

# The ‘glass ceiling’ of Germany’s socio-ecological transformation: Citizen, expert, and local stakeholder perspectives on responsibility for change

Halliki Kreinin · Pia Mamut · Doris Fuchs

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**Abstract** The IPCC (2022) underscores the urgent need to transform economic and social systems to stay within the  $\sim 1.5^{\circ}\text{C}$  warming threshold, with the pressure placed on states to lead the processes of transformation. Germany’s market economy is currently neither socially nor ecologically sustainable, requiring a socio-ecological transformation towards sustainable consumption and production systems. As the imperatives of the modern democratic welfare state require high levels of material welfare, economic growth and legitimation through (over)consumption, there is currently a “glass ceiling” to any such transformation. Through a combination of empirical research methods, including 11 expert interviews, a gamified citizen workshop with 22 citizens, and a local stakeholder workshop with 27 stakeholders, this paper explores the readiness and perspectives of German citizens, experts, and local stakeholders for a socio-ecological transformation. The findings highlight the contradictory role given to the state in the transformation, the difficulties of transforming “imperial modes of living”, and the collective evasion of responsibility, which suggests a “glass ceiling” to transforming the German market economy into a genuinely social and ecological model.

**Keywords** Socio-ecological transformation · Sustainable consumption · Collective evasion of responsibility · Imperial modes of living · Sustainability · Social ecological market economy

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✉ Halliki Kreinin · Pia Mamut · Doris Fuchs  
Research Institute for Sustainability (RIFS) Helmholtz Centre Potsdam, Potsdam, Germany  
E-Mail: [halliki.kreinin@rifs-potsdam.de](mailto:halliki.kreinin@rifs-potsdam.de)

Chair for Sustainable Development, University of Münster, Münster, Germany

# Die „gläserne Decke“ der sozial-ökologischen Transformation in Deutschland: Perspektiven von Bürger:innen, Expert:innen und lokalen Akteur:innen zur Verantwortung auf den Wandel

**Zusammenfassung** Der Weltklimarat IPCC (2022) betont die dringende Notwendigkeit der Transformation der Wirtschafts- und Sozialsysteme, um die Schwelle einer Erwärmung von 1,5°C nicht zu überschreiten und mahnt Staaten, Transformationsprozesse in Gang zu bringen. Das System der deutschen Marktwirtschaft ist derzeit weder sozial noch ökologisch nachhaltig und erfordert daher eine sozial-ökologische Transformation hin zu nachhaltigen Konsum- und Produktionssystemen. Da die Imperative des modernen demokratischen Wohlfahrtsstaates jedoch ein hohes Maß an materiellem Wohlstand, Wirtschaftswachstum und Legitimation durch (Über-)Konsum erfordern, besteht derzeit eine „gläserne Decke“ (*glass ceiling*) für eine solche Transformation. Auf Grundlage einer Kombination empirischer Forschungsmethoden, darunter 11 Expert:inneninterviews, ein gamifizierter Bürger:innenworkshop mit 22 Bürger:innen sowie ein lokaler Stakeholder:innenworkshop mit 27 Personen, untersucht dieses Papier die Bereitschaft und die Perspektiven deutscher Bürger:innen, Expert:innen und lokaler Stakeholder:innen für eine sozial-ökologische Transformation. Die Ergebnisse illustrieren die widersprüchliche Rolle des Staates bei der Transformation, die Schwierigkeiten bei der Umwandlung „imperialer Lebensweisen“ sowie die kollektive Flucht vor der Verantwortung, was die Existenz einer „gläsernen Decke“ mit Blick auf die Umwandlung der deutschen Marktwirtschaft in ein wirklich soziales und ökologisches Modell bekräftigt.

**Schlüsselwörter** Sozial-ökologische Transformation · Nachhaltiger Konsum · Kollektive Flucht vor der Verantwortung · Imperiale Lebensweisen · Nachhaltigkeit · Sozial-ökologische Marktwirtschaft

## 1 Introduction

We know that human behaviour is at the root of ecological problems because human provisioning, the ways in which people seek to satisfy their needs and wants, is causing irreversible disruptions to ecosystems. Both internal factors, such as emotions, beliefs and attitudes, and external factors, such as wider social, economic, political and material structures, shape human behaviour. Humans also show strong resistance to changing their behaviour in line with sustainability needs, even in the face of compelling evidence (Amel et al. 2017). But this ‘human behaviour’ is not (only) a natural phenomenon, but rather a socially conditioned and historically path dependent development. We can say that this problem of behaviour reflects a problem of human behaviour as consumers. Modernity and neo-liberal *Exceptionalism* have strongly shaped our behaviour, with people increasingly feeling entitled to exempt themselves from moral obligations and preserve privilege in a wider culture of *uncare* that normalises selfish or unsustainable behaviour (Weintrobe 2021). Responsibility is also taken away from citizens when they are made responsible as

consumers, with their interactions with others in society increasingly shaped solely by the institution of the market. The opacity of the market, with its focus on price and value, also removes responsibility (Aigner et al. 2023). In addition to basic physical needs, human psychological wellbeing also depends on feeling “competent, socially connected and free to make choices”, with our need to feel competent shaped by the culture and accepted normal behaviour around us (Amel et al. 2017, p. 276). In a market society where ‘normal’ behaviour has perverse long-term negative consequences for all, it can be easier to reject reality than to challenge perverse normality (Weintrobe 2021). Not surprisingly, there is strong agreement on the deep barriers (individual and structural) that currently prevent the necessary transformation(s) away from unsustainable socio-economic systems in wealthy, high-consumption societies such as Germany (e.g., Eversberg 2020; Amel et al. 2017; Weintrobe 2021; Hirth et al. 2023).

The “glass ceiling” (Hausknost 2020) concept describes the dilemma of the socio-ecological transformation of consumer democracies, like Germany, from a birds-eye view. On the one hand, state action is considered essential for a socio-ecological transformation, especially in providing the framework conditions for sustainable ways of life, ensuring material security for democratic legitimization in the transition towards growth-independent systems (i.e. Vogel et al. 2024; Eversberg 2020). However, for more transformative state action to be possible, it is first necessary to win wider democratic legitimization for a sustainability imperative, over the growth imperative (Hausknost 2020; Douglas 2020). Currently, consumption-oriented ways of life are non-negotiable imperatives for democratic legitimacy and state stability (Blühdorn 2022; Buch-Hansen 2018). Any challenge to the expansionary economic system, would contradict the state’s functional requirements, leading to reductions in consumption, production, employment, and state revenue. Unsurprisingly, “even vocal proponents of social-ecological transformation have a hard time pointing out who, in the societies of the North, could actually help bring it about” (Eversberg 2020, p. 3).

This paper follows a multi-method approach to analyse citizen, expert, and local stakeholder views around socio-ecological transformation in Germany, to interrogate the concept and existence of a “glass ceiling” from both structural and individual/household points of view. The empirical data is based on: (1) a gamified Citizen Thinking Lab (CTL) in Berlin, Germany with 22 citizens, to analyse German households’ readiness for transforming current unsustainable ways of life in the four key consumption fields of nutrition, mobility, housing and leisure; (2) expert interviews with 11 experts on the topic of structural change towards socio-ecological transformation; (3) a backcasting-based Stakeholder Thinking Lab (STL) in Münster, Germany, with 27 local stakeholders, to discuss overcoming structural barriers to socio-ecological transformation. We synthesise citizen, expert, and stakeholder views to analyse how the needed socio-ecological transformation of the German market economy and the imperial ways of life it enables is discussed and understood, and how responsibility for the transformation or implementing transformative policies is meted out. In what follows, we will first provide an overview of critical discussions around the German market economy, the literature on socio-ecological transformation and the “glass ceiling”, as well as research on human behaviour and

responsibility for change. Thereafter, in Sect. 3, we will delineate the different methods used in the research process. In Sect. 4 we will provide the empirical findings, thereafter, we will provide an analysis of this empirical research in Sect. 5, including implications for research and policy and a few tentative conclusions.

## 2 Background and framework

### 2.1 The crises of the German market economy

The *social market economy* (SME) is a common reference point in German political and public discussions. “Combining the principle of market freedom with that of social balance” (Müller-Armack 1956), the SME is codified in the German Unification Treaty of 1990 (1990), and has been characterised by the “magic hexagon” of steady economic growth, high employment, fiscal responsibility, social welfare (based on individual responsibility and employment status), price stability, as well as limited local environmental protections (Kritikos et al. 2018; Schlösser et al. 2017; Küppers 2020). While the SME has led to prosperity, high life quality and relative political stability in Germany, it has also been plagued by its inherent ecological and social contradictions (Wendler 2023). The close correlation between economic growth and an escalating demand for useful energy poses a long-term challenge to maintaining an expansionary market economy and meeting household energy needs (Ayres and Warr 2009; Kümmel 2011; Lindenberger et al. 2017). The net appropriation of materials, (fossil) energy carriers, land, and labour, from low-income countries which has supported continuous economic growth in Germany can furthermore “neither be sustained indefinitely nor globalized” (Dorninger et al. 2021, p. 179).

Awareness around the environmental crises has led to discussions around the need to “green” the *social market economy* (SME) towards the *social ecological market economy* (SEME). Despite the name, the SEME does not present a real *socio-ecological transformation* of the German market economy, but rather an incorporation of limited environmental sustainability goals on the margin (e.g., Brand and Wissen 2017b). Proponents have suggested that a true SEME could “reconcile the propelling function of markets with the checks and balances provided and executed by the state” (Altenburg et al. 2008, p. 132), and some have suggested that Germany already has a SEME, pointing to the “success” of the energy transition (Kritikos 2018). However, while an increasing share of energy from renewables has helped achieve a small decoupling in economic growth from CO<sub>2</sub> emissions (Wu et al. 2021), a thirty-fold increase in current decoupling rates by 2025 would be required to keep the Paris Agreement (Vogel and Hickel 2023). The celebration of the SEME’s incorporation of limited environmental sustainability goals without altering the existing expansionary economic paradigm, the focus on high levels of employment, production, and increasing consumption (Altenburg et al. 2008; Küppers 2020) highlight the continuing strength of the imperative of growth over the imperative of sustainability (Hausknost 2020) in German public discussions of the environmental crisis rather than any real change.

While there are structural barriers towards a sustainability imperative trumping the growth imperative at the state and societal level, mechanisms at the individual and household level add further barriers to a 1.5°-transformation. Psychological barriers strongly hinder individuals in taking action for environmental sustainability: there is a mismatch between our evolutionary origins and current industrial lifestyles, making it difficult to consider non-immediate threats and long-term costs against short-term benefits, or cooperating for the benefit of an unknown larger group (Amel et al. 2017). Cooperation is even more difficult in the global era of narcissistic neoliberal *Exceptionalism*: a rigid psychological mindset based on idealised self-perception, a strong belief in individual entitlement to unlimited desires, and a convenient magical rearranging of reality to overcome moral or practical limits (Weintrobe 2021). The SEME can be considered a type of quick-fix thinking typical of *Exceptionalism*.

According to Weintrobe (2021), the shock and fear of the environmental crises themselves reinforce the child-like entitled and irresponsible state of *Exceptionalism*, as a way of disassociating from the impacts of our actions, making psychologically grown-up respect of limits and responsibility more difficult. The “glass ceiling” concept implies an underlying societal fear that the state might be incapable of safeguarding its citizens from threats, including the protection of their material wealth. Confronting this fear would mean diminishing the perceived power of the state, bringing it closer to human limitations, and reducing its effectiveness in providing a sense of immortality (Douglas 2020). Beck (1986, 1988) explained that modern societies are increasingly becoming irresponsible and perceiving threats as non-existent, precisely because economic and bureaucratic institutions manage (and hide, or externalise) threats for us. The comforting narrative of the SEME can be considered a (short-term) attempt to manage and soothe public perceptions of a threat and the state's inability to act, while also deepening the gap between a magically rearranged world, and the increasingly bleak future where human welfare is uncertain.

Bringing together the individual/household level with the more macro, societal/state level, Weintrobe (2021) suggests that with *caring* and *uncaring* parts in endless conflict in each of us, containing societal frameworks help us face reality, take responsibility, and make decisions that benefit the larger group. According to Weintrobe's (2021) analysis, the disappearance of the “containing” frameworks of care has led to deep psychological crises and narcissistic *irresponsibility*. The belief in the coordination of responsibility among actors as a solution also leads to a collective evasion of responsibility: the burden of responsibility is now continually shifted between the state, business sector, non-profit organisations, and individuals as consumers, as well as the international sphere (Gumbert et al. 2022).

Neoliberal culture, including advertising and media, has played the key part in shifting the moral compass and encouraging *Exceptionalist* thinking. Weintrobe (2021) argues that it has become more difficult for people to take individual responsibility, as the containing social environment, the “social” part of the German SME, or the welfare state, has been eroded. This decline has taken place over the last 40 years of neoliberalism, which has changed the face of welfare states. Peeters (2019), has argued that three distinct paradigms show the historic development of state roles and interventions. (1) In the 19th century's *laissez-faire* emphasis on *individual responsibility* for structural concerns like poverty shaped state responsibilities

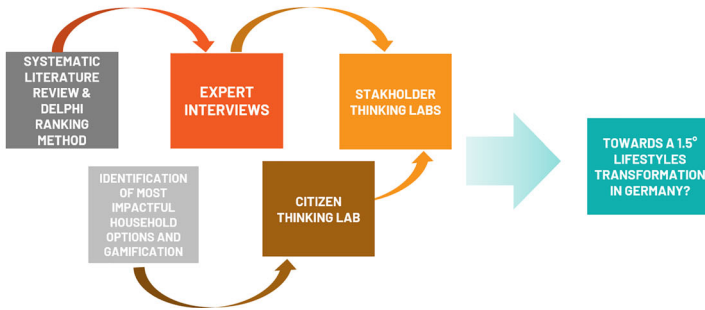
towards society. (2) The *solidarity paradigm* of 20th century welfare state signalled a shift in the responsibility regime of states, as risks like poverty and illness now become structural problems to be solved collectively, with the state putting institutions in place to protect people. (3) Finally, as part of the *preventative paradigm* of the neoliberal era, individuals are now once again being responsabilised for wider social and environmental ills, with the state's focus narrowed to transforming citizens into "self-responsible" individuals, and simply setting the parameters for the market to function. In this new era, states increasingly hold individuals responsible for systemic outcomes that they have little control over, through making the right (consumption) choices, with dissolving framework conditions that would enable them to do so (Maniates 2001; Young 2011; Massey 2004).

With irresponsible *Exceptional* thinking spreading globally, it has impacted understanding of the environmental crises and responsibility (Weintrobe 2021). A wide range of diverse and often conflicting opinions on socio-ecological issues thus also exist in the general population, including Germany. Nevertheless, a considerable portion of Germans has been found to verbally acknowledge the need for significant change: the relative strength of those supporting or being open to socio-ecological change (45%) versus anti-transformative forces (35%), and indifferent ones (20%), does not yet imply a potential political majority for transformative policies, however, especially if anti-transformative forces successfully forge alliances across class-lines, based on anti-migrant sentiments (Eversberg 2020, pp. 17, 21). Eversberg (2020) has argued that the success of more transformative action and policies will not depend on convincing the anti-transformative, or even the indifferent segments, but rather on establishing the framework conditions under which the already ecologically-minded can act according to their beliefs, and forging cross-class alliances across the pro-socio-ecological-change segments to bring political change. The sustainability capture of marginal SEME-type policies have divided the pro-ecology coalition, which is a key barrier to broader coalitions. Rather than focusing on "raising consciousness," Eversberg suggests that strategies for transformation should target direct changes in the material, psychological and social structures of the imperial mode of living (Eversberg 2020, p. 21). It remains unclear how the framework conditions, such as progressive policies, should be achieved which enable the already ecologically minded to live more sustainable modes of life, as this also suggests state action, which has to be demanded from the state, and for which there needs to be democratic legitimacy.

Looking at the case study of Germany, this article aims to interrogate the concept of the "glass ceiling" (Hausknost 2020) of social-ecological transformation, addressing responsibility diffusion by the state, as well as individual readiness for self-limitation. In the following, we will briefly present our multi-method approach.

### 3 Methods

The multi-step empirical research process is visible in Fig. 1. This paper focuses on the case study of Germany, using the outcomes of 11 expert interviews, a gamified Citizen Thinking Lab (CTL) and a Stakeholder Thinking Lab (STL). It builds on



**Fig. 1** A graphic representation of the multi-method empirical process (illustrated by the authors)

a systematic literature review and a Delphi ranking process, as well as research on the most impactful household options already published elsewhere, as part of a larger, multi-country research project (Kreinin et al. 2024; Hirth et al. 2023; Vadovics et al. 2024). In the following, we will explain the methodology used in the (1) expert interviews, (2) CTL and (3) STL.

### 3.1 Citizen thinking lab

The CTL was part of a unique mixed-method approach, using a serious game (the Climate Puzzle) to explore citizen and household motivations and barriers in up-taking 1.5° lifestyle changes, that was undertaken in a standardised way in five European countries in parallel (Vadovics et al. 2024). A diverse planning and educational game, the Climate Puzzle is based on scientific research, and helps to illustrate to individual citizens what the 1.5°C target means from the perspective of consumption in the four key provisioning systems, providing answers to common questions, and helping citizens see their own carbon footprints in relation to the 2030 (2.5t) and 2050 (0.7t) goals for limiting warming to 1.5°C (Vadovics et al. 2024). The process of developing the board game was based on a detailed literature review and modelling of demand-side carbon reduction potential (Vadovics et al. 2024).

In Germany, the one-day CTL took place in Berlin in September 2022, with 22 paid participants picked through an agency. The participants were selected to be relatively representative of the German population, based on age, gender, urban or rural living arrangements, and political views, avoiding participants that considered themselves especially strongly sustainability focused. Before the puzzle, the participants were introduced to basic environmental science concepts, including the rationale for limiting warming to 1.5°C. The game was then undertaken in pairs, in conjunction with interviews with participants about why they chose or did not choose certain options from the Climate Puzzle, after which the participants also voted for their most likely and least accepted options (using green and red dots). After this, facilitated group discussions followed, centred around discussing in more depth the lifestyle options that citizens had said that they would not do. Both quanti-

tative (number of options) and qualitative (focus group) data was collected at several points throughout the process—including through the Climate Puzzle game itself, the dot exercise, interviews with participants while playing the game, as well as the focus group discussions based on unfavourable lifestyle options (Vadovics et al. 2024).

After conducting the CTL workshop, the resulting data were collated, analysed, and categorised to discern whether they signify shallow or deep behavioural changes. The distinction between deep and shallow is based on Hirth et al. (2023, pp. 3–4), who used it to characterise structural enablers and barriers, and Mamut (2023, pp. 62–63), who applied the categories to behavioural change. Shallow changes, involve financial investments and are driven by direct individual benefits such as cost-saving and health benefits. Although these changes can improve eco-efficiency and consistency, they largely fall short of the needed changes. Conversely, deep behavioural changes tend to be driven by value-based rationality and behavioural change, and are more likely to lead to sufficiency-oriented demand reduction in the sense of avoiding consumption. These changes hold greater promise in tackling underlying structural injustices, not least due to their emphasis on collective self-limitation.

### 3.2 Expert interviews

Following an in-depth systematic literature review of over 120 studies on key structural barriers and enablers of social-ecological transformation towards 1.5° lifestyles, and a Delphi-ranking method to order these key structures, 22 important structural factors were identified, which are available in the Appendix (Table A) (Kreinin et al. 2024). Building on this, expert interviews were undertaken with 11 experts, with the profile of the experts available in the Appendix (Table D). The experts were either German nationals based in Germany, international researchers or practitioners based in Germany, or researchers and practitioners with a German background working internationally. In the interviews, which followed a semi-structured format, the experts were provided with the list of 22 key structures previously identified as important (Table A, Appendix) and asked to consider, in their expert opinion, which structures were most impactful for enabling or hindering a broader transformation and how to overcome or strengthen these structures (Kreinin et al. 2024). The exact Interview Guidelines are available in the Appendix (Table B).

The 11 interviews form a part of a larger dataset of 36 expert interviews collected across various EU case countries. Using the interview outcomes from the 36 interviews, a list of 7 key structural factors for enabling 1.5° lifestyles emerged, which was used as part of the stakeholder thinking labs in the next step and are available in the Appendix as Table C (Kreinin et al. 2024).

### 3.3 Stakeholder thinking lab

Where the CTL focused on individual and household options and barriers to change, and citizens' individual "willingness" to transform their ways of life, the STL focused on the question of structural change. Participants from business, civil soci-



ety, academia, policy and media were brought together to discuss how to overcome challenges to socio-ecological transformation in the four provisioning systems of nutrition, housing, mobility and leisure (Kreinin et al. 2024). The breakdown of participants for each category is visible in Table E (Appendix).

The STL used a backcasting exercise to consider how to achieve the transformation, envisioning an alternative desirable future and asking participants to consider what measures can be undertaken to move towards this future (Köves et al. 2013; Köves and Király 2021). For this end, a scientifically researched vision of 1.5° living in the future was read out to participants by the lab host in the form of a meditative 15-minute imaginary "walk". Participants were encouraged to imagine in the first person what it might look and feel like to live 1.5° lifestyles in 2040 in the city of Münster, in the case of Germany. The vision took participants through their local area, focusing on how the provision of food, mobility, housing and leisure had changed in this "emancipated horizon", including, for example, reduced meat consumption, increased public transport and a slower pace of everyday life. Divided into four working groups for the four provision systems, participants were then asked to focus on how the 7 key structures, the outcome of the 36 international and EU-wide expert interviews (Appendix, Table C), could be overcome in a specific provisioning system (Kreinin et al. 2024). The participants were asked to think about concrete measures to overcome the "economic growth paradigm", "lack of consistent policies", "vested interests", "internalising environmental costs in prices", "strengthening alternative narratives of the good life", "overcoming inequities", and "sustainability education". In line with suggestions in the literature, the years 2030, 2035 and 2040 were chosen as the short, medium and long-term dates for specific actions and measures (Köves et al. 2013; Köves and Király 2021).

Subsequent to the labs, the resulting data were collated, qualitatively analysed, and categorised according to (1) deep versus shallow measures; (2) types of historic state responsibility regime; and (3) according to the suggested agent of change. (1) The proposed differentiation between deep and shallow factors, based on Hirth et al. (2023), reflects the observation that structural factors are ingrained into the societal fabric in very different ways. Some can be rather specific, for example, policy regimes that determine certain subsidies. Others are very broad and fundamental, such as the existing economic system. The depth or shallowness of structural factors is likely to influence the potential for and sustainability impact of change in these contexts and our ability to attribute the responsibility for such change to specific actors. Shallow factors are more specific and visible, have a narrower focus, and it is easier to identify specific responsible actors able to change them within the current power relations. In contrast, deep factors are broader, less discernible, and more difficult to change, and they potentially cannot be dismantled without changes in existing power relations. "Shallow" is not used in a derogatory way and does not suggest that the factors do not exert influence, but is rather employed as a contrast to deep factors, at a systemic level. The analytical distinction is not absolute and should not be taken to imply that deep factors cannot be changed, nor that the impact of changes in shallow factors will always be small and therefore not worth pursuing (Hirth et al. 2023; Kreinin et al. 2024). The measures were also categorised according to what type of responsibility was assumed in the intervention according to Peeters'

(2019) three historic categories of state responsibility (“solidarity”, “preventative” or “individual responsibility”). Finally, the measures were categorised according to the suggested responsible actor—whether the “state” or “other actor”.

## 4 Findings

### 4.1 Citizen perspectives on household changes for socio-ecological transformation

In the following we will briefly present key outcomes from the CTL workshop. A longer explanation of the findings, including tables with precise acceptance and rejection rates of the different options is available in the Appendix in Sects. 7.6 and 7.7.

In general, participants in the CTLs were more accepting of lifestyle options related to diet, housing and leisure, while mobility options were less accepted. Many preferred options that involved shallow changes requiring financial investment or modest behavioural adjustments. This trend was particularly noticeable in areas such as energy-efficient home improvements and the purchase of environmentally certified products. There was a higher rate of rejection of lifestyle options than acceptance. Many rejected options required more significant behavioural changes, such as giving up car ownership or adopting a vegan diet, suggesting a reluctance to make significant lifestyle changes.

In the short interviews which accompanied the puzzle, as well as in short focus groups after the puzzle, participants identified both personal and structural barriers to adopting sustainable lifestyle options. Personal barriers included concerns about health, quality of life, freedom, culture and financial constraints, with concerns about comfort and convenience acting as significant barriers to the acceptance of lifestyle options with a larger impact. For example when considering switching from red meat to white meat, or giving up meat altogether, participants shared worries about not fitting in the norm. One participant explained that they could not change their behaviour as they “grew up this way, [where] meat was always an important part of the meal”. Participants also shared worries about their freedoms and of “limiting” themselves as “red meat and fish are part of the enjoyment” and part of “celebrating food”. Participants who were initially opposed to giving up meat, shared as part of the focus group that if meat was “no longer be a mark of affluence” it would help change culture, and that “new rituals” and culture change could persuade them to give up meat, when “festive roast does not have to be a roast [or] when visiting, it does not necessarily have to be a meat dish”.

Structural barriers included inadequate regulations, infrastructure and economic considerations. Participants highlighted the importance of enabling factors such as adjustments in price signals, taxation, subsidies and the credibility of labels to facilitate sustainable behavioural change. Financial drawbacks were significant factors in rejecting lifestyle options such as eating more plant-based, living in shared housing, giving up excess living space, the car, or flying in favour of train travel. Infrastructural shortcomings, such as a lack of public transport, shared housing, bicycle

lanes and carpooling options, were also identified as barriers. Participants suggested support networks and financial assistance to facilitate transitions to more sustainable lifestyles. The desire for fairness and equality also came up in group discussions, with participants suggesting that they would be more inclined to accept behavioural changes if these were widely practised, including by those at the top. One participant asked why they should give up “easy and cheap” flying “when others still do it”? Three participants suggested that politicians needed to take responsibility first, with one participant saying they would give up flying if there were “flight restrictions for politicians as well”. Another participant remarked that “politicians should demonstrate things” before citizens when it comes to green electricity, not flying, or having a car. Time restrictions on time off from work were another reason given for needing to fly more, or to have a car: “If I could take three weeks’ holiday rather than ‘splintered’ three weeks here and there, it would mean I wouldn’t have to fly back and forth [to Turkey, three times over one summer]. However, in our workplace, only parents with children can take three weeks off in a row.” Visiting family was an important reason for flying for many, especially where the family lived further away from Germany.

In their statements around why they did choose to implement certain sustainable measures, the citizens themselves highlighted financial and health reasons as being most important. Saving money by avoiding food waste, using tap water instead of bottled water, and reducing energy use due to its cost, or eating more plant-based food for health reasons, were included in their statements. Citizens also considered some sustainable options to be more convenient and practical, for example carpooling or car-sharing services, or favouring train travel for vacations for its ease and comfort, especially on certain routes: “Public transport is good for holiday destinations e.g. Harz-Berlin.” Participants also shared deeper considerations, including the desire to protect the environment, concerns about animal and social welfare, as well as concerns for future generations and family members: “With an economic shower head you don’t even notice the difference. It protects the environment and saves costs.” Participants also shared statements pertaining to changing preferences influenced by broader societal changes, life-phase changes, and a decreasing interest in excessive consumption: “As a pensioner fewer fancy shoes and shirts are needed than in the working life, [I place] less value on fashion, [and prefer] second hand!”.

In the confines of a gamified climate puzzle, of all participants only 3 (13.6%) were able to reach the goal of 2.5t for 2030, 6 participants (27.2%) got “close” (i.e. the CO<sub>2</sub> reduction “missing” was smaller than a medium option puzzle piece) and for the 11 participants (50%) the gap was still bigger than a medium option puzzle piece. The average footprint of the sample in this workshop was lower than the overall average footprint in Germany, as participants were already engaging in some lifestyle options.

## 4.2 Expert views on structural barriers to socio-ecological transformation

A longer discussion of the key outcomes from the expert interviews is available in the Appendix (7.8).

Interviewed German experts considered the growth imperative as a major barrier to transformation, and its transformation to require alternative narratives of the good life and state intervention to counter profit-making and capital accumulation interests, amongst other suggestions. States, politicians, and political movements were seen as the main actors needed to introduce transformational change, rather than placing too much emphasis on citizens. Governance failures such as “silo” policymaking and infrastructural lock-ins, especially in housing and mobility, were considered to hinder wider structural transformation. Inequities in resources and power dynamics, particularly in relation to large industries like automotive and fossil fuel companies, presented significant challenges to democratic processes and acceptance of change. The experts considered there to be a need for states and local actors to institutionalise structures that would enable sustainable lifestyle choices, such as free public transport, with both positive and negative incentives, and accompanying social policies for a just transition deemed necessary for change. Education and information sharing were considered important, as well as more communication between academia and society. Collective action was seen as the pivotal force for transformation, with pressure from grassroots and citizen councils or assemblies considered as key for fostering acceptance and participation in political processes, although concerns existed about their efficacy and inclusivity. Localised energy communities were proposed as an example of increasing participation in ecological transformation, based on cost-saving.

Overall, it was easier for the experts to discuss barriers to change and more difficult to discuss how these barriers could be overcome, with discussions around bringing about change centring on future destinations (e.g., “sustainable education”) rather than specific levers of change and intermediate steps to achieve these objectives. There was a large consensus around the problem of individual responsibility for change, with experts referring to the need for political responsibility especially by the state. Collective action, including grassroots pressure and legal mechanisms like climate litigation were seen as necessary for change, without referencing how such action could be achieved.

### 4.3 Stakeholder views on socio-ecological transformation

A longer description of the STL outcomes, including the analysis tables, are available in the Annex under Sects. 7.9 and 7.10.

In the STL, 27 stakeholders from business, local government, media, and civil society discussed overcoming structural barriers to change in four groups in the provisioning systems of mobility, housing, nutrition and leisure. Participants were asked to think of measures to overcome barriers in these fields in the local setting of Münster, focusing on deep overlapping and reinforcing societal structures which shape everyday life: the “economic growth paradigm”, “consistent policies”, “overcoming vested interests”, “internalising environmental costs in prices”, “strengthening alternative narratives of the good life”, “overcoming inequities”, and “sustainability education”.

Participants suggested 161 measures as part of the day-long session, with most of the measures focusing on bans and taxes to prohibit certain unsustainable activities,

or incentives and direct societal provisioning to promote positive behaviour. The measures were later categorised as either shallow or deep. The majority of measures (96%) in the field of housing were categorised as shallow, focusing on sustainable building and shared living, with some disagreement over subsidies for property modernisation and building density. Around three-quarters (77%) of measures in leisure were more shallow, with some aimed at reducing working hours for less carbon-intensive leisure activities and others focused on banning unsustainable leisure activities. More than a third (38%) of measures in nutrition called for deeper changes and structures, including reforms of the agricultural system and taxation or bans on meat consumption. The vast majority (97%) of mobility measures were shallow, including proposals for higher costs or bans on cars, alongside improvements to cycling and public transport infrastructure.

The state was seen as the most important actor in all areas, particularly mobility and housing. According to Peeters' (2019) categorisation of historic state responsibility regimes, in housing, state responsibility followed the neoliberal preventive paradigm, focusing on setting framework conditions with limited direct provision. In leisure, mobility and nutrition, direct provision by the state (solidarity paradigm of the 20th century welfare state) was more prevalent.

## 5 Discussion and conclusions

The Social Market Economy (SME) has contributed to prosperity, a high quality of life, and relative political stability in Germany, yet it cannot be guaranteed to do so due to inherent deep ecological and social contradictions (Wendler 2023). As sustained economic growth can no longer guarantee long-term social welfare, there is a pressing need for a shift towards a growth-independent, ecologically stable, and *sufficient* social and economic systems, a "socio-ecological transformation" with profound changes to existing ways of life (Brand and Wissen 2017b). Such a transformation arguably also directly contradicts the growth imperative and hitherto accepted ideas around emancipation and progress, which mean that democratic legitimacy for such action has so far not been possible suggesting a "glass ceiling" to transformative change (Hausknost 2020). This paper has employed a multi-method research study to examine the perspectives of citizens, experts, and local stakeholders on transformative change and interrogate the "glass ceiling" of transformation and state responsibility.

While only being based on a small case study with 22 participants in Germany, the analysis of household perspectives in the CTL suggests that currently strong barriers exist to a societal acceptance of "solidary modes of living" or "1.5° lifestyles" in Germany, aligned with previous research (e.g., Eversberg 2020; Amel et al. 2017; Weintrobe 2021). This "glass ceiling" suggests that support for sustainability has typically ended where it infringes on the expected comfortable lifeworld of citizens (Hausknost 2020). According to Douglas (2020, pp. 14–15), this is because by challenging the concept of progress, environmentalism exposes a philosophical crisis that undermines the modern sense of human and collective identity: this is akin to a secular religion, with deep rooted beliefs in an ever-expanding frontier of

technological progress and an infinite horizon of material wealth. Hausknost (2023) suggests that passive legitimacy in modernity has been created through *exclusion* (e.g., of externalised and forced labour and lives of material poverty in the Global South), *performance* (in achieving material wealth), and a neoliberal *reification*. This reification of modernity or neoliberalism is as powerful as the “religious ‘cosmisation’” of the Middle Ages (Hausknost 2023, p. 33). Thus, what Weintrobe (2021) refers to as neoliberal *Exceptionalism*, can also be considered as a religious *reification*: neoliberalism has succeeded in constructing an external source of reality akin to a “God” (Hausknost 2023). The temporary illusion of an expanding frontier of material wealth has only been possible through unsustainable externalisation, with long-term detrimental effects on humanity and all life on Earth.

While this research did not probe citizens directly about their beliefs around modernity and emancipation, the participants, through their lack of willingness to consider limits to their consumption, arguably showed a lack of willingness to accept limits to the societally widely accepted faith in an expanding horizon of material wealth. Most participants did not manage to reach the 2030 Paris Agreement CO2 reduction goals, even within the confines of a game. It seemed that participating citizens could not imagine giving up comfortable or convenient, but unsustainable, consumption habits, even after receiving information in the form of an introduction to the environmental crises and the need to limit warming to 1.5°C. Notably, the most accepted options were options with very little impact, which generally required minimal behavioural changes and modest financial investments, while also promoting cost-saving, energy saving, or health benefits. This held across the different EU case studies, as well as in Germany (Vadovics et al. 2024). Conversely, measures which offered a high potential for reducing CO2 emissions while also demanding more significant behavioural changes, were also the least accepted and most rejected, not only in the case of Germany but also across the EU (Vadovics et al. 2024). Since the impact of different actions were visible to the participants in the Climate Puzzle in the size of different puzzle pieces, information about the climate effects of different options seemingly did not persuade participants to imagine giving up aspects of so-called “imperial modes of living”, even in the confines of a game.

Psychological research sheds light on why individuals often resist deeper behavioural change and shy away from inconvenience, even if it means perpetuating unsustainable practices that are harmful to the environment and society. Amel et al. (2017, p. 276) highlight that beyond basic physical needs, human psychological welfare depends on feeling “competent, socially connected and free to make choices”. For the same reason, people are typically more responsive to immediate, tangible benefits or costs than to those that are distant and focus on the long-term.

In the CTL, these aspects figured in many of the discussions. Meat consumption, flying, driving or living in larger homes were implicitly suggested as aspirational and connected to a feeling of competence, of how things are normally done. Plant-based diets, train travel, or reduced floorspace thus conversely undermined feeling competent, because they required the individuals to acquire new skills, eliciting an initial negative reaction and rejection. Freedom or being free to make choices was also an important explicit reason given for unsustainable activities, with public transport or giving up meat seen as “limiting” personal freedoms. The desire for

social connection or fear of social exclusion from the group with which they identify, if they deviate from prevailing norms, was visible. It could be seen when participants discussed the cultural element of meat eating, of having meat on the table for guests, and especially around the need to fly to visit family or friends who lived further away. The question of competence, social connection and freedom united around the topic of fairness: three separate participants mentioned the need for politicians to take responsibility first. Nevertheless, there was little discussion around the fairness of typical German citizens already consuming far above the global average (i.e. Brand and Wissen 2017a).

Within the small confines of the CTL, participants shared different statements reflecting aspects of both *narcissistic* as well as *lively* entitlement. According to Weintrobe (2021), the culture of *uncare* under neoliberalism seduces individuals into thinking they are *Exceptions* and ignoring moral strife, neglecting their responsibility towards others and the environment. While *lively entitlement* within the culture of *care* drives individuals to act for greater care and moral responsibility, *narcissistic entitlement* within the culture of *uncare* focuses on self-centred actions at the expense of others. Individuals with lively entitlement understand their rights and responsibilities, have a sense of fairness, and feel entitled to confront prejudice and privilege. The *Exception* represents those who feel entitled to exempt themselves from moral obligations and preserve privilege (Weintrobe 2021).

Several statements by participants reflected entitlement to unsustainable consumption, or resistance to change, such as through the entitlement to certain foods or reluctance to give up comfort and convenience associated with car ownership. The attitudes reflected in statements by citizens about unwillingness to forego certain consumption habits rather reflected the prevailing culture of *uncare*, and narcissistic entitlement. There were also glimpses of lively entitlement, as some individuals expressed openness to adopting sustainable practices if certain conditions are met, such as affordability, and participants also shared reasons for foregoing certain actions focused on care. The statements shared by participants also reflected the inner conflict and emotional toll of engaging with sustainable behaviours, such as going against what is expected, as also suggested by Weintrobe (2021), and reflected in the need to appear “competent” (Amel et al. 2017).

In citizens' reflections on what would enable them to behave in line with the requirements of limiting warming to 1.5 °C, citizens largely called for more concerted efforts by the state and action by politicians. They highlighted structural barriers that hindered their ability to take personal accountability, including insufficient regulations and unsustainable existing subsidies, inadequate infrastructure, challenging economic conditions, and perceived social injustices or unfairness, amongst others. Experts, stakeholders and citizens themselves reflected on similar barriers to enabling lifestyles in line with the 1.5 °C goal, for example the cost, ease and availability of public services such as public transport. However, the discussions at times both from citizens and stakeholders hinted at expectation and entitlement: that the lives of German citizens should be free of all unease or discomfort, and that this should also be the basis for any sustainability transformation. This parallels Weintrobe's (2021) critique of *Exceptional* thinking: in a society and culture imbued with *Exceptional* thinking, overconsumption and a guaranteed “ease” through external-

isation is normalised and aspirational. In Hausknost's (2023) terminology, we can see this as the *performance* aspect of ensuring passive legitimacy in the era of the religion of modernity: so long policies ensure material prosperity and security for the *included* group of citizens (e.g., voters in Germany not "labour from elsewhere") passive legitimacy for the social and economic system is ensured. Citizens were nevertheless also motivated to implement sustainable lifestyle changes for reasons that extended beyond cost-saving and health benefits and shared statements around the desire to protect the environment, animal welfare, or wider society.

Interviews with the 11 experts around overcoming barriers to socio-ecological transformation in Germany, highlighted the existence of the "glass ceiling", with a shared difficulty in envisioning how the necessary political and societal changes could be achieved to enable transformative state action. Experts highlighted that the lifestyles that are adopted by citizens do not only depend on individual choices made by households in everyday life, but also and predominantly on political, economic, technological, and social structures in which households are embedded. The experts also largely agreed on the role of the state in bringing about transformation, due to needing "higher-level" action.

Nevertheless, it was difficult for them to conceptualise the step before then, in other words how to achieve the political transformation required to bring change at the state level. Experts placed the responsibility for transformative change towards enabling 1.5° lifestyles on states as well as politicians and political movements, much like citizens. They especially criticised politicians for failing to set the boundaries of action, reflecting the citizens' plea for politicians to take (personal) responsibility first and for the state to set the frameworks of action. At the same time, the experts also expected citizens to take responsibility and exhibit and adopt something similar to Weintrobe's (2021) concept of *lively entitlement*, as collective action was identified as an important means of bringing about change, including through the institutionalisation of citizen councils or assemblies, with more direct democracy expected to foster political participation and decision-making based on long-term perspectives.

In the STL, stakeholders considered direct changes to material, psychological and social structures that currently enable unsustainable ways of life, and how to create the "framework conditions" (Eversberg 2020; Weintrobe 2021; Aigner et al. 2023) that would enable responsible and sustainable ways of life. Most measures referred to measures by the state, with few exceptions. According to Peeters' (2019) analysis of different historical forms of responsibility by the state, the participants mostly came up with "solidarity" measures, or steps that focused on the direct provisioning of services by the state, suggesting a wish for a (return to) a stronger welfare state, with stronger "frameworks of care" (Weintrobe 2021) akin to the "golden" era of the German welfare state. In the fields of mobility and leisure, direct provisioning of sustainable services was the most prevalent. The stakeholders' (and also citizens') expectations of state responsibility certainly also suggests a deep tension between societal demand for stronger welfare states and frameworks of care and the prevailing system of uncare, and deepening crises between expectation and reality.

The "preventative" state responsibility regime in Peeters' (2019) historic analysis reflects more recent neoliberal forms of state responsibility focused on "enabling"



individuals and businesses by setting the parameters for the market. In the STL, the field of housing was unique in having more steps focusing on preventative measures, where the state was expected to set the parameters rather than provide housing directly, even in an ideal future scenario. This perhaps reflects a stronger role of private ownership and private provisioning of housing services, also due to the financialisation of the housing sector (Lehner et al. 2024). It also perhaps highlighted stakeholders' difficulties in imagining housing provisioning in line with lively entitlement and care. For Weintrobe (2021, pp. 217–218), housing and public space are key terrains where the neoliberal trends of inequality, entitlement, and privatisation play out.

The field of nutrition was the provisioning system that included the most steps directed towards community-action, rather than measures to be taken by state. It also included the most "deep" measures, such as measures aiming to change the rules of international trade agreements, or providing basic unconditional provisioning of food for all citizens. This could arguably reflect the specific aspect of the provisioning system of food, which unlike housing and mobility, is much more directly connected to the natural world and perhaps most directly threatening our welfare and survival when it comes to the environmental crises. If awareness of the environmental crises could be understood as accepting "the state's incapacity to protect us, which is also to say, modern society's incapacity ultimately to dominate nature" (Douglas 2020, p. 4), we could view the orientation of the measures towards communities, as a way of suggesting lively entitlement (Weintrobe 2021) and a communal responsibility beyond the state.

The stakeholders came up with a plan for how (mostly) state actors could create "enabling" frameworks, directly targeting changes in the material, psychological and social structures of the imperial mode of living (Eversberg 2020; Weintrobe 2021), including creating virtuous circles across different provisioning systems. In discussing the steps towards socio-ecological transformation, it was however again very difficult for participants to consider the in-between steps necessary to achieve certain local outcomes in the specific provisioning system under discussion. Many of the discussed barriers to action enacted change to make unsustainable choices difficult. The general expectation of passing responsibility to an omnipotent state could be seen as reflect a lack of lively entitlement both on the part of citizens and stakeholders. The difficulty in recognising and considering material limits to state power is a crucial aspect of the "glass ceiling", which brings us to an important contradiction (Douglas 2020).

There is a certain conflict between Weintrobe's (2021) psychological analysis of *Exceptional* thinking and other sociological approaches to sustainability. On the one hand, the generous post-war welfare state, or the "solidary" mode of state responsibility in Peeters' (2019) analysis, provided a strong framework of care. This, according to Weintrobe (2021) helped citizens take adult responsibility and exert *lively entitlement*. Yet, on the other hand, Beck's (1986, 1988) analysis suggests that the state's increased threat management in all aspects of life, as part of the bureaucratic and economic institutions of the welfare state, rather became the root of "organized irresponsibility", allowing citizens to give up responsibility, increasingly expecting the state to minimise threats for them. Similarly, for Douglas (2020,

p. 4), nation states in all forms have provided psychological safety and a “sense of immortality in the modern age”. For Douglas and Beck, then, Weintrobe’s analysis of *Exceptional* thinking, or denial of the extent of the environmental crises, goes far beyond the dissolution of existing welfare states and frameworks of care under neoliberalism, to a deeper conflict at the heart of modernity and modern consumer states like Germany.

Arguably, the civilisational shift from the Middle Ages to modernity was made possible by a shift from believing in God to believing in an external (technological) knowledge (Hausknost 2023; Douglas 2020). Ontological reification ensured passive legitimation to rule over German peasants through an opaque God. In a capitalist market economy, the economic reproduction process is as opaque (and reified) as God. As the legitimacy of social order in modernity and under neoliberalism (much like in the Middle Ages) depends on how it hides the question of its own legitimacy, passive legitimacy in modernity requires that states react to the opaque “facts” of the market or natural disasters, rather than take action restrict consumer choice and access (for which they do not have legitimacy) (Hausknost 2023).

Pessimistically, Blühdorn (2022, p. 26) suggests that, “there is no realistic prospect for any profound socio-ecological transformation of contemporary consumer societies ... social inequality and ecological destruction are on the rise and an autocratic-authoritarian turn is reshaping even the most established liberal democracies.” Finding effective replacements for modern human and collective identity, and a “sense of meaning in a time dominated by environmental threats to civilisation itself” (Douglas 2020, p. 15), are long and painstaking activities when quick action is needed. For Hausknost, a key aspect of breaking the “glass ceiling” to state action, involves redistributing political power, to shift the ranking of state priorities away from the growth imperative towards environmental imperatives, also requiring a pivot away from consumption as the basis of democratic legitimacy (Hausknost 2020). This means a new independent “reality” (Hausknost 2023).

Previous research and our study point to a few narrow avenues for bringing about change in this direction. For Weintrobe (2021), a transformation towards 1.5° lifestyles requires actively challenging exaggerated entitlement through political struggle. Eversberg (2020) similarly suggests that the success of transformative action and policies will depend on the (political) struggle for establishing framework conditions under which already ecologically-minded citizens can act according to their beliefs, as well as challenging *Exceptional* thinking which currently divides ecologically minded groups.

In our study, experts proposed shifts in language away from growth and towards the “good life” framing, suggested that clear and consistent messages could unite actors, highlighted the importance of political momentum and periods of crises as catalysts for change, discussed policy sequencing as a strategic method for achieving deeper structural change, and highlighted the importance of making the impact of German unsustainable production and consumption on the Global South more visible. The experts also suggested popularising alternative narratives of well-being, bringing sustainability into popular culture through incentives, leadership by example, and promoting changes through the education system.

The citizens' statements also provide avenues for change: cost, health concerns, convenience and practicality, broader concerns for the environment, as well as cultural shifts all play a role in making the first step towards change. These suggestions parallel the research of Amel et al. (2017), who highlight the importance of creating incentives and short-term rewards of a sustainable action, encouraging social modelling, and resetting perceived social norms around pro-environmental behaviour, as well as encouraging citizens to extend their responsibility beyond personal consumption towards active civic roles (Amel et al. 2017).

A necessary answer to the conflict is also a stronger distinction between consumers and citizens, where the latter have the agency to organise themselves so that the responsibility of the consumer level is no longer required. Indeed, the citizens were in many ways asked to relate to the climate crisis as a consumer (rather than a citizen) through the puzzle game, of giving up and transforming consumption. Therefore, their answers reflected being responsabilised as a consumer reflected the norms of individual consumers in a market institution: of not wishing to give up consumption.

Breaking through the "glass ceiling" of state action is particularly difficult because of strong and self-reinforcing structural barriers related to the growth imperative. For Douglas (2020, p. 15), the remaining hope is for a deep cultural change brought on by a new shared imperative of responsibility, a duty for the survival of humankind towards ourselves and the universe: "This may seem a long way removed from practical politics, but if the main barrier to action lies in the social/cultural sphere, then this may be precisely the register in which environmentalists need to talk."

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