



Review

Exploring degrowth policy proposals: A systematic mapping with thematic synthesis

Nick Fitzpatrick^{a,*}, Timothée Parrique^b, Inès Cosme^a^a CENSE - Centre for Environmental and Sustainability Research & CHANGE - Institute for Global Change and Sustainability, Department of Environmental Sciences & Engineering, NOVA School of Science & Technology, NOVA University Lisbon, 2829-516, Caparica, Portugal^b School of Economics and Management, Lund University, Sweden

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ABSTRACT

Degrowth – the planned and democratic reduction of production and consumption as a solution to the social-ecological crises – is slowly making its way to the sphere of policy-making. But there is a problem: proposals are scattered through a voluminous literature, making it difficult for decision-makers to pinpoint the concrete changes associated with the idea of degrowth. To address this issue, we conducted a systematic mapping of the degrowth literature from 2005 to 2020 using the RepOrting standards for Systematic Evidence Syntheses (ROSES) methodology. Out of a total of 1166 texts (articles, books, book chapters, and student theses) referring to degrowth, we identified 446 that include specific policy proposals. This systematic counting of policies led to a grand total of 530 proposals (50 goals, 100 objectives, 380 instruments), which makes it the most exhaustive degrowth policy agenda ever presented. To render this toolbox more accessible, we divided it into 13 policy themes – food, culture and education, energy and environment, governance and geopolitics, indicators, inequality, finance, production and consumption, science and technology, tourism, trade, urban planning, and work – systematically making the difference between goals, objectives, and instruments. Following this, we assess the precision, frequency, quality, and diversity of this agenda, reflecting on how the degrowth policy toolbox has been evolving until today.

1. Introduction

Degrowth speaks to the primary contradictions of our time: ecological overshoot, social shortfall, capital accumulation. Currently, proposed solutions to addressing these issues are diverse, but often remain packaged within the dominant narrative of correcting market failures as opposed to dismantling systemic failures (Spash, 2020, 2021). This comes despite the latest evidence suggesting that a rapid, global, and absolute decoupling of environmental impact from economic growth is highly unlikely, if not biophysically impossible (Haberl et al., 2020; Wiedenhofer et al., 2020). Undoubtedly, it is the paralysing fear of disrupting the status quo, through reparations, redistribution and reduction, that has turned economic growth into the undisputed high-level goal of policy-making. A goal that has been challenged by a myriad of alternative theories, practices, and worldviews (Burkhart et al., 2020). One such perspective is the concept of degrowth, which has

been on the rise since the early 2000s (for a review of the literature, see Kallis et al., 2018).

Building upon growth criticisms dating back to the 1970s (for a history of the economic growth paradigm, see Schmelzer, 2016), degrowth has grown increasingly complex, adding novel denotations to its original environmental core. The more multi-faceted degrowth became, so too did its policy proposals, often making it difficult to understand the 'how' of degrowth. So, whilst there are many policy proposals scattered throughout the literature, this makes it difficult to assess what degrowth looks like in a single, coherent agenda. This article proposes such an agenda by reviewing the degrowth literature in its entirety.

Degrowth is a multi-layered concept (D'Alisa et al., 2014). It combines critiques of capitalism (Feola, 2019), colonialism (Hickel, 2021), patriarchy (Hanaček et al., 2020), productivism (Kallis, 2019), and utilitarianism (Romano, 2019), whilst envisioning more caring (Dengler

* Corresponding author.

E-mail address: n.fitzpatrick@fct.unl.pt (N. Fitzpatrick).<https://doi.org/10.1016/j.jclepro.2022.132764>

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and Lang, 2022), just (Muraca, 2012), convivial (Vetter, 2018), happy (Fanning et al., 2021), and democratic societies (Brand et al., 2021). Capturing the essence of degrowth is difficult because it carries at least three denotations (Parrique, 2019: 171–234): (1) degrowth as decline of environmental pressures; (2) degrowth as emancipation from certain ideologies deemed undesirable, like extractivism, neoliberalism, and consumerism; and (3) degrowth as a utopian destination, a society grounded in autonomy, sufficiency, and care.

Complex problems require complex solutions, as evidenced by the growing diversity of policies one finds in the degrowth literature. Until today, that pile of proposals has only been analysed twice. The first inventory was conducted by Cosme et al. (2017) who critically reviewed 128 academic articles in English published between 2007 and 2014. The study outlined three broad policy goals for degrowth: (1) reduce the environmental impact of human activities; (2) redistribute income and wealth within and between countries; and (3) promote the transition from a materialistic to a convivial, participatory society. Findings revealed that three-quarters of proposals were top-down public policies with a national focus. Additionally, the authors showed that degrowth proposals paid more attention to social equity than ecological sustainability, often lacked detail, and neglected certain issues like the implications of degrowth for the Global South, questions concerning demography, and the role of the state in sustainability transitions.

The second inventory was conducted by Parrique (2019: 844–850) in his PhD dissertation, *The political economy of degrowth*. In Chapter 8: *Strategies for change*, he expanded the list of policies from Cosme et al. (2017) by adding proposals from the French degrowth party (2007–2019), the Finnish *kohtuusliike* manifesto, as well as 27 policy agendas from individual authors (the full list is available in Supplementary 6). This led to a grand total of 232 policy proposals (further subdivided into 60 goals, 32 objectives, and 140 instruments), which the author split into nineteen themes.

Whilst both studies have been crucial to advancing the how of degrowth, they are limited in a few ways. Cosme et al. (2017) suffers from three major drawbacks. The first is the narrow selection of the literature: peer-reviewed articles in English published before 2014. This deliberately excludes sources like book chapters, student theses, and books where writers are afforded more space to outline policy proposals. It also means the list has become outdated as degrowth literature has grown over five-fold, from ~220 texts in 2014 to 1166 by the end of 2020. The second is the narrow definition of policy-making. The authors conflate policy-making with statecraft, which led them to categorise certain proposals as top-down. The problem is that, in reality, these processes involve a diversity of actors. For example, resource sanctuaries often stem from the direct action of local communities before being shrined in national law (Thiri et al., 2022). Finally, the list skips from three overarching goals to instruments without identifying objectives in between.

In Appendix 5 of his PhD thesis, Parrique (2019: 844-50) provides an extensive inventory of degrowth policies, but they are not linked to the specific articles where they are mentioned. This makes it difficult for readers to find further information about specific proposals. For example, within the “environment” theme of the list, it is impossible to tell which authors advocate for a “declining cap on resource use” and what exactly do they mean by that. As precious as they are, these two

studies leave us here: degrowth has many ingredients, but it is difficult to see them all at once and to understand them in detail. Hence, the objective of this paper is to build a clear and detailed inventory of degrowth proposals that answers the following two research questions: (1) what is the current status of degrowth policy proposals? and (2) how do their key features fit the context of public policy design and transition strategies?

2. Methodology

This study conducts a systematic map and thematic synthesis of the degrowth literature for policy proposals. It employs the Reporting standards for Systematic Evidence Syntheses (ROSES) methodology¹ to analyse policy proposals brought forward by the degrowth community. Originally designed for the fields of conservation and environmental management (Haddaway et al., 2018; Haddaway and Macura, 2018), this method was chosen because it allows for contextual adaptation to transdisciplinary contexts. However, its use remained in accordance with Collaboration for Environmental Evidence (CEE) guidelines for systematic reviews (CEE, 2018) and best practice for thematic synthesis (Thomas and Harden, 2008). The systematic map and thematic synthesis unfolded in five steps.

2.1. Searching

First, we searched four database collections (Scopus, Web of Science, Directory of Open Access Journals, Open Access Theses and Dissertations) for sixteen translations² of the word “degrowth” between a period ranging from 2005 to 2020 (see Table 1). Whilst grey literature is often excluded from systematic reviews (Haddaway et al., 2020), we chose to include sources from books, book chapters, and student theses to ensure all policy proposals were reflected in the list.

Table 1
Bibliographic databases searched within the systematic review.

Bibliographic database	Search date	Search string	Results
Scopus	6/11/2020	“degrowth” OR “de-growth” OR “décroissance” OR “decrecimiento”	n = 825
Web of Science	6/11/2020	OR “decrecimiento” OR “decrecита” OR “avväxt” OR “nerväxt” OR	n = 672
Directory of Open Access Journals	6/11/2020	“modväkst” OR “postwzrost” OR “nerüst” OR “nedvekt” OR	n = 314
Open Access Theses and Dissertations	6/11/2020	“αποανάπτυξη” OR “postwachstum” OR “ontgroei” OR “退增长” OR “去增长”	n = 81
Note: OATD database only allows searches with 3 variables.			

¹ Adjustments were communicated and discussed with one of the main authors of the framework, Neal Haddaway. For more information check: <https://www.roses-reporting.com/>.

² Translations included degrowth (English), de-growth (English), décroissance (French), decrecimiento (Spanish), decrecimiento (Portuguese), decrecита (Italian), avväxt (Swedish), nerväxt (Swedish), modväkst (Danish), postwzrost (Polish), nerüst (Czech), αποανάπτυξη (Greek), postwachstum (German), ontgroei (Dutch), 退增长 (Chinese) and 去增长 (Chinese).

2.2. Retrieving

The lead author attempted to retrieve full text versions of all articles using institutional subscriptions from NOVA University Lisbon, Portugal. Additionally, email requests were sent to book authors requesting digital copies. A list of unavailable texts is provided in *Supplementary 3*.

2.3. Screening

Screening was carried out in two steps. First, the title, abstract, and keywords were screened alongside a guiding question: *Does this study focus on degrowth in the context of ecological sustainability and social equity?* We asked this question to ensure that we did not include papers using the term “degrowth” in another meaning than the one we study here. Texts without abstracts (i.e., books, book chapters, and theses) were scanned for specific proposals before being read in full. To ensure consistent screening, two reviewers (NF, IC) conducted, in parallel, a preliminary review of a subset of 20% of the studies. Once the screening method was set, the lead author reviewed all retrieved texts.

Secondly, a full-text screening was completed by the lead author. The process was directed by the original guiding question, plus asking whether the study had outlined any specific degrowth policy proposals, which we understood as “a course or principle of action adopted or proposed by an organisation or individual aiming to achieve the objectives of degrowth” (Parrique, 2019: 485). At each stage of screening, non-English texts were translated with online document translators. The full list of exclusions and inclusions can be found in *Supplementary 3* and *Supplementary 4*.

2.4. Coding

Once the list of texts containing degrowth policy proposals was compiled, coding was done using QSR International’s NVivo 12 qualitative data analysis software (QSR International Pty Ltd, 2021). This involved highlighting blocks of text that contained policy proposals (e.g., work time reduction or maximum wage). The selected texts from the second screen were re-read during the coding phase by the lead author. Additional consistency guidance was provided by a list of policy keywords (*Supplementary 2*) and themes (Parrique, 2019: 844–850). It must be noted that the richness of coding varied greatly depending on article articulation of policy proposals, ranging from simply naming a policy without any further details (i.e., policy dropping) to detailed policy design.

2.5. Synthesising

In the last step, texts were summarised using a qualitative thematic synthesis employed by Thomas and Harden (2008). This involved identifying key messages and themes within individual studies and connecting them to explain the topic as a whole (Haddaway et al., 2018). In this study, we used Howlett’s (2019) differentiation between the *policy ends* – what the policy is supposed to achieve (goals, objectives, targets) and *policy means* – how to achieve them (method, instruments, calibration) as a guideline to construct the inventory.

Following coding, the list of policy proposals was transferred to a spreadsheet for thematic synthesis. This involved identifying policy themes in an iterative way by grouping policy proposals based on their policy ends (goals, objectives, targets) and policy means (method,

instruments, calibration). Policy proposals were rearranged alongside their accompanying references to increase transparency and promote dialogue for those interested in degrowth. The iteration process was instrumental in allowing us to provide an accessible overview of the entire degrowth agenda that still acknowledged the diversity and plurality of values and visions. A list of the final tables of key attributes, themes, and a summary of the full list of the degrowth policy proposals can be found in *Supplementary 5* and *Appendix A*.

3. Findings

This section presents the main findings of the systematic map and thematic synthesis before a subsequent discussion on their implications for degrowth strategies.

3.1. Review process

A total of 1892 results were identified across the 4 databases searched, returning 1166 texts. The search for grey literature returned 40 book chapters, 26 books (18 from beyond the bibliographic databases), and 79 student theses (Fig. 1). The first screening excluded 353 texts (30% of the sample) because they did not engage with degrowth in their title, abstract, or keywords. The second full-text screening narrowed the inclusion list to 446, excluding a further 370 entries due to articles either not being accessible (7% of the sample), not discussing degrowth (8% of the sample), or being devoid of policy proposals (34% of the sample) - these lists are available in *Supplementary 3*.

The oldest publication is from 2005, with the number of texts outlining policy proposals more or less following the growing trends of the overall degrowth literature, peaking at 80 texts in 2019 (~60% of all degrowth articles published that year). Not only is degrowth becoming increasingly popular in academic research, but policy proposals are also becoming increasingly popular within the degrowth literature (Fig. 2). Despite the search containing 16 translations, only 10 languages were included in the final selection with English accounting for 90% of all texts (4% Spanish, 2% French and 2% Portuguese; with the final 2% including Czech, Finnish, German, Italian, Polish and Slovenian). This appeared to be a result of authors writing introductory articles about degrowth in various languages as opposed to focusing on degrowth policy proposals as such.

Globally speaking, 77% of the articles originate from Europe (62% from the EU-27), 13% North America, 5% Oceania, 2% South America, 2% Asia, and 0.4% Africa. The top five countries producing research on degrowth policy proposals, reflected by the affiliation of the lead author,³ are Spain (74 articles), United Kingdom (52), Germany (45), United States of America (41), and France (28). Degrowth texts can be found in 173 different outlets, with the top five being *Journal of Cleaner Production* (14%), *Ecological Economics* (10%), *Sustainability* (8%), *Journal of Political Ecology* (4%), and *Futures* (4%). Overall, 56% (251) of texts were published by single authors.

3.2. Thematic coding

We grouped policy proposals into a number of themes, before further dividing them into *policy ends* (goal, objective, target) and *policy means* (methods, instruments, calibration). After coding the articles, we added themes (e.g. urban planning) and merged others (e.g. energy and environment) to simplify the inventory. The final mapping contains 13 themes – food, education and culture, energy and environment, geopolitics and governance, indicators, inequality, finance, production and consumption, science and technology, trade, tourism, urban

³ If the lead author had two different countries of affiliation (e.g. USA and Colombia) or if the article explicitly states that co-authors equally contributed to the article, one would be counted to each (e.g. 1 = USA +1 = Colombia).

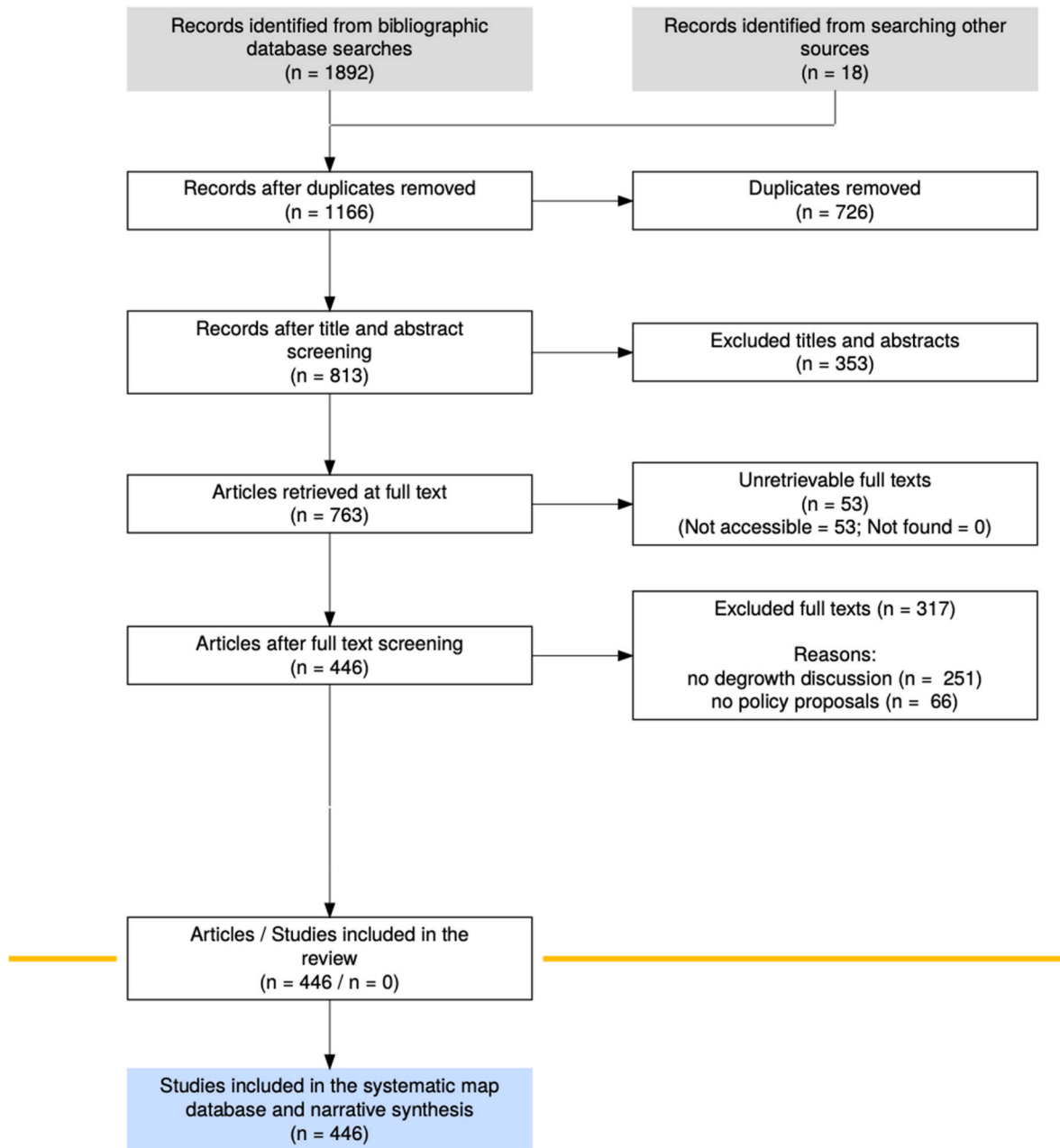


Fig. 1. Flow diagram showing procedures and results at each stage of the review.

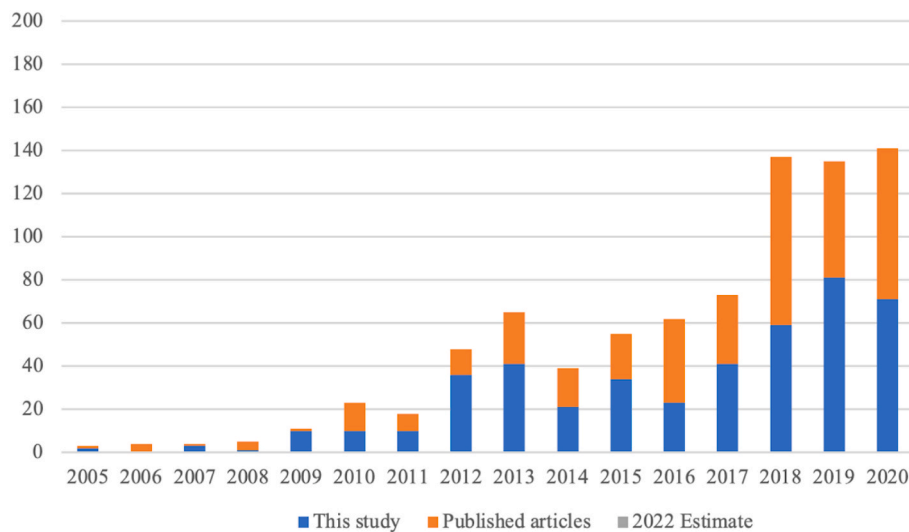


Fig. 2. Number of publications per year on degrowth and policy proposals.

planning, and work (see Fig. 3 and Supplementary 5).

The overall degrowth agenda can be decomposed into 50 goals, 100 objectives, and 340 instruments (Appendix A). The policy objectives under each goal are displayed in descending order by citations in the literature. Overall, the ten most frequently mentioned objectives are: 1) reduce time in paid waged labour; 2) redistribute income, wealth, labour, land, knowledge, care work, infrastructure, resources and time within and between countries; 3) guarantee the decommodified and universal provision of fundamental human needs; 4) decentralising decision-making; 5) promote shared housing; 6) support non-speculative exchange systems like local currencies and credit networks; 7) prioritise small, highly self-sufficient communities; 8) create a culture of sufficiency and self-limitation; 9) relocalise activities; and 10) defend and reclaim the commons.

3.3. Thematic synthesis

Whilst identifying policy themes, goals and objectives is a useful first step, it is crucial to make the degrowth agenda concrete. Therefore, this subsection describes each theme with illustrated examples in alphabetical order.

3.3.1. Culture & education

This theme can be split into six categories. (1) *Transform education systems* advocate for an emancipatory understanding of education, whereby increased spaces for critical pedagogy lead to pluralistic perspectives and curricula (e.g. eco-spirituality, indigenous knowledge, pluralist economics). (2) *Cultures of sufficiency and self-limitation* refers to the conscious choice of simplifying unsustainable lifestyles by minimising material possessions and biophysical footprints. The agenda also calls for (3) *more relational goods* in the form of friendship, local culture, love, and trust and for (4) *restoring indigenous and local knowledge systems*, by which we mean giving equal status to a diversity of worldviews. (5) *Developing an ecological class consciousness* means framing environmental violence as a form of class, gender, and racial domination, while shifting towards (6) *ecocentric worldviews* that promote a shift in our value systems, abandoning the idea that humans are a separate and

superior entity from nonhumans and nature.

3.3.2. Energy & environment

Degrowth aspires to ecological sustainability in at least six different ways. The most important is (1) *reducing environmental pressures*, which could be done by the means of declining caps on resource use, emissions and pollution; ecological tax reforms (e.g. extraction and carbon tax); moratoria on resource extraction and big infrastructure such as energy plants, dams, incinerators, roads, highways, high-speed trains or airports; and banning certain chemicals. A crucial pressure to reduce is (2) *energy consumption*, which demands both eco-sufficiency and eco-efficiency changes like taxing industrial energy consumption and retrofitting buildings. Degrowth texts call for (3) *eliminating fossil fuels* and (4) *stopping nuclear energy*, starting with abolishing the subsidies they receive from governments. Instead, the goal is an (5) *energy democracy* made of convivial, community-owned and operated renewable energy systems. In order to (6) *restore and preserve biodiversity*, degrowth wants to create resource sanctuaries and give constitutional rights to nature. Further considerations to have a (7) *stable demography* are outlined with proposals like the empowerment of women to control their reproductive rights and the opposition of pro-natalist policies. These goals must all work towards (8) *decolonizing environmental justice*, acknowledging that ecological sustainability is often framed within a class-, gender-, and culturally-specific lens that silences many other visions of justice.

3.3.3. Finance

Finance can be split into two goals: one focusing on neutralising predatory, profit-seeking activities and the other promoting alternative financial institutions and practices that fit the broader narrative of cooperative, not-for-profit, post-growth economies. The first is (1) *financial democracy* which aims at a more horizontal governance of the banking and monetary system. This requires shifting decision-making power from corporate managers and shareholders to workers and local communities. Examples include separating traditional banks from investment banks (full reserve banking), nationalising monetary creation (sovereign money), taxing financial transactions, closing tax havens, and dismantling banking/financial institutions into smaller, local, and



Fig. 3. Iceberg model of degrowth policy proposals - core instruments on top (in descending order of citation frequency), themed goals below (random position). See the full list with sources in [Appendix A](#).

more democratic entities. The second promotes (2) *ethical and non-speculative finance*, activities like local and regional currencies, time banks, reciprocity networks and trading systems, self-managed credit unions, cooperative banks, public debt-free money, divestment, and corresponding ethical investments.

3.3.4. Food

We have organised policy discussions on food around three overarching goals. (1) *Sustainable farming* involves reducing the environmental impacts associated with food, and more fundamentally (re) connecting to the land. This can take the form of promoting non-mechanised, subsistence organic farming, peasant agroecology, small

farms and permaculture. Examples include turning sidewalks, backyards, unused land and roads into gardens and food forests, composting to rebuild soil fertility, giving up fertilisers, herbicides, and pesticides, and promoting small local food shops and coops. (2) *Food sovereignty* posits that food is political and communities should be able to shape their own food systems. This includes preventing the private appropriation of seeds by protecting seed commons, redistributing land to small farmers, and developing networks and cooperatives to guarantee the equitable distribution of food. (3) *Sustainable diets* concern the kind of food we eat and the culture that surrounds it. Embracing ideas close to the Slow Food movement, degrowth advocates propose to reduce meat and dairy consumption; eat local, seasonal food; transition to plant-based diets; end food waste and provide consumer education in the form of farm visits, literature, and practical courses.

3.3.5. Governance & geopolitics

The degrowth agenda seeks to deepen democracy through six key goals. The most fundamental is the emergence of (1) *radical ecological democracy* where everyone has the right and opportunity to participate in decision-making, and where these decisions are grounded in ecological reality. For example, through deliberative forums where citizens gather to discuss acceptable levels of inequality or maximum thresholds of need satisfaction, self-managed workplaces, participatory budgeting (e.g. local communities like Brazil's Porto Alegre who collectively decide how to allocate their yearly budget), local direct democracy (i.e. citizens are directly responsible for making policy decisions), and voluntary committees to organise activities. Such methods need to be coupled with the (2) *defence and reclaiming of the commons* via the local, democratic ownership of essential infrastructure such as banking, energy, education, healthcare, local government, telecommunications, transport, waste, and water. Other proposals stress the need to simultaneously (3) *dismantle hierarchies*, (4) *regulate lobbying*, and (5) *reform international organisations* that undermine democracy. Examples include cap/banning political donations, banning fossil fuel lobbyists from climate negotiations, closing the revolving door between politics and business, balancing the power of Finance ministries, and democratising international organisations like the World Trade Organisation, International Monetary Fund, and World Bank. Finally, (6) *end the military-industrial complex* focuses on significant reductions of military activities, which are often framed as a hindrance to global justice.

3.3.6. Indicators

This theme is short and simple: (1) *abandon GDP as a measure of social progress* and replace it with a dashboard of indicators of social ecological health. If GDP is dominant in governance today, degrowth seeks to balance the importance given to economic indicators (e.g. GDP, profits, income, purchasing power) in comparison to social (e.g., happiness, health, inequality, political participation, leisure time) and ecological indicators (e.g. ecological and material footprint, biodiversity loss, global warming, deforestation, pollution). Examples of alternative indicators include the Genuine Progress Indicator (5 indicators), Gross National Happiness from Bhutan (33 indicators) or the Wellbeing Budgets adopted by Iceland (39 indicators), New Zealand (65 indicators) or Scotland (81 indicators).

3.3.7. Inequality

Degrowth seeks to (1) *reduce inequality* by focusing on redistribution within and between countries. To eradicate extreme wealth, the agenda discusses maximum wages, highly progressive income taxes, reparations for ecological debt, as well as taxes on inheritance, wealth, and luxury consumption. To (2) *eradicate poverty* degrowth seeks to guarantee the universal provisioning of fundamental human needs, calling for various forms of basic incomes, minimum living wages, and free access to a selection of public services like healthcare, housing, electricity, education, public transport and water. Addressing inequality also requires (3) *transformative justice*, often in the form of new principles of non-

discrimination and equality in human rights law (e.g. redefine the obligations of international assistance and cooperation), alternatives to incarceration (e.g. rehabilitation programs following the principle of restorative justice), and guaranteed access to free legal services.

3.3.8. Production & consumption

Degrowth wants to change production and consumption in six main ways. It starts with (1) *reducing overproduction*, that is goods and services that are resource-intensive while contributing little to collective well-being (often cited examples include pesticides, advertising, arms, beef, flying, and SUVs). To achieve this, the agenda calls for a transition to (2) *democratic, not-for-profit business models* such as cooperatives, self-production, smaller businesses, and commons-based peer production that emphasise the importance of (3) *relocalising activities* in order to cut greenhouse gas emissions while fostering local resilience. Other proposals focus on consumption: (4) *limit advertisement*, for example by banning ads in public spaces and for products with high environmental impacts; and promote (5) *lifestyles of sufficiency* by discouraging luxury consumption (for example through boycotts, flying quotas, progressive taxes on consumption, taxes on secondary houses, excise tax on sports cars, yacht, and private jets) and encouraging voluntary simplicity (bike infrastructures, co-housing, shared utilities, repair cafés, decommodified hobbies). The last segment of this theme aims to (6) *reduce waste* by criminalising planned obsolescence, mandating environmental impact assessments, introducing durability labels, and guaranteeing the right to repair.

3.3.9. Science & technology

In regards to science and technology, the degrowth agenda can be divided into two main strategies. Against industrial, high-tech production, degrowth defends (1) *technological sovereignty*. This involves placing a moratoria on potentially dangerous geo-engineering practises and biogenetics; regular citizen audits to decide whether or not to introduce a new technology; restructuring social media from private to a common or public good; repurposing military facilities to produce sustainable and socially useful products; and to dismantle patent monopolies, for example concerning seeds. The second goal, (2) *convivial tools*, aims to ensure that everyone has the opportunity to learn how to use and repair the tools they use. For example, repairing bikes and clothes in cooperative spaces, joining a local currency association, or learning how to farm in a community garden.

3.3.10. Tourism

Discussions on tourism centre around two goals. The first is to (1) *limit tourism*. This targets fossil fuel-based travel, especially long-distance, which should be regulated (e.g. moratoria on tourism developments, quotas to visit sensitive areas like World Heritage Sites; restrictions on mega-cruise ships) and taxed to include its full environmental cost. It also involves (2) *reconceptualising tourism* based on the principles of slow and local tourism. Fundamentally, this means prioritising the 'right to live' over the 'right to travel.' Two examples include redefining the legal definition of tourism and revising or scrapping both the Office for International Migration and the World Tourism Organisation, thus favouring residents' rights and the environment over wealthy tourists' short-term wants. Additionally, it discusses low-impact modes of transport (e.g. trains, bus, cycling, walking), the promotion of local ownership, and the respect of the ecological carrying capacity of each region.

3.3.11. Trade

Trade is the least elaborated theme by proposals - it goes in two broad directions. First, (1) *limit long-distance trade*, which necessitates reducing unnecessary intra-industry trade between nations of similar affluence, applying export quotas, and limiting the use of international aviation and shipping. The second direction calls to (2) *reconceptualise trade* by renegotiating agreements on trade and intellectual property

rights, for example the TRIPS Agreement at the World Trade Organisation.

3.3.12. Urban planning

Urban planning is split into four goals. (1) *Land for all* aspires to guarantee decent, affordable homes for everyone by protecting the housing sector from commodification and speculation. Examples of policy instruments here include progressive property taxes (floor space and number of), rent caps and controls, expropriation or occupation of vacant buildings and extending social housing. (2) *Housing sufficiency* promotes alternative housing arrangements such as ecovillages, cohousing, housing cooperatives, or squatting. It also promotes common facilities (e.g. cars, gardens, kitchens) and retrofitting programs to significantly lower the ecological footprint of dwellings. (3) *Just mobility* focuses on reducing fossil fuel-based transport in a way that is socially fair, which involves reducing high-speed transport (e.g. cars, planes, high-speed trains, cruises) and large infrastructure (e.g. roads, motorways, airports, ports) through a range of disincentives such as lower speed limits, car free zones, and moratorias. Simultaneously, it encourages investment and use of active modes of transport such as walking and cycling, as well as public transport. Finally, (4) *socially useful and ecologically sensitive planning* aims at making cities smaller and greener, in a similar spirit to Transition Towns. Proposals range from capping the number and size of dwellings, controlling the development of holiday homes, limiting urban sprawl and preventing gentrification to promoting urban consolidation, banning construction of single detached houses, and prohibiting developments on agricultural land.

3.3.13. Work

Policy discussions on work are central to degrowth and organised around four goals. The most frequently discussed one is (1) *reconceptualising work*, moving in the direction of deprioritising wage labour in society. The concrete application of this goal is work-time reductions, which need to be complemented with policies that reallocate productivity gains into working less, ensuring rights to part-time, and a gender-sensitive redistribution of paid work. The introduction of job guarantees with living wages is proposed to (2) *reduce unemployment* while creating more secure and fulfilling jobs. The third goal - (3) *redistribute (re)productive activities* - calls for a valuation of care and volunteer work, as well as a fairer sharing of chores between genders, classes, and ethnicities. The agenda also (4) *promotes social ecological jobs* through investing in publicly funded and community-run (re)training programs for workers, for example from jobs in the fossil fuel industry and towards socially useful and ecologically sensitive activities such as ecosystem restoration or the building of community-owned renewables.

4. Discussion

In this section, we discuss five key features of degrowth policy proposals: precision, frequency, visibility, diversity, and interactions. First, we draw attention to the lack of precision in most proposals. Second, we comment on their relative popularity, distinguishing between core and periphery proposals. Third, we demonstrate how one explicit policy goal can involve many additional policy changes. Fourth, we highlight the width and diversity of the degrowth agenda. And finally, we reflect upon how to assess the interactions between existing proposals.

4.1. The precision of degrowth policy proposals

Simply counting policy proposals can give the false impression that these policies are rigorously analysed by those who mention them. However, this is not always the case. The findings of this review suggest that some policies are only mentioned in passing without much analytical effort made to connect them with the issues at hand. These cases of policy dropping are commonplace. Take “ecological reparations” for example. The proposal is often present in degrowth texts, but

without any detail about what it would concretely entail and how it would occur. Other similar examples include closing tax havens, retrofitting buildings, financial transaction taxes, or transitioning businesses to not-for-profit cooperatives.

Few studies provide details or compare *which type* of, for example, work-time reduction policies are compatible with degrowth. It follows that a policy package supporting the gig economy,⁴ employer-sponsored health insurance, and zero-hour contracts are not compatible with degrowth ideals of work. So, which type of work-time reduction policies should be supported? Our findings suggest that it is ones that leverage productivity gains for working less, job guarantees, and job sharing. But how should we collectively negotiate how many days and hours to reduce paid work to? And would this be a temporary means of transition or a permanent institution for the future? So whilst it becomes evident that abstract policy goals and objectives are important for building momentum for social movements, vague policy proposals are not operational for decision-makers whose role is to design and implement precise policies.

Through our analysis, it is clear that the agenda is not static and certain proposals are becoming more detailed. Take basic income, for example. It could be considered the oldest degrowth proposal since it appeared in the 2002 issue of the French magazine, *Silence*, where the concept of “*décroissance soutenable*” [sustainable degrowth] was coined. Twenty years later, there are at least nine different basic income proposals, each with its own purpose and design (Fouksman and Klein, 2019; Bohnenberger, 2020). Some proposals have integrated complementary currencies, whilst others have extended to the guaranteed provision of public services. In contrast, other proposals have remained largely the same over the past two decades; this is the case for the regulation of lobbying and the reform of international organisations such as the World Trade Organisation, International Monetary Fund, World Bank, North Atlantic Treaty Organisation, and the European Union.

4.2. The frequency of policy instruments

Our findings illustrate that certain policy instruments are given more attention in degrowth transition strategies than others. We differentiate these *core proposals*: the ones that are most frequently cited and outlined in (relative) detail, from *periphery proposals*: the ones that are rarely mentioned and lack sufficient explanation. It follows that the ten core policy instruments, in descending order, are: universal basic incomes, work-time reductions, job guarantees with a living wage, maximum income caps, declining caps on resource use and emissions, not-for-profit cooperatives, holding deliberative forums, reclaiming the commons, establishing ecovillages, and housing cooperatives.

But why are these the most popular? Even though the present analysis cannot answer this question, it is relevant to pose the question: Is universal basic income the most important leverage point to achieve degrowth, or has it simply become a sort of tradition to refer to it when talking about degrowth? Our reading of the literature suggests that the choice is more sociological than analytical. One such hypothesis concerns the issue of policy dropping. This comes as many authors appear to mention proposals like universal basic income only because it has been outlined in early foundational papers (Schneider et al., 2010; Kallis, 2011; Demaria et al., 2013). As such, this warrants further exploration of the strategic choices and reasoning behind degrowth policy proposals.

These core demands are surrounded by peripheral proposals that are mentioned less often. Examples include: reducing military spending, ensuring media independence, redistributing undesirable jobs, and

⁴ A gig economy refers to a labour market that is characterised by the prevalence of short-term contracts or freelance work as opposed to permanent jobs. For example, independent contractors, online platform workers, contract firm workers, on-call workers and temporary workers.

limiting trade. Again, we posit that this is mostly a sociological phenomena, with authors not mentioning proposals simply because others before them did not do so. This fashion-like trend in picking policy proposals may lead to biases where high-impact changes find themselves pushed to the periphery of the agenda. Reducing military spending is one such example. If the US military were a country, its emissions would be bigger than 140 countries, with more than half of that stemming from the air force alone (Belcher et al., 2019). Therefore, if degrowth authors are serious about reducing emissions, why are we not seeing more proposals concerning this in the literature?

The division between core and periphery changes over time and space. Following publications in French in the early 2000s, degrowth spread to many new countries (even though most publications are in English). Since then, new researchers have joined the community, each adding their proposals to the agenda. In the future, certain proposals currently in the periphery may enter the core, or vice versa, and other proposals that today are non-existent in the agenda may start to appear on its periphery. By studying these movements, sociologists of knowledge can pay close attention to whose proposals make it to the core and whose remain at the periphery, creating space for critical reflection on whose knowledge is valued within degrowth literature and whether such hierarchies reproduce existing cultural, gender, and class divides.

4.3. Unpacking proposals

Imagine the degrowth agenda like a layered cake. Some proposals are the topping, visible to all. This is the case for work-time reductions, universal basic incomes, and wealth taxes - three policies that people quickly associate with degrowth. We regard these as *conscious proposals*. However, there are many other policies that remain *unconscious*. These are all the changes needed to realise the conscious proposal, but that are not dealt with in an intentional and explicit way by the one proposing the policy.

Let's illustrate with the example of wealth taxes. Tackling inequality through progressive taxation of income and wealth involves multiple considerations. First, taxing wealth remains arguably quite ineffective if most of that wealth sits untaxed in tax havens. Second, a number of such taxes were scrapped with the rise of neoliberalism, so re-introducing them, as opposed to simply adjusting existing tax structures, might be politically challenging. Third, to tax wealth, one must decide *what wealth is* and how it shall be measured. For example, how to account for debt, monetary, personal, and capital assets. Fourth, existing constitutional rights, in certain countries, may prevent governments from taxing citizens above a certain threshold, thus, requiring amendments to the constitution or other policy interventions. The list of challenges could go on and on. The point is that in order to be able to tax wealth, or any other policy objective, an array of further actions might be necessary, and people advocating for change might want to pay more attention to these multi-layered considerations.

4.4. How wide and diverse is the degrowth agenda?

Degrowth is a diverse movement that includes academics, activists, grassroots movements, NGOs, and unions (Burkhart et al., 2020). Such diversity explains the diversity of the agenda, often leading to an expansion of its policy boundary with new objectives and instruments being added to the agenda.

Take tourism, for example. One theme that was recently added into the degrowth domain when scholars in the field of tourism studies started to use degrowth as a concept in their work. In 2019, the *Journal of Sustainable Tourism* published a special issue on "Tourism and Degrowth" (Fletcher et al., 2019), subsequently adding several proposals to the general agenda, including: moratoriums on tourism accommodation developments, community-owned and managed tourism, prioritising the right to live over the right to travel through opposing the United Nations World Tourism Organisation proposal to turn tourism

into a human right, as well as tourism education for (trans)forming people's consumption behaviours. In this specific case, the policy agenda broadens because more academics outside of the degrowth bubble, in this case tourism studies, have begun researching and writing about degrowth.

Another example is technology. In 2018, the *Journal of Cleaner Production* published a special issue on "Degrowth and Technology" (Kerschner et al., 2018), which included a variety of proposals ranging from encouraging technological (re)appropriation (e.g. repurposing military facilities to produce socially useful and sustainable products; creating digital commons; restructuring social media from private to a common or public good); a matrix for assessing technologies compatibility with degrowth; design global, manufacture local strategies; plus a host of low-tech solutions at the household and community level. In contrast to the expansion into tourism, such additions are rather the result of scholars who were already writing about degrowth investing time and effort to explore the topic of technology in more detail.

Another process that explains the widening of the agenda is the appropriation of proposals emerging outside of the degrowth bubble. A good example would be Thomas Piketty's tax on capital (Piketty, 2013), which started to appear in the degrowth literature in Kirby (2013). Since then, Piketty's work has been cited in over 50 degrowth articles. Such imports suggest that the field is not hermetic to what is happening outside of it. This also poses an interesting question: Is the same process happening in reverse, meaning that people outside of degrowth start importing ideas from it? As such, future researchers might consider studying whether degrowth scholars have had any concrete influence on policy-making, and if so, concerning which specific objectives and instruments.

4.5. Transition strategies

Ingredients do not make delicious meals, recipes do. This begs a question: How do all of these degrowth policies fit together? Throughout the review process, it became apparent that most policy instruments are studied independently (e.g. basic income), in parallel (e.g. basic income and wealth caps), or in competition (e.g. basic income vs. job guarantee). This being said, there are not many interactions, and never for more than a handful of proposals considered at one time (notable exceptions include Videira et al., 2014; Parrique, 2019: Chapter 12; Dula et al., 2021; Keyßer and Lenzen, 2021). As a result, it is hardly controversial to say that the current degrowth agenda is closer to a disparate list of ingredients than a neatly organised recipe.

As policies are never implemented in isolation, it would be naïve for anyone aspiring for systemic change to focus policy-making efforts on one silver bullet policy. Instead, change-makers should carefully study the (positive and negative) synergies between their different proposals. The more proposals, the more synergies, which makes the study of a degrowth transition extremely complicated, especially since every policy has its own scale, timing, and cultural feasibility. Certain changes are bottom-up, slow, popular, and bear little risks. Whereas others are top-down, fast, unpopular, and relatively riskier. In the end, any individual proposal might be a combination of the above. For example, some policies heavily rely on the state (e.g. banning advertisement) while others depend on many actors (e.g. developing cooperatives). Some policies take longer to implement (e.g. establishing a local currency) than others (e.g. changing tax rates). Depending on the context and the design, a policy can quickly gather popular support (e.g. carbon tax in Sweden) while others do not (e.g. fuel taxes in France that led to the Yellow Vests uprising). Finally, certain policies can unfold gradually without much risk (e.g. reducing working hours from 35 to 28 or 21), while others are done at once with uncertain consequences (e.g. a sovereign money reform).

The scale of each policy matters, but so does the sequence in which they are implemented. Most degrowth theory rests on the assumption that the local level is the optimal scale for societal transformation

because it is there that direct democracy is more easily exercised. On the other hand, we recall Cosme et al. (2017) finding that three-quarters of degrowth policy proposals were top-down with a national focus. What the findings of the present review suggest is that the degrowth agenda spans across multiple scales (local, regional, national, international) and actors (households, communities, government, workers, firms), even though the complexities of such harmony are rarely explored in detail. This is not to say that we should seek policy perfectionism. In reality, policy-making is always messier than on paper, especially when broadening one's view of policies beyond statecraft. Nonetheless, it remains that the degrowth agenda would become more convincing if it were to account for the interactions between its proposals.

Stressing the importance of sequence also helps us to identify potential contradictions between transitional changes and others that are meant to be permanent. For example, one imagines that policies to ban or restrict advertisement for ecologically destructive products are necessary until the point where there are no more ecologically destructive products. Similarly, a shrinking yearly cap on resource extraction might cease to be useful the day a society stabilises its material footprint to a sustainable level. Precisions about the 'for how long' of a policy could help differentiate between the practises and institutions that characterise degrowth as a transition phase and the more long-lasting ones that define degrowth as a destination.

5. Conclusion

The purpose of this article was to build a comprehensive inventory of degrowth proposals. To do so, we conducted a systematic mapping and thematic synthesis of the degrowth literature published between 2005 and 2020, making it the largest systematic review of its kind to date. The article continues the review by Cosme et al. (2017), updating the period of analysis and expanding it to multiple languages and publication types. Furthermore, it complements and improves Parrique's (2019) repertoire of policies as it allows the tracing of policies back to the texts where they have been mentioned (Supplementary 4 and 5).

The systematic review component of this paper identified 1166 articles, books, book chapters, and student theses referring to degrowth across 4 bibliographic databases, of which 446 refer to policy proposals. The subsequent thematic synthesis identified 13 policy themes behind the degrowth agenda: culture and education, energy and environment, food, governance and geopolitics, indicators, inequality, finance, production and consumption, science and technology, tourism, trade, urban planning, and work. It also identified the most frequently cited policy instruments within the degrowth literature: universal basic incomes, work-time reductions, job guarantees with a living wage, maximum income caps, declining caps on resource use and emissions, not-for-profit cooperatives, holding deliberative forums, reclaiming the commons, establishing ecovillages, and housing cooperatives.

This paper has presented a number of findings. Without a doubt, the popularity of degrowth within academia is growing, which is exemplified by the number of publications rising from ~220 in 2014 to 1166 by the end of 2020. This growth of the literature has occurred in parallel to an expansion of the degrowth agenda, which has gone from 17 proposals in 2005 to 530 at the end of 2021. We organised this list of proposals into 50 goals, 100 objectives, and 380 instruments. While the number of proposals has expanded quickly, we then critically reflected on the agenda based on its quality. This led to five reflections regarding the precision, frequency, visibility, diversity of policies, as well as their interactions. First, there is a great disparity in details from some proposals which have been studied in detail, and others that are only mentioned in

passing. This connects to our second finding, which is that certain proposals are more popular than others. Thirdly, most proposals focus more on what a policy is supposed to achieve (objectives) rather than how it is supposed to achieve it (instruments), often ignoring a diversity of transitional changes. Our fourth finding is that degrowth is increasingly diverse, with proposals being added every time a new community of thinkers and practitioners (not exclusive categories, of course) starts using the concept. And finally, we noticed that most policies are studied in isolation, and that not many authors have so far focused on the interactions between the elements within the degrowth agenda.

A final thought about the relation between policies and politics. This article has organised a toolbox of proposals but has remained silent about the various mechanisms that explain whether or not people choose to use these tools. This is a conscious, but controversial choice. Discussing obstacles to a societal transition is a herculean task that others have started investigating, for example Stoddard et al. (2021). Whilst some may say that it is useless to refine policy proposals in an abstract form if nobody is interested in them; they may also add that real social change only happens in the unpredictable fire of politics, and so there is little point polishing agendas before they are put into practice. While we hear these points, we still believe that these kinds of abstract, policy design exercises are useful. Primarily because these inventories give us a precious overview of the degrowth field and the kind of discussions that it hosts, which give us opportunities to reflect critically on the coherence of the degrowth discourse.

We opened this paper by arguing that degrowth as a concept has evolved in complexity since its appearance in the early 2000s. We close by arguing that tracking degrowth policy proposals is a good way of studying whether the *how* of degrowth has kept pace with the *what* of degrowth. Indeed, realising the revolutionary potential of degrowth requires a deep understanding of economic institutions, power relationships, and social provisioning systems that are proactively experimented with and embodied by new ideas, practices, and common senses.

CRediT authorship contribution statement

Nick Fitzpatrick: Conceptualization, Methodology, Data curation, Writing – original draft, Writing – review & editing. **Timothée Parrique:** Conceptualization, Writing – review & editing. **Inês Cosme:** Conceptualization, Methodology, Writing – review & editing, Supervision.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jclepro.2022.132764>.

Appendix A. Thematic synthesis of degrowth policy proposals

Theme	Goal	Objective	Example Instruments	References
Culture & Education	Critical education	Promote emancipatory education	Teacher training and pedagogy for degrowth; eco-spirituality; permaculture and gardening; public education on sustainable lifestyle choices; convert schools into learning communities; new (emotional) pedagogies; experiential learning; critical community and liberation psychology; library activism; degrowth-related magazines or comics; self-education and communities of practice; Matrix for Convivial Technology; spaces for creativity, experimentation and reflection; robust ecological education at primary, secondary and tertiary for all; increased and ongoing education about the damage and legacies of colonialism; indigenous learning; ecopedagogy; ecocentric education; education for steady-state and circular economy; empowerment and liberation; pluralism in economics education; free access to education and information; promotion of millennium libraries	38, 59, 74, 107, 120, 147, 148, 162, 169, 188, 193, 207, 246, 288, 295, 301, 315, 343, 349, 352, 363, 370, 393, 415, 420, 436, 440
		Oppose economic determinism and ethnocentrism		3, 5, 20, 50, 74, 391, 406
		Cultures of sufficiency	The Simpler Way; Voluntary Simplicity; right to simplicity; living degrowth; anti-accumulation conception of minimalism; interaction ritual theory; ancient cynicism; eco-masculinity; dépense	2, 3, 11, 14, 21, 34, 50, 60, 67, 74, 85, 124, 131, 134, 139, 145, 152, 153, 164, 179, 221, 269, 292, 318, 319, 320, 330, 334, 340, 387, 404, 406, 407, 408, 411, 414, 415, 424, 428, 446
	Relational goods		1, 8, 11, 21, 25, 26, 30, 32, 39, 50, 74, 124, 191, 265, 287, 373, 402, 405, 408, 415, 421, 432, 435, 436	
	Restore indigenous and local knowledge		114, 115, 126, 167, 191, 274, 337, 411, 415	
	Ecological class consciousness	Collective spaces and agendas of solidarity	5, 25, 39, 104, 256, 257, 413, 415	
	Individual autonomy	Decolonise the social imaginary	2, 8, 33, 268, 287, 402, 406, 411	
		Oppose English-language imperialism	33	
		Learn to speak multiple languages	402	
	Energy & Environment	Ecocentrism		
Reduce environmental pressures		Diminishing caps on resource use, emissions and pollution	Limit the input of raw materials to production; restrict the end-use consumption of energy and resources; multi-scalar cap where individual and municipal caps are deduced from the national and global maximum (based on per capita ecological footprint, absolute caps on the amount of resources embedded in imported goods and services, connected to ecological or carbon debts); prioritise resource intensive and polluting industries (e.g. petrochemical, steel, iron, automotive, shipbuilding, cement); personal energy quotas; global democratic "cap and share" program <u>Targets</u> Overshoot nations to reduce their biophysical footprint by on average 40–50% Reduce ecological footprint to less than 1, or 1960–70s levels 75–90% reduction in ecological impacts in the wealthiest regions of the world	1, 11, 15, 17, 22, 23, 30, 38, 60, 99, 127, 145, 177, 269, 284, 287, 311, 304, 316, 327, 330, 355, 359, 376, 387, 388, 390, 399, 400, 401, 405, 407, 408, 409, 410, 416, 420, 429, 436, 442
		Ecological tax reform	Extraction tax; carbon tax (e.g. rising to \$550/tonne in Canada); natural capital depletion tax; divest from unethical industries (e.g. fossil fuels, petrochemicals, nuclear, mining, arms, human rights abuses, etc)	6, 12, 22, 47, 63, 66, 93, 94, 175, 179, 181, 284, 296, 327, 357, 358, 390, 400, 403, 405, 408, 410, 428, 435, 436, 442, 445
		Moratoria on resource extraction and big infrastructure	For example - fossil fuels, nuclear, biomass, incinerators, dams, highways, airports, mining, high-speed trains, roads, space tourism	2, 3, 6, 30, 43, 73, 74, 120, 125, 191, 257, 263, 355, 376, 388, 405, 418, 428, 436
				38, 119

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Theme	Goal	Objective	Example Instruments	References
	Stop fossil fuels	Reduce chemical production and use		
		Reduce industrial fishing activities		348, 361
		Oppose the annexation of resources by corporations and governments		6
		Oppose speculative negative emission technologies	For example - bioenergy carbon capture and storage (BECCS)	284
		Diminishing annual global cap and share-based program based on historical responsibility	Resource-extraction licences based on area, time and volume; create Global Climate Trust; create Carbon Maintenance Fee; create the Hardship Fund; tradable energy quotas (shared on equitable per capita basis)	6, 44, 48, 61, 66, 118, 120, 136, 157, 179, 316, 331, 355, 388, 422, 436
	Energy democracy	Abolish fossil fuel subsidies	Limit the price paid to fossil fuel producers	44, 120, 352, 390, 410, 436
		Phase-out existing fossil fuels	Begin with hyper-polluting power plants; phase out cheap energy to 'enclave' smelters and use energy to distribute universal free basic electricity to consumers	51, 311, 322, 436
		Nationalise to phase-out fossil companies		216, 303, 420
	Energy sufficiency	Ensure convivial, community-owned renewable systems		67, 74, 138, 141, 196, 210, 211, 216, 241, 277, 294, 317, 334, 335, 396, 407, 408, 409, 428, 435
		Build off-grid systems		226, 283
	Restore and preserve biodiversity	Oppose large-scale renewable systems		257, 390
		Reduce energy demand and use	Tax industrial energy consumption	2, 6, 9, 11, 34, 42, 47, 67, 123, 216, 303, 390, 405, 407, 408, 409, 412, 419, 420, 428, 436
		Legislate the rights of nature	Rule of ecological law; Strong regulation to stop the commercialization of living organisms and public goods, from patenting of biodiversity and genes to speculation on harvest, ecosystem services and on the life expectancy and death of people; Transition Practises Incentives (degrowth version of PES); Coherent national network of marine protected areas	51, 74, 80, 104, 142, 436, 438
	Stable demography	Create resource sanctuaries	Ecological reserves and botanical gardens; reforestation projects conservation farms and biological reproduction; memorials for the preservation of knowledge, languages and techniques	43, 120, 179, 436, 443
		Bottom-up empowerment of women to control their reproductive rights	Provision of contraception and reproductive health services; vocational and educational options for girls and women; social policy incentives for smaller nuclear families; enrichment of relationships between children and adults in the broader extended family structure	16, 22, 51, 74, 179, 295, 330, 403, 406, 407, 409, 422, 436
	Decolonial environmental justice	Stop nuclear energy	Tax nuclear energy production and high-level nuclear waste	275, 313, 356, 371, 406
		Phase-out current nuclear energy		3, 30, 428, 436
Finance	Financial democracy	Remove subsidies		120
		Democratise and decentralise money	Nationalise banks for social and ecological purposes; Dismantle and decentralise banking and financial institutions (e.g. Wall Street, big banks, stock investment); Institutionalise full reserve banking; Encourage fiscal disobedience; Carry out regular debt auditing; Create an independent authority to oversee public money creation; Progressive tax on profit and capital accumulation from all sources (e.g. buying and selling of real estate, stocks, foreign currencies, and other financial instruments); Ban fractional reserve	6, 11, 22, 30, 44, 47, 48, 60, 73, 74, 75, 88, 117, 120, 135, 145, 179, 181, 191, 195, 204, 295, 390, 399, 400, 408, 410, 412, 413, 415, 416, 422, 425, 442

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Theme	Goal	Objective	Example Instruments	References
Food	Ethical and non-speculative finance	Tax justice for social ecological justice	banking; Ban interest on loans; Avoid market mechanisms; Active role of public for providing loans and subsidies to community-owned enterprises; Debt free public money; demonetisation/decommodification Capital gains and capital acquisition taxes; Financial transaction tax (e.g. EU Commission considering €10 per €10,000 transaction); Abolish tax havens and financial secrecy); Unitary tax on the profits of transnational firms to restrict tax dumping; Global standard for international tax and investment policies could be used to curb tax avoidance; Financial disobedience; Debt jubilees	30, 74, 93, 104, 118, 179, 195, 206, 284, 301, 393, 405, 407, 409, 410, 420, 436, 442
		Support non-speculate currencies, credit, and exchange systems	Timebanking; Locally-owned and operated credit unions, banks, and financial services; Cooperative banks; Melting or time-based currencies; Local exchange and trading systems (LETS); Regional (non-debt) currencies; Local or regional non-market exchange systems; Ethical banking; Local mutual-credit systems; Create national local currencies and distribute as a basic income; Non-convertible currencies; Rotating savings and credit associations (ROSCAS); Proof-for-cooperation cryptocurrency; No interest banks; Collective finance	1, 14, 22, 30, 44, 47, 48, 74, 75, 84, 90, 110, 115, 117, 120, 124, 125, 129, 135, 141, 159, 184, 186, 189, 191, 195, 227, 233, 279, 319, 320, 328, 333, 353, 369, 387, 390, 399, 400, 404, 405, 408, 413, 415, 418, 422, 425, 426, 428, 434, 442, 445
		Socially responsible and ecologically sensitive investment	Financing a (decommodified) basic income; Ecological restoration projects; Care services; Small-scale renewable energy systems; Finance a Green New Deal without growth	358, 390, 399, 407, 408, 419
	Sustainable farming	Institutionalise artisanal, subsistence organic farming		3, 15, 68, 71, 94, 154, 212, 254, 283, 318, 320, 330, 334, 377, 380, 392, 396, 397, 408, 417, 428, 436
		Promote small-scale farming	Intensive community, home, and urban gardening; permaculture streets; local food shops and coops; direct sales shops; regional fishing quotas based on national scope; recovery of small-agrarian land	141, 154, 166, 196, 263, 318, 319, 320, 330, 347, 350, 378, 382, 383, 392, 408, 415, 417, 428, 435
		Restore peasant agroecology	Permaculture	1, 2, 11, 15, 36, 51, 124, 141, 154, 205, 254, 289, 318, 319, 320, 330, 378, 397, 400, 408, 417, 428
	Food sovereignty	Develop networks and cooperatives	Mandate state institutions to procure a proportion of their food from local sources; short agricultural supply chains; reduce VAT and other tax exemptions for activities such as home-delivered organic produce parcels, bio-fairs, consumer cooperatives, municipal markets, supply to restaurants and public catering establishments in the area; label and tax food miles; food self-provisioning; community-supported agriculture; food policy networks (e.g. food policy councils, food hubs, food boards, food partnerships)	36, 68, 70, 74, 84, 93, 103, 104, 111, 122, 125, 141, 166, 171, 191, 202, 254, 298, 323, 328, 330, 348, 354, 392, 397, 399, 408, 415, 417, 435, 436, 445
		Promote seed sharing	A three-tiered seed-saving system consisting of households, community seed centres and regional seed-preservation centres; seed sharing festivals; seed banks	84, 318, 320, 354, 397, 417
		Rebuild soil fertility	Networks of manure storage facilities; local organic matter banks	318, 320, 397, 408
		Land redistribution to peasants and/or landless	Promote returning back-to-the-land	328, 436
Sustainable diets	Phase-out chemical pesticides, fertilisers, and GMOs		1, 154, 405, 408, 417, 436	
	Normalise the slow food philosophy		25, 27, 389, 417	
	Reduce meat and dairy consumption		68, 295, 318, 320, 334, 397, 408, 409, 436	
	Eat local, seasonal food	Promote plant-based diets; Introduce organic food in public institutions (e.g. aged care, hospitals, kindergartens, schools, universities, armed forces, etc)	68, 74, 111, 295, 330, 334, 397, 408, 417	
Governance & Geopolitics	End food waste		408, 416, 417	
	Reform agricultural and consumer education	Farm visits; outreach, literature; practical courses	392, 417	
	Radical ecological democracy	Decentralise decision-making	Hold regular deliberative forums; economic democracy; participatory budgeting; voluntary work parties (eg. voluntary committees, working bees and local town meetings); multi-level confederalational direct democracy; local direct	2, 5, 14, 30, 36, 39, 43, 45, 47, 53, 56, 58, 60, 63, 69, 73, 74, 78, 85, 86, 90, 103, 114, 120, 141, 145, 157, 177, 187, 188, 216, 244, 254, 261, 275, 279, 317, 318, 319, 320, 329, 344, 367, 368, 386, 387, 396,

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Theme	Goal	Objective	Example Instruments	References
			democracy; participatory democracy; small-scale self-organisation with networks of collectives; citizen-initiated referendums; scrap representative democracy; democratic experimentalism	404, 407, 408, 409, 411, 412, 413, 415, 416, 423, 427, 433, 436, 445
	Defend and reclaim the commons	Local democratic ownership of public services and resources	Public investment and asset ownership in the energy sector Local - Giveaway shops; repair cafes; rent-for-free store; gift shop; community gardens; community supported agriculture (CSA); tool libraries; open workshops; citizen self-help groups; barter clubs; farmers markets; cooperatives; community land trusts; volunteer community working bees; bike kitchens Regional - Conservation corridors; Community land trusts; Regional CSA Global - Sky Trust; Creative Commons; Wikipedia	60, 390, 396, 403, 405, 437 39, 43, 47, 60, 74, 90, 104, 120, 167, 179, 191, 203, 217, 267, 301, 305, 313, 317, 318, 319, 320, 333, 351, 387, 396, 398, 399, 402, 406, 412, 415, 416, 419, 420
	Dismantle hierarchies		General consumption strike; worker takeovers of metabolic vehicles (e.g. ports, airports, highways, etc)	3, 5, 270, 375, 415
	Regulate lobbying		Balance the power of the Ministry of Finance with respect to other ministries; cap and public register of political donations; shut the revolving door between politics and business	26, 43, 118, 407, 421
	End the military-industrial complex	Less military activity		100, 435
		Abolish investment in military infrastructure		120
	Reform international organisations			201
Indicators	Alternative indicators of social progress	Abandon GDP and adopt an array of social ecological indicators		34, 48, 49, 51, 55, 65, 67, 82, 92, 94, 103, 112, 140, 141, 164, 175, 179, 193, 223, 279, 355, 384, 388, 389, 398, 406, 407, 409, 410, 411, 413, 420, 422
Inequality	Reduce inequality	Redistribute land, labour, capital and resources within and between countries	Maximum income cap; Highly progressive income tax (e.g. 100% income tax above maximum needs satisfaction, 94% for incomes over US\$200,000 like during WW2 in the US, eliminate basic income tax, increase top bracket to 90% for income and non-essential consumption); Reparations for ecological debt (including biopiracy, carbon, corporate and waste debt); Tax and/or cap and/or abolish inheritance (e.g. cap inheritance at €1 million (US\$1.3 million), which equates to a work free monthly salary of \$10,000 birth to death); Highly progressive wealth tax; Minimum living wage; Maximum wealth cap; Maximum income ratios (e.g. 6.5:1, 10:1, 15:1, 20:1); Highly progressive consumption tax; Cancel odious debt and debt moratoriums; Crackdown on tax havens and tax flight; Negative income tax; End ecological exchange; Global minimum corporate tax; Wealth related tax structure; Land reform; Direct transfers; Implement anti-corruption policies; Restore stolen land to its Indigenous caretakers in reconciliation; Progressive cap-and-dividend schemes	6, 10, 22, 30, 32, 34, 47, 48, 50, 51, 57, 62, 65, 67, 74, 82, 93, 104, 114, 115, 118, 120, 156, 158, 168, 179, 181, 193, 194, 206, 221, 227, 245, 260, 266, 284, 285, 287, 301, 311, 312, 335, 344, 359, 361, 367, 369, 376, 382, 390, 391, 393, 394, 396, 400, 404, 405, 407, 408, 409, 410, 413, 415, 416, 418, 420, 428, 429, 435, 436, 442, 445
	Eradicate poverty	Guarantee the universal provisioning of fundamental human needs	Universal basic income (e.g. transition income, unconditional basic income, unconditional minimum income, basic income, citizens income, unconditional autonomy allowance); Equitable access to physical, mental, and social healthcare; Universal provision of basic public services (e.g. electricity, housing, public infrastructure, state services, free consumption goods); Universal basic vouchers (e.g. quasi-currency vouchers, commons-innovation vouchers, shift vouchers, needs vouchers); Transform private to public pension systems; Doctors trained in natural medicine and environmental effects on health	6, 7, 30, 34, 48, 51, 54, 61, 67, 74, 85, 104, 115, 118, 120, 140, 153, 156, 168, 173, 181, 188, 193, 194, 195, 221, 249, 252, 266, 272, 275, 284, 287, 295, 312, 325, 338, 357, 358, 360, 364, 390, 396, 399, 400, 406, 407, 408, 410, 415, 416, 418, 419, 420, 422, 428, 429, 435, 436, 442
	Transformative justice		Promote alternatives to incarceration (e.g. rehabilitation and social programs); Oppose all forms of racism (i.e. be anti-racist); Implement restorative justice measures; Dismantle colonialism and its structures; Free access to legal services for all; Redefine the principles of discrimination and equality embedded in human rights law	81, 160, 245, 250, 301, 396, 407, 408, 409

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Theme	Goal	Objective	Example Instruments	References	
Production & Consumption	Socially useful production	Worker-owned production systems		24, 39, 50, 86, 88, 99, 101, 114, 193, 204, 230, 255, 256, 282, 323, 390, 407, 408, 411, 420	
		Dismantle large corporations	For example - begin by scaling down most socio-ecologically destructive sectors (e.g. the production of SUVs, arms, beef, private transportation, advertising and planned obsolescence)	2, 22, 358	
	Democratic not-for-profit models	Direct activism and sabotage	For example - anti-capitalism malware program	163	
		Not-for-profit cooperatives	Institutionalise not-for-profit as the standard; Tax incentives for cooperatives; Preference to obtain public sector contracts	30, 47, 73, 86, 117, 120, 125, 179, 188, 192, 195, 216, 225, 227, 239, 248, 254, 277, 300, 310, 314, 318, 320, 328, 347, 348, 357, 374, 377, 379, 382, 386, 387, 398, 399, 400, 404, 410, 411, 415, 420, 428, 429, 442, 445	
		Self-production	Encourage do-it-yourself, artisan, craft and hand tool production; Promote makerspaces, fablabs, hackerlabs, creativity studios, benchtop manufacturing; Extend public financial support, subsidies, tax exemptions and grants to promote mutual aid	47, 52, 60, 112, 145, 176, 185, 226, 286, 319, 330, 377, 387, 400, 404, 408, 411, 415, 420, 434, 437	
		Smaller business	Promote hobby enterprises, small privately-owned businesses, community-based social enterprises	36, 60, 84, 94, 99, 130, 132, 247, 269, 347, 348, 387, 411, 429, 435, 442	
		Commons-based peer production	Design global manufacture local; digital commons; collaborative production; creative commons licence (e.g. github)	137, 226, 229, 247, 377, 415	
	Relocalise economic activities			1, 19, 32, 60, 70, 77, 86, 95, 96, 98, 99, 116, 132, 145, 168, 188, 200, 217, 227, 279, 285, 286, 328, 330, 376, 377, 382, 396, 404, 405, 406, 408, 411, 415, 418, 428, 432, 436, 437, 444	
	Limit advertising	Regulate advertising	Limit advertising in public spaces; Public control of advertising and media; Resource-intensive leisure consumption (e.g. long-distance vacations); Eliminate tax write offs for advertising; Restrict adverts to fundamental human needs and self-realisation only; Mortgages and large houses	1, 22, 30, 67, 93, 99, 120, 174, 179, 188, 214, 376, 386, 396, 400, 404, 405, 410, 412, 416, 420, 428, 436, 445	
			Ban advertising	Billboards; Advertising of children's toys or fossil fuels	30, 93, 120, 214, 327, 386, 404, 416, 420, 428
			Tax advertising	Tax unhealthy and unsustainable products (e.g. junk food, fossil fuels, automobiles, aviation, etc)	30, 93, 120, 214, 386, 393, 410, 428
	Lifestyles of sufficiency	Reduce conspicuous consumption Promote shared, sufficiency consumption		35, 60, 131, 145, 187, 318, 319, 320, 345, 352, 393, 408, 411, 430, 441, 445	
				82, 89, 93, 94, 108, 117, 120, 149, 155, 179, 192, 218, 227, 295, 309, 332, 393, 408, 415, 441, 442	
	Reduce waste	Ban planned obsolescence Mandate environmental impact assessments	Life cycle assessments of all goods and services; Progressive unit pricing schemes in waste management	115, 179, 218, 253, 390, 401, 405, 416, 424, 10, 89, 234, 324	
Mandatory recyclability			Mandatory long-term warranties	32, 115, 390	
Guarantee the right to repair			For example - at repair cafés, tool libraries, open workshops, bike kitchens	165, 203, 390, 416, 420, 424, 435	
Mandate ecological footprint labelling				67, 376, 408	
Science & Technology	Technological sovereignty	Reassess the role of technology	Stringent criteria for the deployment of any climate engineering (e.g. solar radiation modification, NETs, NBS, etc) and ban if strict social-ecological criteria not met (i.e. sulphate aerosol deployment, bio-energy with carbon capture and storage); Only allow afforestation under specific conditions; Ethos of releasement (i. e. of technological practice)	11, 211, 213, 216, 218, 222, 229, 236, 408, 428	
		Moratorium on and reorient technoscientific innovation		11, 238, 405, 408	
		Activist-led science		74, 125, 166, 415	
	Convivial tools	Reduce patent monopolies to a minimum		168	
		Promote convivial technologies	Matrix for Convivial Technology	17, 200, 203, 211, 220, 226, 237, 246, 251, 253, 333, 335, 401, 406, 408, 411, 415, 418, 428, 436	
		Encourage technological (re) appropriation	Repurpose military facilities to produce socially useful and ecologically sensitive goods; Create digital commons (e.g. copyleft, Creative Commons, Cybersyn, Wikipedia, etc); Limit the use of ICT, digital devices and professional services	17, 203, 220, 226, 333, 401, 436	

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Theme	Goal	Objective	Example Instruments	References
Tourism	Limit tourism	Limit fossil-fuel based travel, especially high carbon and distant	(e.g. self-tracking); Re-structure social media from privately owned in hierarchical power relations to a common or public good; Open-source drug networks Reduce passenger travel levels, especially in sensitive areas (e.g. World Heritage Sites, national parks); Regulate and tax full environmental cost of travel (esp aviation) and tourism development; Implement and/or increase tourist taxation; Replace (faster) aviation with (slower) boats; Ban or restrict the arrival of mega-cruise ships; Progressive taxation based on ship size and passengers; Develop local 'cruise' fleet; Reduce shipping activities	8, 27, 29, 32, 91, 113, 161, 271, 341, 342, 361, 381, 385, 408, 411, 428
		Promote slow tourism	Unlearning of travelling consumption and a consequent change of mentality in the world consumer class regarding their search for speed, elitism and social privilege; Develop voluntary and mandated environmental standards at various scales of governance; Adopt lifecycle analysis for all tourism activities (e.g. infrastructure, transport, products, etc); Relocalisation schemes; Ethical consumption measures; Develop International Cittaslow network (~50,000 population requirement); Restrict platform capitalism (e.g. AirBnB); Promote decentralised platform cooperative models	8, 27, 29, 106, 113, 161, 341, 354, 361, 389, 411
	Rethink tourism	Moratorium on tourism developments		133, 161, 296
		Local cooperative ownership	Community-based tourism; Ecotourism; Fair and pro-poor tourism; Rural community tourism; Dignified working conditions; Not-for-profit social enterprises; Tourism cooperatives (including worker reappropriated coops); Slow tourism; Staycations	106, 161, 259, 262, 271, 285, 293, 296, 300, 307, 341, 411
		Detailed spatial planning	Regulate land cover and land use; Coherent management of heritage and destinations	161, 259, 296, 361, 412
		Prioritise the right to live over the right to travel	Oppose the UNWTO proposal to turn tourism into a human right; Redefine legal definition of tourism, proposal being "the tourism should be better defined as the voluntary hosting of visitors in local communities for the benefit of locals"; Scrap or re-charter both the Office for International Migration and the UNWTO to favour equity, justice, residents, refugees and the environment over holidays, wealth and the ability to pay; Provision of penalties for excessive consumption and squandering (e.g. promote tourism sufficiency)	259, 271, 278, 285, 302, 412
Trade	Limit long-distance trade	Tourism education	Export quotas; Transition road freight to electric train; Reduce transport demands, especially aviation; Establish cooperative port systems with traffic limits; Reduce exports; Reduce intra-industry trade between similar countries; Shorter supply chains	285, 293, 342, 411 19, 120, 206, 345, 346, 357, 375, 403, 420, 428, 435, 436
	Rethink trade	Renegotiate trade agreements and intellectual property rights	World Trade Organisation, especially agriculture subsidies; Trade-Related Aspects of Intellectual Property Rights (TRIPS) of the WTO; Ease or 'commonify' patents	206, 420
Urban Planning	Housing sufficiency	Promote shared housing	Eco-villages; Cohousing and housing cooperatives; Transition towns; Squatting; Eco-communes; Urban villages; Multigenerational housing; Neomonasticism; tiny housing	12, 14, 18, 22, 32, 67, 72, 73, 74, 90, 99, 104, 117, 120, 121, 124, 125, 146, 168, 176, 178, 186, 191, 192, 227, 287, 318, 319, 334, 335, 350, 366, 387, 393, 399, 400, 402, 404, 405, 408, 409, 412, 415, 418, 431, 445, 446
		Prioritise small, highly self-sufficient communities	Heating and cooling - Extra insulation; invest in efficient appliances (e.g. small fridge, esky, solar panels, electrify all gas); close gaps around doors and windows; plant west-facing grapevine for cooling; install thick curtains; dress appropriately; Energy - Instal solar panels; small biogas digester; Food - Edible landscapes and food forests; solar oven; guerilla gardening; low meat diet; Water - Solar shower bags; electric heat pump; washing lines and handwashing; rainwater harvesting;	60, 73, 74, 76, 90, 104, 105, 114, 124, 125, 135, 141, 145, 149, 176, 178, 183, 185, 186, 192, 196, 200, 206, 227, 280, 318, 319, 320, 326, 330, 333, 387, 390, 405, 407, 408, 409, 412, 415, 420, 434, 445

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Theme	Goal	Objective	Example Instruments	References		
Work	Reconceptualise work	Reduce time in paid waged labour	reclaimed water reuse; Waste - Return ALL human, animal, food and farm scraps to soil via composting; Transport - Active transport (e-bikes, cycling, walking); convert roads for active transport only; Building using earth; Progressive tariff structure for water and electricity; Promote solidarity based exchanges and networks; Teach and practice permaculture principles			
			Common and sharing facilities	For example - shared cars, community spaces, tools, food gardens, kitchen, cooking, leisure, free or low- cost provision of safe, low-energy kitchen equipment, neighbourhood sharing facilities; Shift from ownership to usership	18, 48, 74, 141, 327, 396, 408, 412, 415, 416, 420, 422, 445	
			Reduce fossil and motorised mobility	Limit automobiles at city level and within households; Convert suburban roads to commons; Introduce environmental taxes; Reduce urban speed limits; Reduce parking space availability; Close roads to cars in city centres; Halt motorway and road expansion; Emphasise accessibility over vehicular mobility; Reduce traffic volume, consumption and use of cars and planes; Subsidise or tax relief to encourage citizens to live close to workplaces in order to reduce travel demand for commuting; Restricted car ownership (e.g. a lottery system for new car licence plates, congestion charging, limited driving days for cars); Promote the substitution of short car trips (<5 km) with walking and cycling; Incentivise electric bikes to replace cars; Impose heavy tax increases on private transport	11, 22, 74, 91, 121, 141, 199, 200, 228, 319, 346, 396, 405, 408, 412, 428, 436, 445	
			Promote modal shift to active transport (e.g. walking, cycling)	Proactive building of cycling infrastructure; Walkable neighbourhoods; Bike cargo transport (e.g. post office delivery, Cargonomia)	22, 67, 95, 121, 141, 199, 200, 228, 319, 366, 387, 408, 412, 420, 436, 445	
			Promote modal shift to public transport (e.g. bus, trolley bus, metro, rail)	More and better public transport services; Car sharing and carpooling; Free local public transport; Rapid ground-based intercity transport	67, 121, 199, 200, 295, 390, 396, 405, 436	
			Limit high-speed transport infrastructure	For example - roads, highways, high-speed trains, planes, airports, international shipping, cruise boats. Protest constructions on and off site	46, 121, 190, 191, 199, 405	
			Land justice	Restrict the commodification of property	Progressive property tax; Maximum quota for floor area per capita; Incentivise against empty dwellings (e.g. tax); Rent caps and controls; Revitalization and/or (temporary) utilisation of vacant buildings (e.g. permaculture on vacant land); Adequate and affordable housing for all; Establish land banks; Limit the scope of property domain (i.e. title and debt creation ability); Public control of developable land releases; Limits to private property; Redefine and redistribute property rights to all	13, 22, 48, 62, 64, 102, 118, 120, 146, 151, 172, 199, 219, 228, 280, 289, 350, 396, 399, 407, 408, 409, 412, 415, 422, 436, 443, 445
				Increase social housing	Increase public social housing; Nationalisation of vacant housing/property; Expropriate large landowners; Redensification policies	47, 64, 102, 146, 199, 390, 412, 420, 436
			Socially useful and ecological sensitive planning	Reduce the level of urban built environment	Urban consolidation; Limit urban sprawl and gentrification; Cap land use for human settlements at national and international levels; Cap housing stock (number of houses); Control the development of holiday homes; Cap household floor area (per capita in m ²); Ban construction of detached single-family homes; Limit mobility and constrain car ownership; Ban developments on agricultural land; Localise and reduce archaeological services; Open localism	64, 102, 121, 141, 146, 199, 208, 258, 263, 280, 295, 350, 376, 408, 410, 412, 428, 439, 439, 443, 445
				Retrofit existing buildings	Public houses with passive design; Apply incentives and benefits for class-conscious urban rehabilitation	72, 146, 166, 191, 295, 390, 408, 409, 410, 412, 428, 436, 445
	Increase social-ecological standards for new buildings		193, 199, 295			
	Encourage small cities	For example - Cittaslow standard of 50,000–60,000 people	359, 405, 413			

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Theme	Goal	Objective	Example Instruments	References
			off, 20–30 h weeks, 20 h week, 1–2 days per week for money, reduce from 35 to 30 hrs/wk within 5 years); gender-sensitive job sharing; workplace democracy; limit working hours; increase holidays; increase maternity and paternity leave; increase sick leave; establish pre-retirement transitions	371, 376, 384, 386, 387, 390, 393, 400, 401, 404, 405, 407, 408, 409, 410, 411, 413, 415, 416, 419, 420, 422, 428, 435, 436, 442, 444
		Reallocate productivity gains into working less (and job creation)		11, 94, 120, 168, 282, 284, 311, 369, 390, 393, 405
		Rights to part-time	Legal facilitation of “short week” transition programs and/or legislation	34, 93, 327, 404
		Self-defined work		14, 290; 442
	Low unemployment	Job guarantee (with living wage)	Aimed at care work, habitat restoration, and community services; Environmental community development workers (previously unemployed and/or young people trained to address sustainability issues in their own communities)	22, 66, 120, 179, 266, 284, 345, 358, 369, 375, 387, 390, 396, 400, 404, 416, 429, 435, 442; 444
		Job sharing		99, 351, 428, 429, 435
	Redistribute (re) productive activities		Fund pensions according to unpaid care work contributions; Incentivise men to equitably share care work; Expand community volunteering	5, 34, 54, 74, 99, 104, 108, 168, 192, 231, 306, 313, 356, 406, 408, 413, 415, 429, 436, 444
	Social ecological jobs	Proactive retraining and procurement programs	Increase government support for (re)training both directly and through funding nonprofit or community organisations to help redevelop basic household skills (e.g. social farms); Renewable energy production, environmental reclamation and management; Ecological restoration work	45, 93, 256, 295, 313, 358, 390, 393, 436

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