and actions from a broad societal viewpoint may also unveil optimistic assumptions regarding CE and decoupling, that may ultimately contribute to continued growth beyond planetary boundaries (Dzhengiz, 2023).
- *Benefits and barriers.* Part C is about expected benefits and barriers related to transition coordination platforms. This part is intended to promote above-market thinking, in terms of society, politics, power, negotiations and task division, rather than case-level thinking and limiting the scope to technology, logistics, economics, business models, innovation policies and alliances. An extra question is included about interventions to mitigate barriers and risks. A possible future extension of part C is adding weight factors to benefits and barriers.
- *Task group response.* Part D is to probe interest in next steps towards an experiment. Here, the initiator is challenged to step into the shoes of all task groups, and to think strategically.

Following common design research practices, we set the following evaluation criteria, to be tested for the local, national and global level separately:

- Attitude up front: initiators of task-democratic product councils consider a startup questionnaire a welcome instrument;
- First impression: initiators consider the topics and the questions relevant;
- First use experience: initiators are able to answer the questions in reasonable time;
- Direct result: initiators indicate that answering the questions helps them in preparing next steps;
- Impact: in next steps, the intended goals are achieved.

Result: a CE Round Table Start-up Questionnaire template

Usage: first copy the table, remove non-applicable scale columns and add a wide column for answers. Next, in dialogue with task group representatives, fill in direct available answers and leave others for later.

<i>Questions</i>	<i>Local examples</i>	<i>National examples</i>	<i>Global examples</i>
A: Identification			
What is the territorial scope of this initiative?	Town, city, municipality	Province, region, national state	Continent, treaty organisation, UN
What product family is in need of sustainable transition within this territory?	Food, clothing, furniture, consumer electronics, household chemistry, bicycles.	Building materials, agriculture equipment, plastics, cosmetics, electronics, cars, public transport systems.	Power plants, wind turbines, airplanes, ships, oil, metals, bulk chemistry, medicines, textile, social media, AI, satellites, weapons.
What are key characteristics of this product family and supply line within this territory?	Local chain sections, local market volume	All chain sections apart from import and export, national market volume	All chain sections, global market volume
- To what extent are product family related task groups organised? - Which institutions and networks represent these task groups? - Who are sustainability opinion leaders in these task groups?	- Science: local expert groups - Citizens: local initiatives - Government: municipality - Businesses: local networks - Non-profits: local collective of educational institutes	- Science: national scientific council - Citizens: national consumers association; demand side business network - Government: ministries, agencies - Businesses: branch organisations - Nonprofits: national education council	- Science: intergovernmental scientific panel on this product family - Citizens: global citizens movements - Government: UN General Assembly - Businesses: global business branch network - Non-profits: UNESCO
B: Transitions			
If a task-democratic product council would exist, what categories of product or supply line	Biodiversity loss, GHG emissions, food waste, pollution,	Ditto plus insufficiencies in research data, consumer information,	Ditto plus resource depletion, labour conditions, chain transparency

sustainability issues would they prioritise?	brain drain, repair shop viability	regulation, level playing field, innovation support, education	
Given such issues, what might be elements of society wide transition projects?	Development of regional supply chains, local business ecosystems ('valleys'), education, repair facilities, waste collection	Development of databases, product information, legislation, price policies, subsidies, compensations, curricula,	Development of international treaties, trade agreements, legislation, standardisation, certification, targets and sanctions
C: Benefits and barriers			
What benefits do opinion leaders in these task groups expect from round table collaboration between task groups for CE transitions?	Increased mutual understanding, increased local transformation capability	Increased mutual understanding, increased national transformation capability	Increased mutual understanding, increased global transformation capability
What implementation barriers do opinion leaders in these task groups expect regarding round table collaboration between task groups for CE transitions?	Unknown concept Minority positions Waiting for others Extra layer Corporatism	Unknown concept Minority positions Waiting for others Extra layer Corporatism	Unknown concept Minority positions Waiting for others Extra layer Corporatism
What collective measures may mitigate those barriers?	Lecture, scientific advice, workshop, think tank, pilot project	Scientific review, facilitated subnational experiments, developers community	Global research agenda, national experiments, developers community
D: Task group response			
How would task group opinion leaders respond to an invitation to collectively explore round table collaboration between task groups for CE transitions, on a scale from surely	Expert groups Village councils Municipality Business networks Non-profits	Scientific CE council Province parliaments National government National entrepreneurial networks	Global scientific CE council National parliaments UN General Assembly Global business association

reject to surely accept? How do they estimate the response from the other task groups?		National non-profit councils	Global non-profit councils
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TABLE 2: CE ROUND TABLE START-UP QUESTIONNAIRE TEMPLATE FOR TASK-DEMOCRATIC CE EXPERIMENTS

Discussion

The CE Round Table Startup Questionnaire Template is presented here in an initial edition. During 2026 a series of test interviews will be conducted with task group representatives and potential platform initiators on various territorial levels. In these interviews, the questionnaire template will be used, as well as the evaluation criteria. Focus will be on product councils for biobased building materials and on food councils. In addition, simulations will be carried out in task democracy workshops. The questionnaire template will be available for download at the Noorden Duurzaam website. Users of the template are encouraged to provide feedback.

As for the content, we expect that identification of a product family and supply line will be non-trivial, as product parts and materials may be sourced from all over the world. Post-consumer destinations may be difficult to trace as well. The suggested limitation of scope to supply chain sections within the chosen territory may make identification manageable and may help preparing interviews in surrounding territories, where more and eventually all sections come into scope. From the questions about issues and transitions we expect to find some convergence between task groups, for instance a recognition that collective action and a level playing field may be beneficial to all. Regarding benefits and barriers we expect anything from scepticism to enthusiasm. Reflecting on risk mitigation options may nudge some respondents to collaboration. From the questions about invitation response we expect to see that respondents show some willingness while being less optimistic about others, which is not uncommon. The proof of the pudding is if presenting interview results back to the respondents triggers enough collective energy for a next step In acceleration CE transitions.

Conclusions

Circular economy is a major and global urgency, requiring acceleration and new forms of collaboration, on all scales from local to global. Round table collaboration between transition task groups, as in the task-democracy model, presents one pathway to activate all stakeholders for CE transitions. It is a departure from splitting society up in government, limited actor alliances and passive target groups. However, the model is deviant from traditional innovation models and stretches into the political domain, which explains various observed implementation barriers. In this paper we present a transdisciplinary

method to get experiments started, shaped as a CE Round table Startup Questionnaire Template with local, national and global outcome examples. This tool is intended for use by experiment initiators in their initial contacts with task group representatives. By the time of writing of this paper the questionnaire is yet untested. We plan to conduct tests on various levels, welcome any feedback and application reports, and will include lessons learned in next editions of the questionnaire.

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