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ORIGINAL ARTICLE

The state of degrowth research and how to assess it

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Abstract
This article addresses two inter-related questions. First, are degrowth claims supported by empirical evidence? And second, how do we go about reviewing the literature to answer this question? We analyze five recent reviews on the state of degrowth research focusing on the more critical, outlier of the five studies, and compare it with the four others in terms of their findings and in terms of their approach to reviewing the literature. In terms of evidence, our main finding is that the core claim of degrowth research, that green growth is unlikely if not impossible, is well supported by now; tentative findings also support the feasibility of degrowth-oriented pathways. In terms of review practice, we find that a good review of an interdisciplinary sustainability field like degrowth should avoid disciplinary biases, be transparent about its own assumptions, and use methods that are fit for the purposes it sets for itself.

Keywords Degrowth · Post-growth · Methodology · Literature reviews

Introduction

Recent years have seen growing academic and policy attention to prevailing models of economic growth and their compatibility with planetary boundaries and human wellbeing. International assessments on climate change and biodiversity have raised questions about the sustainability of limitless growth and have highlighted the need for systemic transformations towards sustainability (IPCC 2023; IPBES 2024). Within this broader sustainability debate, degrowth has emerged as one of several research programs examining how societies might secure human wellbeing at low levels of resource use. Degrowth poses the hypothesis that further economic growth, especially in high-income countries is ecologically unsustainable, socially undesirable, and 'uneconomic', in the sense that beyond a point growth does not have a positive effect on social wellbeing and may even start having negative effect (Asara et al. 2015; Escobar 2015; Levelt et al. 2025). In turn degrowth research asks questions about how societies may prosper without growth, and support wellbeing while radically reducing their throughput and output (Asara et al. 2015).

Five recent[1] reviews have attempted to evaluate the state of post-growth and degrowth research (Edwards et al. 2025; Engler et al. 2024; Kallis et al. 2025; Lauer et al. 2025; Savin and van den Bergh 2024) (see Table 1).[2] Five literature reviews in such a short period are evidence of increasing interest in degrowth. The high-profile coverage by the Financial Times of the most critical of these reviews, that of Savin and van den Bergh, pays testament to public interest around this debate and on whether degrowth claims are in fact supported by credible evidence or not (Soumaya 2024).

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[1] This article was written in the Fall of 2025, and includes degrowth reviews published in 2024 and 2025, up until the time of authoring this article.

[2] The terms degrowth and post-growth are used here as synonyms, as used also in the five reviews themselves. Post-growth can be seen as an umbrella term that includes various approaches such as steady-state economics, wellbeing economics, doughnut economics and degrowth (Kallis et al. 2025). Where all these fields converge is on the need to study how economies can prosper without growth and achieve wellbeing without growth and within planetary boundaries. Degrowth is the more radical subset of post-growth studies, concerned with planning drastic reductions of resource use and moving beyond capitalist organization of economies. In terms of research questions, models and policy proposals, however, degrowth and other post-growth fields largely overlap.

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Table 1 Five recent reviews of the degrowth literature: methods, findings and differences

Title of paper and authors	Methodology	Selection criteria	Number of studies reviewed	Main findings	Verdict for the degrowth agenda
Reviewing studies of degrowth: Are claims matched by data, methods and policy analysis? Savin and van den Bergh (2024)	Systematic review (PRISMA-guided) with quantitative text analysis. Utilized computational linguistics and other metrics to evaluate the content, use of data, and methods in degrowth studies.	Comprehensive search of Scopus database (Feb 2023) for publications containing "degrowth", "de-growth", "post-growth" and "post-growth" in the title. Initial 1230 hits were screened out for non-English works, books, inaccessible papers, duplicates, corrections of prior articles, and off-topic uses of the terms (not about economic/ GDP growth), per PRISMA criteria.	561 studies	**Eleven major topics:** the degrowth literature spans 11 main thematic areas. **Predominantly opinion pieces**: "the large majority (almost 90%) of studies are opinions rather than analysis" – i.e. most are essays or commentary with few empirical or modeling studies. **Scarce empirical evidence**: Very few works employ data (qualitative or quantitative); even fewer use formal models. **Weak policy engagement**: Most degrowth writings offer ad hoc or subjective policy ideas without rigorous evaluation, and largely ignore established environmental policy literature. **Public feasibility issues**: Research on public opinion is limited, but among those a majority suggest degrowth policies lack social–political acceptability in practice. **Conceptual confusion**: Some papers misuse "degrowth" to describe involuntary economic recession rather than a deliberate strategy ("reverse causality").	"Based on the previous list, one is inclined to infer that degrowth cannot (yet) be considered as a significant field of academic research. There is also no indication that things are improving with time".
15 years of degrowth research: A systematic review Engler et al. (2024)	Systematic review with a mixed-methods approach. Employed full text multivariate statistical analysis, co-authorship network analysis, and qualitative content analysis to map the structure of degrowth research.	Comprehensive search of Scopus database (Feb 2023) for journal articles in English containing "degrowth", "de-growth", "post-growth" or "post-growth" in the title, keywords, or abstract (Jan 2008–Dec 2022). The search also restricted results to the subject areas: social sciences, environmental sciences, business and economics Initial 951 hits were screened out if degrowth was a minor focus of the paper or used as a buzzword.	475 studies	**Broad field**: Degrowth academic literature is a broad field with greatly differing approaches, "both in terms of methodology and ideology". **Thematic clusters**: The Degrowth literature was grouped into seven distinct clusters along two axes – one from qualitative to quantitative approaches, and another from individual-level to society-wide scale of analysis. **Gaps in policy specifics**: Degrowth literature showed a "lack of concrete distributional and monetary policy proposals" in the period analyzed. **Low collaboration**: The field exhibits a low degree of collaboration among authors relative to its size and age.	"We conclude that the academic literature about degrowth would benefit from a more prominent discussion of the political implications of its ideas and proposals and that in particular the debate about distributional policy implications of degrowth should be more prominent and concrete".

Table 1 (continued)

Title of paper and authors	Methodology	Selection criteria	Number of studies reviewed	Main findings	Verdict for the degrowth agenda
A comparative review of de- and post-growth modeling studies Lauer et al. (2025)	Systematic review (PRISMA-guided) focusing on modeling studies. The review systematically collected and compared economic modeling studies related to degrowth/post-growth, analyzing their assumptions, policy inputs, and results.	Comprehensive search of Google Scholar and Scopus (Nov 2023) for studies using keywords for economic models (e.g. "macroeconomic model", "quantification") combined with "degrowth" OR "post-growth" (2000–2023) Initial 900 hits were screened to remove non-economic or non-relevant hits, duplicates, and purely theoretical content. An additional 14 papers were added via snowballing.	75 modeling studies	**Small but growing field**: There is now a modest but rapidly expanding body of quantitative models addressing degrowth/post-growth covering a wide variety of model types, timeframes, and geographies. **Deliberate degrowth**: The majority of models treat degrowth/post-growth as an intentional transition except some depicting unintentional degrowth due to biophysical limits to growth. **Policies explored (and not explored)**: Many models simulate common degrowth policy interventions. However, more radical or structural proposals (e.g. deep economic restructuring, alternative ownership models) are underrepresented. **Key findings from models**: Reviewed studies show that growth is not necessary for achieving wellbeing, whilst lower growth rates make environmental targets more attainable. Models also underscore the importance of embedding biophysical limits (like carbon budgets, resource caps) into economic modeling – something traditional growth models often neglect. **Global South and agents**: Few models incorporate the Global South, heterogeneous agents, or multiple simultaneous planetary boundaries beyond climate	"We see a considerable potential for theory development on degrowth/post-growth and quantitative approaches to cross-fertilize each other. While the former constitutes the foundation for any modeling approach [...], the latter can help concretize degrowth/post-growth policy proposals, deal with scale issues, identify leverage points and compare the efficacy of different policy measures [...]"
Towards Modelling Post-Growth Climate Futures: A Review of Current Modelling Practices and Next Steps Edwards et al. (2025)	Systematic literature review of quantitative post-growth/degrowth climate scenario modelling studies.	Comprehensive search of Scopus & Web of Science (Mar 2024) for studies using keywords: "degrowth," "de-growth," "post-growth," or "post growth" combined with modeling terms terms (e. g., "ecological model," "climate model"). Initial 537 hits, were screened to remove duplicates and irrelevant studies to identify relevant studies. 32 studies deemed possibly relevant, and after screening 13 studies were kept as fully relevant. Backward and forward citation chasing produced 6 more relevant papers, out of which 2 were kept, to bring the total to 15	15 modeling studies	**Climate mitigation effectiveness**: Post-growth scenarios consistently show accelerating reductions in emissions and energy consumption with some showing degrowth as the only viable scenario capable of meeting the 1.5°C or 2°C warming targets **Positive social outcomes**: Post-growth models generally lead to improved social outcomes, notably reductions in inequality and poverty. **Fiscal sustainability concerns**: GDP contraction under degrowth scenarios often leads to increased debt-to-GDP ratios, highlighting potential challenges to fiscal sustainability. **Importance of structural transformations**: Studies stress that successful degrowth requires structural economic transformations, not just GDP reductions. Effective strategies must involve deeper qualitative changes in economic structure	"[F]urther advancements are needed to integrate post-growth principles into established [models]… allowing modellers to robustly explore post-growth pathways. By bridging the gap between theory and practice, future research can better inform the design of equitable, sustainable and actionable post-growth strategies for climate mitigation"

Table 1 (continued)

Title of paper and authors	Methodology	Selection criteria	Number of studies reviewed	Main findings	Verdict for the degrowth agenda
Post-growth: the science of wellbeing within planetary boundaries Kalliset al. (2025)	Expert review by leading scholars in the field. Integrative overview of advances inpost-growth research, drawing on the authors' expertise in each branch of post-growth to highlight key findings and debates of the past ~5 years, in the content of a longer debate starting with the Limits to Growth report.	Not constrained by a strict keyword search. The authors did not limit coverage to papers using the term "post-growth" in title or text; instead they "identified what they deem to be the most important recent contributions" relevant to post-growth claims and debates for and against.	Not explicitly enumerated (201 references cited)	**Modeling studies:** Degrowth modeling literature shows that absolute decoupling of GDP from resource use has not occurred to a significant extent, and future absolute decoupling is considered highly unlikely under realistic assumptions. Modelling studies indicate that post-growth policy packages (e.g., basic income, reduced working hours, universal public services) can yield significant environmental benefits (lower emissions) and improved social outcomes (reduced inequality, enhanced wellbeing). **Meeting needs at lower resource use**: The Literature shows conclusive evidence that human needs can be met at much lower levels of resource and energy consumption compared to current high-income country practices, aligning with stringent climate targets. **Key advances in recent years:** New more sophisticated models can better explore how economies can function without growth and test policies for managing stability in a no-growth scenario. Similarly, recent research has shown ways to uncouple social welfare systems from the need for GDP growth. **Ongoing debates and gaps**: The field is still grappling with major open questions. Notably, the politics of transitioning to post-growth, the geopolitical relations, and the need to transform the relationship between the Global North andSouth under a degrowth paradigm.	"Bringing disciplines together, developing new trans-disciplinary concepts, and integrating empirical studies with theoretical frameworks and models could provide valuable insights into how societies can achieve high well being without economic growth, and within planetary boundaries."

The present article compares and assesses these five review studies, with a special focus on that of Savin and van den Bergh, in comparison and contraposition to the four other studies. Beyond meta-evaluating the status of degrowth research, and asking whether evidence supports claims, the second objective of this study is a broader reflection on how to review inter-disciplinary subfields like degrowth within sustainability science.

The coverage of the five reviews will be somewhat asymmetric. The focus is principally on Savin and van den Bergh (2024), given that this is the outlier among the five in terms of its negative evaluation of degrowth research, and the one that received most publicity. Their review will serve as the limit case for exploring problems with applying narrowly disciplinary lenses (in that case, of economics) in the evaluation of sustainability research, which is by its constitution, inter-disciplinary. Whereas Savin and van den Bergh's study will serve as the main interlocutor for this analysis, the other four cases will provide contrast cases that highlight methodological and evidential differences.

This *is not* a PRISMA-style meta-analysis of the five literature reviews (i.e. Preferred Reporting Items for Systematic Reviews and Meta-Analyses—see Page et al 2021). The objective of this paper is not to estimate an average effect size, identify publication trends, or exhaustively catalogue the degrowth literature. Instead, it seeks to compare and interpret competing reviews examining how methodological choices shape their conclusions. This places the current analysis closer to the tradition of critical or integrative literature reviews (Torraco 2005).

This paper is structured as follows. "What is degrowth research?" defines the domain of degrowth research, and explains the challenges involved in assessing it. Based on the existing methodological scholarship on literature reviews, five criteria are proposed to guide good practice in evaluating this, and other, interdisciplinary fields within and beyond sustainability science. "The outlier: Savin and van den Bergh's negative evaluation of degrowth research" shows how the methodological choices of Savin and van den Bergh's study shape its conclusions, and their negative evaluation of degrowth research. "Four more systematic reviews of degrowth" compares Savin and van Bergh to the four other reviews and explains why the latter come to different conclusions. "Conclusions: nine core findings" concludes comparing the five reviews according to the five criteria and it reflects, first, on the state of degrowth research given the findings of the reviews, and second, on good practices when evaluating an interdisciplinary sustainability research field like degrowth.

A disclaimer: the author of the present study is a contributor to research on degrowth and is co-author in one of the five reviews reviewed here. Biases have been hopefully kept

to a minimum, but this assessment should be read with this positionality in mind. Readers should read the five reviews summarized in Table 1 for themselves and make up their own opinions for or against the claims presented here.

What is degrowth research?

Degrowth research has so far developed four main lines of investigation.

The first research line (RL1) includes studies—theoretical and empirical—that reject the prevalent hypothesis that high-income countries can achieve "green growth". This research does not prove as such the feasibility of degrowth but shows the infeasibility and undesirability of continuing to pursue growth while also trying to achieve ecological objectives (Slameršak et al. 2023; Vogel and Hickel 2023). Given that there are only two possible outcomes, either GDP growth is sustainable, or it is not, and if it is not, then it cannot and should not continue, which is the degrowth claim, then a disproof of the green growth hypothesis is an indirect support in favour of degrowth.[3]

The second line of research (RL2) focuses on so-called growth dependencies and imperatives (Corlet Walker et al. 2021; Driouich and Kallis 2025; Keyßer et al. 2025), or the ways GDP growth has become hegemonic within state and interstate institutions (Schmelzer 2016). This research attempts to explain how specific institutions or sectors have come to be dependent upon growth for their stability, with an eye towards developing interventions that may break such dependencies and enable institutions—and economies more broadly—to function and meet human needs without continuous growth. An important stream of research here concerns welfare states and institutions, and the possibility of building eco-welfare states sustained without growth (Koch 2022; Büchs and Koch 2017).

The third research line (RL3) explores the feasibility or desirability of degrowth itself: by modelling degrowth pathways and policies (D'Alessandro et al. 2020; Kemp-Benedict 2025); by showing that good living standards can be provisioned with low levels of energy and resource use (Millward-Hopkins et al. 2020; Vogel et al. 2021); or by looking, ethnographically and sociologically, at specific, localized experiences that can provide insights for arrangements that might secure human wellbeing with limited resource use [see various contributions in Paulson (2017) and Demaria et al. (2019)].

Finally, there is an emerging, fourth, literature on alternative forms of degrowth organizing (RL4). This includes for example studies on organizational forms suitable for degrowth transitions (Banerjee et al 2021; Nesterova 2024), studies of degrowth-oriented technologies or innovation systems (Kerschner et al 2018; Pansera and Lloveras 2025; Kostakis et al 2018), and studies of degrowth-akin territories that voluntary or involuntary have come to experience forms of degrowth (Kallis et al 2022; Gilbert et al 2026).

Degrowth has strong normative claims about the desirability of downscaling economic activity and moving beyond capitalist organization, but the veracity of these claims rests on empirically-testable propositions about the feasibility and desirability of, first, alternative pathways such as green growth, and second of degrowth pathways themselves. Degrowth contains also ethical claims about the a priori desirability of simpler forms of organizing, and of living within limits (see Kallis 2019), a sort of limitarianism that like notions of say liberty or equality, cannot be settled empirically alone.

There are three related challenges for assessing a complex field like degrowth:

First, degrowth research, like sustainability science at large, is inter-disciplinary. Related research spans a variety of approaches—from environmental studies and human geography with their use of mixed methods, to ecological, feminist or post-Keynesian economics with the use of models and statistics, political economy and political science with the use of case studies, all the way to anthropology and ethnography (see Paulson 2017; Kallis et al. 2018; Demaria et al. 2019). Assessing the state of such a diverse field requires that the researcher doing the assessment is familiar with the different questions, approaches, conventions and standards these different disciplines have so that the studies are assessed in their own terms, and not in the terms of the reviewer´s own discipline.

Different disciplines value different formats, so reviewers of an interdisciplinary literature like degrowth, if they seek to evaluate the whole field and not just a subset of it (say models), must be capable also of valuing different types of outputs. One might distinguish here between empirical and non-empirical studies. Empirical studies might be quantitative (regressions, input–output, dynamic system or other simulations, etc.) or qualitative (case-studies, ethnographies, etc.). Case-studies might be single, multiple or comparative; ethnographies might be single or multi-sited. Non-empirical studies can also take a variety of forms: theoretical models (expressed verbally, mathematically or with other symbols); conceptual frameworks, literature surveys or a combination of the two ; research or policy agenda-setting pieces;

[3] A-growth, i.e. ignoring growth, is a third, normative option—i.e. a nation may opt for pursuing desirable environmental and social policies independent of their effect on GDP growth (Van den Bergh and Kallis 2012). No matter, however, whether GDP growth is ignored or not, there can only be two outcomes—either the social and environmental goals are met and GDP grows, in which case we have green growth, or GDP doesn't grow, and then we have something akin to degrowth.

opinions/viewpoints (categorized in this journal as 'commentary'), and, editorials, which synthesize other empirical or non-empirical works.

Specialized disciplines tend to value only a limited set of these formats. Mainstream economics for example values mostly theoretical mathematical models and regressions (and the occasional literature survey) and privilege quantitatively-backed results rather than qualitative insights alone. Anthropologists work with ethnography and would find the mathematical models or regressions economists use as highly limited representations of complex reality, as ignoring local particularity, or even as imposing rigid epistemologies and heuristics. Again, the challenge when evaluating a field like degrowth is how to evaluate each of these formats in its own terms, and with its own standards.

Second, research relevant to degrowth cannot be confined only to research done in the name of degrowth, or even to that done by scholars who see themselves part of a broader degrowth community. Degrowth arguments build in large part on empirical research from a variety of fields, which may not use the word degrowth or may not even directly engage with the degrowth literature. If one wants to understand the unsustainability of green growth, the dependency of certain institutions upon growth, and plausible alternatives to capitalist growth, then one must assess this broader literature. This is why an earlier review on degrowth (Kallis et al. 2018) covered broadly relevant works from ecological economics, history of economic thought, economics, anthropology and political theory.

This makes it harder, however, to define precisely the domain of degrowth research proper. The reader may want to think of degrowth research in terms of three concentric circles (Fig. 1): at the center is research directly linked to degrowth by researchers who identify themselves as working on degrowth, participating in the conferences of the community, etc. A larger circle is that of research in related concepts and themes that speak to the three degrowth research lines—research on say decoupling, safe and just operating space, demand-side mitigation, sufficiency corridors, decent living standards, wellbeing within planetary boundaries, history of GDP, eco-welfare states, post-growth innovation systems, etc. This research, sometimes conducted by people involved in the smaller circle too, and other times not, speaks to broader debates and contributes to other disciplines and communities/debates, and cannot be fully reduced, or subsumed, under degrowth research. Finally, there is a larger circle, such as that reviewed in Kallis et al. (2018), of contributions in economics, political science or anthropology, that are not motivated by or framed around degrowth but bear much relevance. Mitchell's work for example on how between 1930 and 1950 the concept of economic growth was constructed is not linked to degrowth (Mitchell 2014), but it is crucial if one wants to understand how growth has become a hegemonic idea and why political systems are trapped within its pursuit.

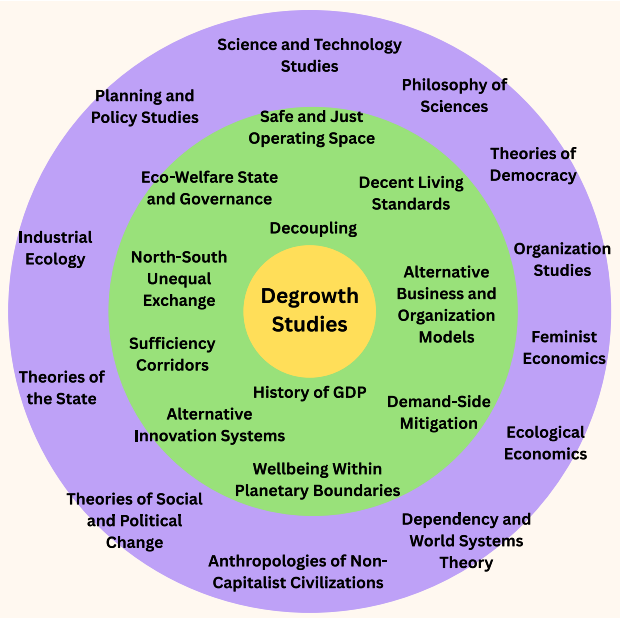


Fig. 1 The full spectrum of degrowth-relevant research

In fact, one may speculate that this openness to bring in arguments from other fields and studies is why many contributions to degrowth, especially early ones, took the form of conceptual papers or reviews, contributing to one or more of the three core research questions, by synthesizing pre-existing knowledge in the outer circles to yield insights for the core, or vice versa to argue the relevance of degrowth for outer circle fields (one will find hence conceptual/review papers on geographies of degrowth, anthropologies of degrowth, degrowth and cities, degrowth and planning, etc. see Paulson 2017; Demaria et al. 2019; Xue 2022; Kaika et al. 2023)). Drawing insights from the second and third concentric circles may not be about degrowth research 'colonizing' other fields as Savin and van den Bergh (2024) see it, but about core arguments for degrowth drawing on and building upon insights from other fields.

The challenge when doing a review today, where a lot more has been written on degrowth proper, remains: where do you draw the line? For example, if a paper on decoupling written by authors known for working on degrowth (e.g. Hickel and Kallis 2020) is included under degrowth research, why would a similar study by Haberl et al. (2020) also on decoupling but not explicitly linked to degrowth studies, be left out?

There are no firm answers here—what to include and what not depends on the questions a review sets to answer, and on the judgement of the reviewer regarding which studies are relevant for the purpose at stake and which not. If the

question for example is whether degrowth-related claims are backed by data, then any important decoupling study like that of Haberl et al. would be relevant, independently of whether degrowth arguments are made in the study itself. If the question concerns recent trends in the topics studied by the degrowth community, then no.

Third, an additional problem with degrowth is that it does not exist in a pure form in the empirical world. Degrowth has not been attempted and therefore it is not possible to study it directly. It is not like biology or physics where the subject matter is sitting in front of the researcher. The only ways to empirically study degrowth are either to use case studies of partially relevant experiences, or to do scenario modelling. Each approach has limitations. Case studies are not always representative of larger systems. Given that degrowth has not been attempted, these cases are not tests of degrowth, but of degrowth-akin experiences through which one can probe certain aspects or processes that might be interesting from a degrowth perspective. In comparison to qualitative studies, models might give a sense of completeness, but they are by necessity extreme simplifications of a complex reality, a reality that most likely will work very differently than the model, if something akin to degrowth was ever to be tried. Models can help probe whether a degrowth strategy is in principle possible or plausible, but they can't really predict or assess how a degrowth-oriented strategy would fare in the real world (especially since we cannot really know the social and political circumstances of its implementation). When dealing with degrowth policies the problem is that unlike say carbon taxes, there are no empirical implementations of policies in pursuit of degrowth from which to learn. What degrowth researchers often attempt is to learn from related policies that could form part of a degrowth strategy (such as job guarantees, universal services, working-time reduction, etc.), and then speculate or model how they could operate under a more integrated degrowth scenario.

Review methodology scholarship emphasizes that the quality of a review depends not only on comprehensiveness but on the alignment between review purpose and review design, transparency of evaluative criteria and reflexivity regarding the assumptions guiding synthesis (Booth et al 2021; Snyder 2019). Building on these principles, and adapting them to interdisciplinary sustainability research, we propose here five criteria suitable for judging the quality of a review of the degrowth literature.

1. *suitable breadth* of coverage, meaning that the material covered should correspond to the questions the review sets for itself.
2. *inter-disciplinary openness,* meaning that to the extent that the literature reviewed is inter-disciplinary, as is the case with degrowth and sustainability more generally, then the review should use criteria applying to different disciplines, and the reviewers should be capable to review different contributions from different epistemological and methodological traditions.
3. *reflexivity*, in that reviewers should be open about their own biases and how these guide or limit their approach.
4. *analytical contribution,* the criterion here being whether the review advances understandings of the literature and points to disputed questions, exciting debates, questions that by now are mute, new research directions, etc.
5. *fitness for purpose*, a more general criterion, meant to capture an overall assessment of whether the review's approach, methods and coverage is in par with the purposes the review sets for itself.

The outlier

This section focuses on the outlier of the five recent reviews, the study by Savin and van den Bergh (thereinafter SV). SV, it is important to note, are not only interested on current trends in degrowth research (i.e. the central concentric circle), but they want to evaluate whether the overall claims made in the name of degrowth pass the test of proof. This is their purpose as indicated in the title of their article.

To design the coverage of the sample of studies to be reviewed, they adopt a simple criterion, which however constrains their sample to a subset of the inner circle only: whether the word degrowth (or post-growth) appears in the title of an article. Using a software that they used also on a previous occasion (Savin and van den Bergh 2021) they sort out the main themes within the subset of degrowth-titled works, and identify associations between themes, authors, journals and places of research.

SV do not stop with this straightforward bibliometric analysis, which is what they did in their previous review of transition studies. They proceed instead to their core purpose, which is to assess whether degrowth claims are backed by data. To operationalise this they calculate the percentage of articles in the sample that include the presence of formal (mathematical) models or data analysis; articles that don't include models or data are classified as 'opinion'. The premise here is that opinion is not proof, and that the claims of degrowth can only be assessed with models and data: a low percentage of empirical studies therefore is indirect evidence of lack of support for degrowth claims. They then perform a qualitative, opinion-based assessment focusing on a couple of degrowth models and empirical case studies, criticizing their methods and findings. Their conclusion is, first, that "the large majority (almost 90%) of studies are opinions"; and second, that among the few studies that use quantitative or qualitative data, the majority tend to include

small samples or focus on non-representative cases. Therefore their validity is rejected and the conclusion is that there is no empirical evidence to confirm degrowth claims.

Six limitations emerge from this approach.

Limitation 1: Not covering all relevant research

Assessing only papers that have degrowth or post-growth in the title excludes by design important empirical research—i.e. research from the second and third concentric cycles of Fig. 1. If the goal is to assess the veracity of degrowth claims and not simply patterns in strictly defined core degrowth research, this is a serious omission.

As argued above, the case for degrowth is built up from empirical work that does not necessarily have "degrowth" in the title—papers that quite often point to degrowth as a key implication of the findings, or that are used by others to point to such implications. The kind of work that *does* have degrowth in the title is much more likely to be theory, argumentation, conceptual discussion and review, which often draws upon, and synthesizes published empirical work.

A further complication is that as the field grows (which is the case for degrowth, and a stated motivation behind SV's study) then it is much less likely that degrowth-oriented studies will use the word degrowth in their title, and more likely instead that they take their field of reference as a given and use the title to report on their findings (see for example, D'Alessandro et al. 2020; Vogel and Hickel 2023). One would not expect all articles published in this journal to have the word 'sustainability' in their title, nor would one review the state of research on economics by looking at articles with the word 'economics' in their title (indeed a cursory search of articles with the word economics in their title, shows, unsurprisingly, that most of them are not empirical studies; a search of articles with the word 'economy' in their title will find mostly conceptual essays or non-empirical polemics).

One could counter-argue that for a small, even if growing, field of study like degrowth, articles with the word degrowth in the title are somehow representative of the whole body of literature. This issue of representativeness is further analyzed below. However, even if articles with the word degrowth in the title were somehow representative of those doing research on degrowth (inner circle), this is irrelevant if the goal is to assess the validity of degrowth claims. Then one needs to assess the studies that are used to support such claims (from any of the three concentric circles), rather than unduly limit the review to articles with the word degrowth in the title.

Practical considerations are no excuse for following a limited selection process. With a little bit of extra work, one could start with a broader search term (e.g. include associated search terms from the second circle, search for the word degrowth in abstract and main text as some of the other reviews do—see Table 1) and then remove articles that are weak or less relevant. This is quite straightforward and indeed standard practice in literature reviews. Alternatively, one could simply speak to key researchers in the field to double-check whether the search design captured what these researchers consider to be the most important works regarding the core claims of their field (for an earlier approach like that, see Weiss and Cattaneo 2017).

Limitation 2: the blindspots of automated computation

In line with SV's privileging of 'models' and 'data' over supposed 'opinion', the first half of their review is devoted to a quantitative analysis of patterns among degrowth-titled articles. One may ask what the added value is really of such quantification, apart from the fact that quantifying is a seal of rigorousness among economists. One could imagine that SV, or anyone else, could use the same software, or now A.I. tools, such as ChatGPT and literature review side-apps, put in a few hours of work and run a literature survey on any field of study they wish, letting the software produce thematic clusters and associations like those SV produced for degrowth or for transition studies before. The question, however, remains: what is really the point of learning what themes appear most often in papers with degrowth in their title or what countries are authors from? Given how easy it is to produce such statistics and reviews with A.I. nowadays, why does a bibliometric analysis like that merit publication and is not simply performed at ChatGPT for one's own use?

There is arguably diminishing value in scientists spending time to perform tasks that a machine can already perform within seconds and for thousands of fields, if asked to. Where scientists may—for the time being—add value is by applying their own judgement to sort out what is useful and relevant information, and what is not. Many reviews, in the most reputable journals of science (such as the Annual Reviews for example), follow the long-established approach where knowledgeable authors select the strongest and most relevant studies in the field they review and critically engage with these studies. Systematic search and quantification can be distracting and unnecessary limiting here, other than for debatable bibliometric purposes.

Limitation 3: dismissing conceptual contributions or reviews as opinion

SV lump everything that is not a model and does not include qualitative or quantitative data into the category 'opinion'. But as "What is degrowth research?" argued, not all non-empirical theoretical and conceptual articles are 'opinions'. Strictly speaking, opinions are only articles published in the opinion or sometimes commentary sections of journals, given that these undergo lighter processes of peer-review (although it is worth noting that many articles published as commentaries do include an original empirical basis). Writing off all non-empirical work as opinion unless

it involves a model or original empirical basis is unjustifiable, as this would mean writing off most of philosophy, most of critical theory, most of the humanities, a good chunk of social science—and, notably, quite a lot of the SSP narrative work that is done by the IPCC. Even great works in economics by e.g., Adam Smith or John Maynard Keynes could be called 'opinion' by this criterion, as they were not using mathematical theory or running regressions and their recourse to empirical evidence was anecdotal.

If the format in which research is reported is not what makes it an 'opinion', then a scientifically rigorous labelling of a contribution as 'opinion' requires a different standard. Indeed, SV's own bibliometric assessment of the transitions literature for the EIST journal (Savin and van den Bergh 2021), was classified in that journal as a 'commentary', which pointed to an opinion piece. One can only assume by extension that the more recent review of degrowth is also an 'opinion', which in SV's own terms, but not the one of the author here, would be a reason to discard its validity.

In this author's view only what researchers and journals themselves classify as opinion should count as opinion and with this standard, it is doubtful that 90% of articles with the word degrowth in the title are opinions. Granted, many articles with the word degrowth in the title might be conceptual or programmatic agenda articles backed by partial literature reviews (and this is especially so the case as degrowth makes inroads in new fields such as tourism studies, urban planning, food studies, etc., researchers who discover the term there introducing it to their audiences with a conceptual literature review). Whether such articles make an important contribution to knowledge or not is of a different question and needs to be assessed on a case-by-case basis; but it can't be a priori determined in terms of their presumed 'opinion' nature.

Limitation 4: the quality of a literature cannot be assessed with percentages

The software used by SV can perform a bibliometric analysis but not an assessment of the quality of the field. To accomplish this, SV added an implicit step in their analysis, judging a particular type of article, in this case non-empirical/non-formal theory articles, as inferior ('opinions'). A conventionally harmless tool for bibliometric analysis, which was how it was used by SV in the past for the transition studies commentary (Savin and van den Bergh 2021), was then transformed into an evaluative one, and used to claim that 90% of the articles on degrowth are opinions, and hence of inferior quality and credibility.

This number, however, is meaningless, because—as argued above—non-empirical articles are not necessarily opinions, and they are not necessarily inferior. But even if we were to imagine that we could come up with a more accurate and more objective criterion of quality, it would still be meaningless to judge the state of a field by measuring *the percentage* of articles meeting this quality criterion, since *most* articles published, *in any field*, are likely to be of questionable quality (anyone who has used a google scholar email notification for a term of their interest, knows this well).

Much of the research published on degrowth may not be of the desirable quality—but this will be most likely the case for *any* topic or field. Run a search with the word economics in the title and see what percentage of the resulting articles seem worthwhile—is this a basis for claiming that economics is a science of inferior quality?

Furthermore, when judging whether data backs particular claims, the percentage of 'good articles' is irrelevant—even one good article would be enough if it proves the hypothesis at stake. Per proper review methodology, low-quality work should be ignored because what matters is to assess the robustness of the high-quality empirical work that is used to support (degrowth) claims.

Limitation 5: interdisciplinary research reviews require interdisciplinary reviewers

SV may have published in different fields, but they are trained as economists. The challenge for an economist when reviewing the degrowth literature is how to review studies that do not form part of the canon they are trained in. This relates to the second criterion of the quality of a review, that of interdisciplinary openness.

Case studies, for example, are widely used in ethnography, sociology or business research, but not in economics. One rationale for studying a single case study is that it is 'typical' (what SV mean by 'representative') of a certain situation. But that is not the only rationale. One may study a single case because it is a critical case, an extreme or unique case, a revelatory one, or a longitudinal one that changes over time (Yin 2009). A case study does not attempt to generalize about a phenomenon by controlling factors that influence it, which is what economists are used to take as the standard of proof with regression analyses—a case study generalizes by linking case specific observations to theory, always in relation to the specific questions the case sets to answer (Yin 2009). The problem here is that SV apply their own criteria of validity for several degrowth case studies (namely whether the particular study is representative of—and can be generalized to—a degrowth economy, or whether it sheds light on the feasibility of implementing degrowth), which is not, however, the goals the studies set up for themselves. This may, at least partly, explain why some of the studies that SV reject as non-representative or small-sampled were

published in reputable journals, approved by peer reviewers who understand better the case study method.[4]

To use an example of a study criticized by SV. In the degrowth-oriented study of two remote Greek islands (Kallis et al. 2022), the two islands are presented as *typical* of a particular feature that interested the researchers: remoteness/isolation, or what cultural geographers call 'islandness' (Foley et al. 2023). They are not meant as a general proof or not of the feasibility of degrowth or as micro-cases of degrowth that can be scaled up to the national level – whether GDP in the two island economies declines is therefore not crucial. The goal, as the authors set it, was one of understanding how, and under what conditions the isolation of the two islands (typical also of other remote rural areas) may be a fertile ground for the persistence of frugal ways of living, akin to those advocated by degrowth. The study asks how and why people in some places end up valorizing a way of living that is generally in retreat elsewhere, discarded as poverty or backwardness? The empirical claim here is that isolation provides fertile ground for alterity, a potential that is materialized (or not) through historical contingency. In this sense the two cases functioned also as 'revelatory' of a broader dynamic that may make degrowth-akin lifestyles desirable elsewhere, one where a certain degree of spatial separation combines with cultural-historical processes of valorizing frugal ways of living—though one must draw such general conclusions with great care and awareness of their limitations, which one can assume the peer-reviewers of the reputable journal World Development did.

According to the authors of the study, the two different islands are not presented as comparable and generalizable, but as a springboard from which to draw ampler empirical material on the questions at stake (two studies instead of one, with complementary insights each). What SV therefore see as weaknesses of this, and of other degrowth, case-studies—limited comparability between the cases, impossibility to generalize to other contexts or scales, lack of information on whether the GDP declines—is unrelated to the research objectives the island study set out to accomplish. Exploring conditions under which frugality has become (or remained) prevalent in certain places, people taking pride in it, is a relevant question if one wants to contemplate the prospects for degrowth. Likewise, when other researchers study degrowth through urban squats, popular science museums, or cooperatives (studies SV take issue with in the Annex of their review), the point is not to test and assess degrowth in practice, or to generalize out of these experiences for the society as a whole and say all housing should be squatted or all producing firms should be cooperatives: the goal is to shed light on certain conditional and contextual dynamics that might be important when one comes to think about degrowth.

SV repeat this pattern of evaluating studies with standards of their own, and not those of the studies themselves. This extends even to survey research where, unlike case studies, SV *are* experts. So, in the case of Eversberg and Schmelzer (2018) who surveyed 685 German and 129 non-German participants in a degrowth conference in Leipzig about their opinions, clustering degrowth participants into five ideal types, SV complain that the authors of that study did not survey people who were against degrowth. But the objective of the article was to understand and cluster opinions *within* the degrowth community, why would they survey people who were against degrowth? SV themselves might be interested on general population opinions about degrowth, but Eversberg and Schmeltzer were not, they wanted to study the opinions of degrowth scientists and activists only. SV criticize the study also for mostly surveying German degrowthers. But when van den Bergh and colleagues studied green growth vs. degrowth opinions, they also surveyed only Spaniards (Drews and van den Bergh 2016). Methodologically, this is fine, to the extent that the reader can understand that the results are context-specific (in the Spanish study applying to the general population in Spain, or in the German study, applying to German degrowthers mostly) and that they are generalizable or representative only to the extent that Spain is similar with regards to such opinions to other countries (or for the German study, to the extent that German degrowthers are similar to other degrowthers).

The limitations of a narrow economic expertise in reviewing an inter-disciplinary literature extend beyond method, and into theory and concepts. SV find "islandness", a term used by cultural geographers (Foley et al. 2023), as strange, and they think the term "necropolitics" is invented by degrowth researchers, unaware that this is a signature concept, with a whole literature around it, of one of the most prominent political philosophers of our time,

[4] The article-by-article review of a few selected degrowth studies at the annex of SV's paper is particularly striking. SV make comments in the annexed table as if they are editors of a journal desc-rejecting a paper, commenting on what they think is the weakness of one or the other already published and peer-reviewed study. A literature review must surely engage critically with the claims and evidence of the published studies it reviews. But that is not what this annex does: SV give short opinions about the methods or language or mistakes they perceive of already published papers (criticizing for example questions included in surveys, titles of papers, or sentences and terms used). This is one of the first literature reviews that we have come across that indirectly questions the validity of the peer review process of the journals it reviews, and of the anonymous reviewers that conducted these reviews. No doubt the studies at stake may have imperfections or debatable methodological choices. But if they were published after a peer-review process, the assumption is that on balance the papers and their authors did a good enough job in defending their points and choices. That the journal Ecological Economics published a review criticizing the quality of papers the journal itself published is somewhat perplexing.

Achille Mbembe (Mbembe 2006). SV ignore basic concepts established in fields outside economics, like 'prefigurative politics' (Swain 2019; Jeffrey and Dyson 2021), and have no reservation in admitting so and proceeding to criticize the degrowth scholars who use them. In a literature review, however, it is the reviewers who should do their homework and understand the language of the literature they review, not the other way round, researchers working with concepts that the future would-be reviewers from a different discipline would understand. Imagine for a moment a reverse scenario: two anthropologists doing a review of the degrowth literature and bemoaning the quality of studies for using fancy terms that are common in economics, such as 'decoupling', 'secular stagnation' or 'Baumol disease'.

Limitation 6: a literature is not something static

Finally, a literature review, if it is to make an analytical contribution, should not only assess what a field has been doing but also where it is going. As the next section shows, there is no doubt that there is much more to be done in degrowth research, and that policy modeling or assessments are still in their infancy- all five reviews evaluated here agree on this point. There are, however, incipient modelling efforts that show that degrowth policy packages could be beneficial (D'Alessandro et al. 2020),[5] and there are, importantly, under way EU research projects on post-growth to a total of 40 MEuros, which will be producing important results within the next five years (European Commission 2023, 2022; Universidad de Vigo 2023; Universitat Autonoma de Barcelona 2023). That degrowth research needs to advance the third and fourth lines of research (RL3, RL4) and develop much more empirical work to back up claims about the feasibility and applicability of degrowth and degrowth-oriented policies is something that people within the (small) degrowth research community are aware of (Kallis et al. 2025) and have started addressing by successfully convincing other researchers and the EU that such resource-intensive research merits funding. Just indicatively, since 2025 and during the time the present article was under review, three more degrowth modeling studies were published (Mihci and Attar 2026; Kemp-benedict 2025; Zhao et al. 2026), while new frameworks are currently being constructed that will produce more studies in the future (Slameršak et al. 2026; Van Eynde, et al. 2026).

Taken together, the six limitations discussed above suggest that the review by Savin and van den Bergh performs unevenly when assessed against the five criteria proposed in "What is degrowth research?". Its principal strength lies in the transparent application of a clearly defined bibliometric search strategy, making it reasonably fit for the narrower purpose of mapping publication patterns within the core degrowth literature, a question remaining however about the usefulness of this task in the age of AI tools. This same methodological choice constrains the breadth of evidence considered, limiting its suitability for the broader question it ultimately seeks to answer—whether degrowth claims are supported by evidence. Furthermore, the review displays limited openness to the diverse epistemological traditions and methodological approaches that constitute interdisciplinary sustainability research, insufficient reflexivity regarding the disciplinary assumptions underlying its evaluative standards, and a predominantly verdict-oriented engagement with the literature, which limits its analytical contribution.

Four more systematic reviews of degrowth

This section contrasts SV's study with four other reviews. For each review, methodological similarities and differences to SV are discussed, and then substantive differences in terms of evaluation of the degrowth literature identified (see Tables 1, 2). This allows the reader to arrive at a more informed and complete view of the current state of degrowth research.

Three of the four reviews examined here are systematic reviews, following a similar search approach to that of SV (Engler et al. 2024; Edwards et al. 2025; Lauer et al. 2025). The fourth, in which the author of this study was involved, is instead an authoritative review of post-growth, written by a team of the most cited scholars in the field (Kallis et al. 2025)—this review did not follow a systematic selection of the literature, nor did it attempt to quantify the trends in it.

None of these two approaches (systematic and expert-based) is a priori superior to the other: while a systematic search is justified for more narrow questions, such as trends in a field or its thematic coverage, and is apt when performed by people new to a field, who need a defensible criterion for

[5] SV discuss the D'Alessandro et al. study, the only actually included in their sample that does not have the word degrowth in the title (a question pends on why not include more important studies like that where degrowth does not feature in the title). Their critique, more a matter of opinion than fact, is that they don't trust dynamic system models because of too many hidden assumptions (a valid critique, but of course valid for most types of models, including the agent-based models SV prefer to use). SV claim also that the degrowth policy strategy modelled leads to high public debt, therefore it is unfeasible. What they omit is that the degrowth strategy performs better than the other strategies, including green growth, and that public debt in the model plateaus at levels comparable if not lower than those of countries like Japan or Italy today. Modern Monetary Theory also suggests that the supply of public money is not a limiting factor if sufficient labour and resources are directed to the goal at stake (Olk et al. 2023). Finally, even if public debt in a degrowth scenario is very high and this is a problem, this applies pretty much to any other policy or strategy to combat climate change and social problems—a policy must have some negative aspect or undesirable side effect, otherwise one should suspect the model itself.

Table 2 An evaluation of the five studies according to five criteria of literature review quality

Paper	Breadth of coverage	Inter-disciplinary openness	Reflexivity	Analytical contribution	Fitness for purpose
Reviewing studies of degrowth (Savin and van den Bergh 2024)	**Low.** Search strategy is too narrow for the question the study asks, restricting the review to articles with degrowth or post-growth in the title and thereby excluding much of the literature relevant for assessing degrowth claims.	**Low.** The study exemplifies the limitations of a narrow economic expertise in reviewing an interdisciplinary literature and the limits when reviewers are unfamiliar with core concepts and methods outside economics.	**Low.** Quantification and systematization give a false impression of objectivity and the review shows insufficient awareness of its own disciplinary assumptions and how this affects the choice of the implicit evaluative criteria with which it assesses the literature.	**Low.** The review does not identify research gaps or future directions, and provides no insights on disputed questions or important debates. The evaluative judgement of the field as a whole is of limited analytical value.	**Medium.** Well suited for a bibliometric analysis of patterns among degrowth-titled articles, but unsuitable for the broader objective of assessing whether degrowth claims are backed up by evidence.
15 years of degrowth research (Engler et al. 2024)	**Medium-High.** Research design is sufficiently suited for the narrower goal of finding trends and understudied topics in the degrowth literature.	**Medium-High**. Does not judge studies by a single disciplinary standard.	**Low.** No particular reflection on the positionality of authors or the approach chosen.	**High.** Take a balanced, but critical stance, acknowledging consolidation of the field while identifying important research gaps in finance, distribution and the role of the state.	**High.** esearch design is sufficiently suited for the narrower purpose set here of mapping trends and identifying understudied areas.
A comparative review of de-and post-growth modelling studies (Lauer et al. 2025)	**Low**. Uses "a loose criterion to what they qualify as a post-growth model", identifying a wider range of relevant modelling studies than the other systematic reviews.	**Medium**. Reviews modelling studies from across the broader post-growth literature, including studies that "have something relevant to say about degrowth" even if not explicitly framed as such.	**Low-Medium**. Makes modest claims about contribution, but positionality of authors is not explicitly stated.	**Medium.** Identifies weaknesses in existing models and related areas for future research.	**High.** Well aligned with its objective of reviewing post-growth models and identifying their strengths, limitations and future research needs.
Towards Modelling Post-Growth Climate Futures (Edwards et al. 2025)	**Medium–High**. Throws a small net, but complements keyword searches with backward and forward citation searching to identify additional relevant studies.	**High.** Evaluates modelling studies from different disciplines according to modelling objectives and acknowledges both strengths and limitations of current approaches.	**Medium.** This study has a finite scope of evaluating a limited number of models, and given that the authors are modelers, this raises limited demands for reflexivity.	**High.** Identifies gaps in existing models such as narrow policy coverage, limited national heterogeneity and limited coverage beyond the Global North, offering clear directions for developing better models in the future.	**High.** Closely aligned with the specific aim of evaluating the state of post-growth modelling and assessing the extent to which models support particular empirical claims.
Post-growth: the science of wellbeing within planetary boundaries (Kallis et al. 2025)	**Medium**. Draws on relevant studies in the field, engaging evidence from across the broader post-growth and sustainability literatures. Selection however is somewhat ad hoc and might have missed other important studies	**High**. Reviews studies from different traditions and approaches - economics, ecology, political economy, public health, sociology and related disciplines. Team of authors is inter-disciplinary.	**Low**. As participants in the field, the authors have obvious biases; while such biases may be clear to reader they are never explicitly acknowledged in the review nor implications and limitations discussed.	**High.** Points to breakthroughs and accumulating empirical evidence, discusses controversies while also identifying several gaps including modelling, finance, geopolitics and North-South relations.	**High.** Expert unsystematic review suitable when one addresses broader questions and controversies.

This is a summarising, subjective assessment of how well each study performs on each criterion on a scale of low, medium, high. Arguments are further expanded in sections 3 and 4 of this paper

what they decided to include and what not, an authoritative review may be more suitable when one addresses broader questions, such as whether post-growth/degrowth claims are backed up sufficiently by evidence or not. In that case expertise in the field serves as a certain guarantee that the review engages with the most authoritative and relevant studies in the field.

Granted, as participants in the field, the authors of the Lancet study had obvious biases and were more likely to evaluate favorably the evolution of a scholarship to which they are contributing. One could argue that such bias is transparent and clear to the readers, though like SV, that study too could be criticized for not being sufficiently reflective on its positionality and the influence this may have had on its conclusions. Note, however, that using a more systematic search, and quantifying results does not resolve the risk of bias—if something it hides it. Quantification and systematization may give a false impression of 'objectivity'; as the case of the SV article demonstrates, such automation/quantification does not necessarily take away reviewers' pre-formed disciplinary opinions and biases, especially if they are not aware of them, or do not want to accept them. At its worst, it may reduce transparency, disguising findings with an aura of numbers-based impartiality.

Moving to the studies: Engler et al. follow a similar search approach to SV (Table 1). Despite their more open search that included abstracts and keywords, they end up with fewer articles than SV (475 compared to 561 by SV who searched only titles), suggesting that they applied a stricter judgement on what counted as a degrowth-relevant contribution. Now, whereas Engler et al. used an automated software approach that at least in principle should produce comparable results to those of SV, in fact the thematic clusters each study comes up with are completely different. So, for example, Engler et al. identify as prominent themes in the literature "culture and power", "flavors of degrowth", "transition management", and "perception and communication", whereas SV had come up with completely different themes, such as "local/urban practices", "democracy and civil society" and "circular economy". Indeed, while in total the two studies come up with 18 thematic clusters (7 and 11 respectively), there is not a single theme shared between the two reviews. This points to the ad hoc nature of systematization and automated analysis despite the appearance of objectivity: quantified codifications of literature may impress (or at least, they used to impress before the advent of A.I.), but their replicability in this case is null, suggesting that their results are contingent upon the 'black box' algorithm each software uses to cluster themes.

Notwithstanding this, Engler et al.'s research design is sufficiently suited for the narrower, compared to SV, goal they set to accomplish, namely, to find trends and understudied topics in the degrowth literature. Engler et al. do not purport to judge whether the degrowth literature supports its claims. In terms of substantive findings, Engler et al. take a balanced, but critical stance on the overall state of degrowth research. They acknowledge that the field is consolidating its own conceptual landscape, but they also identify gaps, most notably on monetary/financial and distributional policy, and in contradictory theorizations of the role of the state. Finance, and the question of how to pay for social services in the context of degrowth are indeed very important questions, and there is still a lack of empirical or modeling research, other than some incipient conceptual contributions (Olk et al. 2023). The question of (in)equality without growth has only been recently started to be addressed with models (Jackson and Victor 2016; Hartley et al. 2020), and the question of the role of the state in relation to degrowth is indeed an open, and important question, where again, only conceptual contributions are currently available (Akbulut 2019; D'Alisa and Kallis 2020). These gaps are most likely not death blows to the prospects of degrowth studies or to the veracity of their claims, but sore points, and frontiers of related research.

Lauer et al. and Edwards et al. are more narrowly interested in post-growth models only (Table 1). Lauer et al. follow a loose criterion to what they qualify as a post-growth model, and they come up with 75 studies (including not only peer-reviewed publications but also book chapters and reports), a number second only to the 107 modeling studies found by Engler et al., but higher than the 17 models (9 empirical and 8 theoretical) counted by SV. A quick look at the studies included by Lauer et al. in their sample reveals that there are studies that are not modeling post-growth or degrowth but are claiming in the body of their text relevance to the broader post-growth/degrowth debates. In the terms of Fig. 1, Lauer et al. do not look therefore only for models addressing the core circle, but also models positioned in the outer circles but having something relevant to say about degrowth.

Edwards et al. in comparison throw the smallest net of all, and identify 15, strictly-defined post-growth model studies, mapping that is inner circle models only. While SV use the number of models as a proxy for the quality of the field, Edwards et al. refrain from judging if the number is low or high in the abstract—instead they investigate the specifics of these models, what they cover, what they miss, and what claims they support or not. An interesting addition in Edwards et al.'s selection approach is that of backward and forward citation searching—they used a software that lets identify studies cited or citing the studies identified by the keyword-search. This led them to identify 6 more potential candidate studies that had escaped their first search, out

of which two were deemed relevant and included in the analysis.

In terms of substantive conclusions, both Lauer et al. and Edwards et al., seem to find the field of post-growth modeling as emerging and growing. They find promise in its diversity, but also underdeveloped in crucial aspects, as one would expect it to be at this stage. Identified weaknesses include a narrow policy coverage, limited national heterogeneity and limited coverage beyond the Global North, and a simplistic reduction of degrowth to GDP assumptions with lack of modeling of the structural changes or grassroots shifts that degrowth calls for. These two review studies see such underdevelopments not as weaknesses, but as areas for future research. In both cases, the reviewers, who are modelers themselves, seem to hold in high esteem the quality and credibility of existing post-growth models.

Of these three reviews, only Edwards et al. attempted to weigh on the big question SV staked, i.e. whether evidence backs up degrowth claims or not. Their answer of course was limited to only what models have to offer in this question. Their review finds preliminary evidence that the models available at the time *did support* degrowth claims about the climate mitigation effectiveness of post-growth scenarios and their positive social outcomes, albeit with concerns about fiscal sustainability. This finding replicates a core message of the Lancet review, which published at around the same time as Edwards et al., came up to a similar conclusion, albeit following a qualitative reading of the existing literature, and a focus on the few models that were considered most important.

The Lancet review, as already stated, did not follow a systematic selection of the literature and did not use a software to identify themes or else. Its purpose was different: the study was written on the 50th anniversary from the Limits to Growth report, and it was meant to evaluate how this debate evolved and matured over time into the current post-growth research. In terms of method the approach the authors of the study followed was to identify, from their own experience, the core controversies that mark the evolution of the field (resource limits to growth, planetary boundaries and decoupling, delinking and development, etc.), and then for each controversy engage with the most important studies, for and against certain claims.

The Lancet review points to breakthroughs and of accumulating empirical evidence supporting degrowth claims. To sum up here, the review found established evidence that: efficiency improvements, technological substitutions and other 'decoupling' strategies are insufficient to sustain growth and keep humanity within planetary boundaries (for reviews see Wiedmann et al. 2015; Haberl et al. 2020; Hickel and Kallis 2020; Vadén et al. 2020, 2021); that sufficiently rapid rates of decarbonization are out of reach (Vogel and Hickel 2023); and that meeting climate goals would require a dramatic decrease in energy use, which is next to impossible under continued growth scenarios (Heun and Brockway 2019; Brockway et al. 2021; Keyßer and Lenzen 2021; Berner et al. 2022; Kikstra et al. 2024). There are also several studies showing how the growth of material consumption in the Global North rests on the unequal appropriation of labor, resources and ecological space from the Global South, the implication being that global justice and human development in the majority world are not compatible with continued growth in Europe and North America (Bruckner et al. 2012; Hickel et al. 2021, 2022, 2024; Pérez-Sánchez et al. 2021; Dorninger et al. 2021; Infante-Amate et al. 2022).

The Lancet review therefore concluded that one core, early claim of the degrowth literature (Kallis 2011) is increasingly well backed up by evidence—that is the claim about the unlikelihood if not impossibility of green growth.

That green growth is impossible, however, does not make degrowth automatically possible or desirable. How feasible is a post-growth/degrowth transition is an important question (see what was identified as Research Lines 3 and 4). The Lancet review engages with one set of developments there which focuses on the minimum material and labour requirements for decent living, showing that with a radical re-organization of provisioning systems, high well-being can be achieved with a degrown, fraction of the current levels of energy and resource use prevalent in developed economies (Millward-Hopkins et al. 2020; Barrett et al. 2022; Creutzig et al. 2022; Vélez-Henao and Pauliuk 2023; Hickel and Sullivan 2024).

Further than that this review too identifies several gaps in degrowth literature, not least the lack of modeling of more realistic policy packages and economic dynamics, including finance/monetary interventions; North–South relations and the relationships between delinking and degrowth; and crucially, the (geo)political obstacles to any degrowth-oriented trajectory. The question of political and social possibility looms large in the Lancet review which suggests that one needs to distinguish between ongoing political developments, which make a voluntary degrowth path very difficult, and more fundamental questions about popular or political perceptions.

Of the five reviews, apart from the Lancet review, only SV's, to their credit, address, at least partially, this question by focusing on the popular acceptability of degrowth. Their reading of the data, however, can be debated. Drews and van den Bergh's survey of Spain for example shows that 15% of those surveyed agree with a degrowth-oriented statement[6] (not a small percentage, given that there was no further

[6] "Public policy should stop pursuing economic growth. Production and consumption need to be reduced in an equitable way to achieve environmental sustainability."

information or explanation given), while a remaining 21% agrees with a milder statement that is agnostic of growth and reminiscent of post-growth, with which most people arguing about degrowth would also agree with (Drews and van den Bergh 2016).[7] 36% of the electorate having a growth critical position does not appear a strong finding against the social-political acceptability of degrowth. In another study King et al. (2023) survey scientists, whom they ask how much they agree with three statements about growth and the environment. The authors interpret themselves the extreme positions in the answers as "degrowth" and "green growth", and the intermediate ones as "a-growth". Of the 764 respondents who answered all questions, 207 (27%) were categorized as holding a green growth position, 342 (45%) an a-growth position and 215 (28%) a degrowth position. What is not clear, however, is why those with an inter-between position would side with what van den Bergh has labelled 'a-growth' (Van Den Bergh and Kallis 2012). The claim that these respondents support a-growth is not convincing since in surveys there is a tendency for people when confronted with two extremes to give an intermediate response. This cannot be interpreted as a strong support for a different option that was not given to them.

Moving beyond the five existing reviews, and into more recent studies, one limitation of the above-reported public support surveys has been that they do not assess directly the popularity of the content of post-growth/degrowth proposals but instead attempt to infer it indirectly from one's agreement with general statements on growth and the environment. More recent research probing direct support or not for the content of post-growth/degrowth, finds a surprisingly high rate of popularity of post-growth proposals, in the most unlikely of contexts, that of the USA (O'Dell et al. 2025). Likewise, a recent study led by psychologists in the London School of Economics finds that when confronted with the content of the degrowth proposal, most responders in UK and US sampled populations agree with it, support that is lower, but still very high and above 50%, when the proposal is accompanied by the label 'degrowth' (Krpan et al. 2025). A survey of elected politicians from the previous European Parliament also found a non-negligible cluster of opinions around post-growth and eco-socialism (Kallis et al. 2023). Rather than degrowth lacking a base for support, therefore, the interesting question seems to be why, given the potential popularity of its proposals, no politician or political party seems to be willing to openly defend them; and why the electorates often do not seem to be supporting those parties that come closer to such positions or proposals.

[7] "Public policy should ignore economic growth as a policy aim, that is, be completely neutral about growth. This will amplify the policy spectrum to combine well-being and environmental sustainability goals."

There is a definite need for further research on understanding public perceptions of degrowth, framings that work or do not work with different publics, and most importantly, the gap between attitudes and (political) action. Notwithstanding, it is a far stretch to claim that existing studies prove that degrowth is fundamentally and a priori unpopular).

Conclusions: nine core findings

This paper weighed in on five recent reviews of the post-growth/degrowth literature. The primary focus was on the outlier of these reviews, which was also the one that received the most attention given its negative evaluation of degrowth studies. Table 2 provides a subjective assessment of the performance of each review according to the five criteria of quality proposed in "What is degrowth research?". The five reviews differ less in their overall conclusions than in their methodological orientation. SV adopt a narrow, bibliometric approach and seek to evaluate the credibility of the degrowth literature as a whole, whereas the remaining four reviews are each designed around more specific objectives—mapping thematic trends in the modeling literature (Engler et al.), assessing post-growth models (Lauer et al.; Edwards et al.), or synthesizing the state of knowledge on post-growth (Kallis et al.). Despite these differences in scope and method, all four reviews except SV's display broader engagement with the relevant literature, greater openness to interdisciplinary forms of assessment, more explicit alignment between review design and research question, and a stronger emphasis on identifying both established findings and remaining research gaps. The studies converge on that green growth pathways are unlikely, and that, under certain conditions at least, degrowth pathways may be preferrable. All four identify significant limitations and areas where further empirical work is needed, agreeing for example on the need for better policy assessment, better understanding of politics of degrowth and the role of the state, questions of financing/paying for welfare states without growth, or North–South relations and how to undo unequal exchange. None of the four studies concludes that the existing evidence is insufficient to warrant the central claims advanced by degrowth scholarship. Their convergence, despite employing different review strategies, therefore provides a more robust basis for assessing the current state of degrowth research than the isolated and methodologically more restrictive conclusions reached by SV.

ine core findings of the present study are outlined here, three regarding the substance of whether degrowth claims are backed by evidence, and six on methodological practice when reviewing a sustainability literature such as degrowth.

Regarding substance:

1. The founding claim of degrowth studies, i.e. that green growth is unlikely if not impossible, has been corroborated by credible evidence.
2. There are a small number of specialized degrowth models that show that degrowth-oriented policy packages can fare well in terms of climate and social outcomes but are raising questions of financing that call for further study. A new generation of integrated assessment and ecological macro-economic models are under development that purport to simulate more complex post-growth socio-economic interactions and policies and their effects on a variety of environmental and wellbeing outcomes. These remain however focused on Global North contexts, and they need to extend to the Global South and to North–South interactions.
3. Degrowth is a flourishing field that includes empirical as well as conceptual or review contributions. Whereas early emphasis was on conceptual contributions that tried to define the field and build bridges to other fields of study, recently there is a development of degrowth research proper, including both quantitative studies and models, and qualitative case studies. The reviews of the literature agree that there are glaring gaps in current degrowth scholarship, and these include, among others, questions of distribution in a degrowth transition, North–South relations and alternative development models for the South, the politics of transformation and popular support—or lack of—for it and resistance from vested interests, the function and role of the state, and finally, geopolitical questions.

Regarding, methodological practice on evaluating degrowth studies, but also applying to sustainability science more generally:

4. One needs to be very clear about the purposes and boundaries of a review. If the goal is to assess the evolution of a scholar (sub)community and identify the themes it is engaging with, then a narrower definition of the field is justified. If one instead wants to evaluate the validity of claims of this community, such as degrowth community claims in this case, then it is necessary to extend to a broader field of studies that are not always framed in terms of the community itsel but have much to offer regarding the validity of its claims.
5. If one wants to evaluate the degrowth literature as a whole and not a specialized subfield of it like say models, then one needs to be attuned to the different disciplinary approaches represented in it and assess different types of study in their own terms, free from any disciplinary biases.
6. Systematic search criteria and quantification should be used with caution and only when fit to purpose. If the intent is bibliometric, then a systematic quantification might be merited. If the intent is evaluative, then a quantification is likely to be misleading, and a systematization carries the risk of being restrictive.
7. Narrow disciplinary yardsticks should be avoided: interdisciplinary literatures cannot be evaluated from the vantage point of the discipline where the reviewer happened to be trained. The fact that sustainability science, especially social and policy studies within sustainability studies, have had a strong economics focus, may make economists feel entitled to review the field as a subset of economics, and apply upon it the restricted quality criteria of what counts as good science in mainstream economics. Sustainability studies, however, are not reducible to economics, nor do economists have a privileged position in evaluating sustainability science.
8. Assessments should be transparent about their own assumptions and criteria.
9. Interdisciplinary fields are heterogenous and in flux. The analytical contribution of a literature review is not to pronounce a field as good or bad, but to contribute to its maturation by sorting out good from not so good studies, and focusing on the good ones, identifying the debates, controversies and research questions they open.

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