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Review

Unpacking the Psychosocial Dimension of Decarbonization between Change and Stability: A Systematic Review in the Social Science Literature

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Abstract: This paper provides a systematic overview of the psychosocial contribution to decarbonization studies and critically discusses current trends. Following the PRISMA protocol, we reviewed 404 articles informing how socio-psychological processes affect decarbonization, and vice versa, and highlighting research gaps and biases. Contrary to criticisms about methodological individualism and reductionism of socio-psychological research on sustainability, the review illustrates that the field is equally attentive to psychosocial processes operating at different levels, including the individual (e.g., attitudes, stress, environmental concerns), community (e.g., collective identity, justice, sense of place), and socio-cultural levels (e.g., social norms, values, memory). However, evidence shows some problematic trends in the literature: (i) A bias toward specific agents and geographies, which overlooks mesoscale actors (e.g., media, unions, NGOs) and developing and eastern countries; (ii) instrumental and normative views of transitions, which coincide with a prevailing focus on cognitive processes and a selective bias toward technologies, policies, places, and natural resources conceived as instrumental to decarbonization. This also emphasizes how biophysical processes, people–nature relationships, and the role of emotions in understanding the psychology of agents and decarbonization processes are almost absent; (iii) a research gaze normatively oriented toward the future, which risks neglecting continuity–discontinuity dynamics and the timing and pace of transitions.

Keywords: social psychology; environmental psychology; interdisciplinarity; energy transition; decarbonization; lock-in

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1. Introduction

Climate change is the most pressing challenge of our century and requires a radical societal transformation towards a post-carbon future. For this reason, national governments worldwide are committed to accelerating decarbonization through the phase-out of fossil fuels and the deployment of renewable energies. This transformation will affect what we consume, the technologies we adopt, and the social organization we deploy for production and consumption patterns [1]. Indeed, governing the energy systems' transformation does not require a mere material substitution of energy sources and technologies [2,3]. It requires far-reaching changes across scales and dimensions that are linked together and must co-evolve accordingly—technological, institutional, socio-cultural, political, and economic, among others [4]. In this regard, to achieve positive outcomes on decarbonization, techno-scientific innovations and system transformations must be accompanied by profound socio-cultural changes, namely a transformation of how people think and behave [5,6]. As Stern, Sovacool, and Dietz [7] (p. 2) argue, "[s]ocial forces—power, culture, institutional arrangements—shape the scale, content, techniques, and trajectories of production, distribution, and use of goods and services and the associated uses of energy."

Drawing on this assumption, an adequate analysis of decarbonization dynamics cannot proceed without the substantial engagement of social sciences and the integration of diverse perspectives examining human thinking and behavior [8]. Indeed, global environmental change is driven, at the local level, by individuals' cognitions and practices (e.g., the growing demand for natural resources and environmental services due to an increase in resource consumption per person; the organization of human settlements in extracting and exploiting natural resources while producing negative environmental externalities).

On this matter, social psychology (as the "discipline which aims at an integration of the psychological functioning of individuals with the social settings, small and large, in which this functioning takes place" [9]) and related fields of study or subdisciplines have the potential to address the current environmental crisis by examining the processes that favor or hinder climate change adaptation and mitigation [10] (e.g., community psychology, which aims at enhancing understanding and practice regarding the relationship between individuals and the social systems constituting the community contextusing participatory action research; environmental psychology, as a multidisciplinary and problem-oriented research field that studies the relationship between the socio-physical environment and the individual, and how they influence each other [11]; political psychology, as the study of political issues, processes, and dynamics, at both the individual and group levels, from the perspective of psychological principles; or conservation psychology, which draws on psychological principles, theories and methods to address issues about the conservation of ecosystems (i.e., resources and species) focusing on how people think, experience and interact with nature to promote sustainability and wellbeing [12,13])). Specifically, social psychology can contribute to understanding the complex interaction between humans and the ecological, technological, and political changes, inquiring into the people–environment relationship or technology–society co-evolution [14–19].

This effort involves, among other things, examining how people conceive nature, ecological resources, and risks such as climate change [20]; investigating how people act in the vest of consumers/end users, and the psychological factors underpinning pro-environmental behaviors (e.g., energy-saving and adoption of low-carbon technologies) [21,22]; or understanding the psychology of political agents influencing the transformation of energy systems, such as experts, decision-makers, and citizens opposing or supporting technological configurations or engagement practices in this matter [23,24]. According to Clayton et al. [17], the role of social psychology on global environmental challenges has recently taken three research directions: (a) examining environmentally responsible habits, decisions, and choices—i.e., understanding and promoting sustainable behaviors; (b) looking at the environment as a source of information to be processed and interpreted—e.g., particularly the factors influencing the perception of environmental risks, with applied implications for message framing, communication, and engagement; and (c) understanding the effects of environmental problems on psychological health—thus, seeing humans not only as causal agents of environmental problems but also as potential victims. In the direction of understanding environmentally induced stress, or how people adapt and cope with environmental threats and damages, eco-anxiety—i.e., the chronic fear of environmental doom [25–27] —or solastalgia—i.e., distress caused by unwanted environmental change [28,29] constitute promising research areas.

From another perspective, the engagement of social psychology with this field may be examined according to the main strands of sustainability transition research, namely the socio-ecological, socio-technical, and socio-institutional facets [30].

On the socio-ecological side [31,32], social psychology investigates the psychological ground and consequences of socio-ecological environments and their changes, encompassing physical (green spaces, urban infrastructure, etc.), political (democracy, civil rights, welfare), and economic environments (economic wellbeing and equality). According to this perspective, psychosocial patterns such as cognition, emotion, and behaviors can be associated with particular socio-ecological aspects, work as mediators between socio-

ecological states and social dynamics, and be the determinants of change in socio-ecological environments [31,32].

On the socio-technical side, which concerns the technology–society relationship and co-evolution, social psychology examines the role of psychosocial factors in technology deployment, adoption, and diffusions at different scales and in diverse spheres—such as technology adoption, consumption, and acceptance at household and community levels—or social innovations to transform the energy systems. This research strand has recently attempted to integrate interpretative psychosocial frameworks with systemic heuristic theories on socio-technical transitions, complementing the analysis of the social structures and psychosocial agency for understanding transition pathways [23,33–36]. An example is the integration of social representations theory and the well-known Multi-Level Perspective of transitions (MLP) [37] which tends to emphasize the primary locus of change in technological innovation and substitution, overlooking how agency influences pathways of socio-technical transition [38]. In this regard, social representations scholars examine agency in transition pathways by looking at the process of symbolic cultivation of technology innovations, claiming that belief systems/social representations held and conveyed by key actors working at different scales play a role in social acceptance of energy technologies [23,36]. On the socio-institutional side—which looks at institutionalized cultures, structures, and practices in which transition takes place and how power, interests, discourses, and regulations shape them—social psychology approaches energy transition at the crossroad between innovations originating in three different spheres (technoscientific, legal–political, and social, e.g., [39,40]), for example, analyzing the way innovations in the political and legal sphere are developed, receipted, or implemented (i.e., new energy and environmental policies, plans, and laws), looking at processes of influence or interaction between knowledge systems and the way new meanings and practices are contested or negotiated by different actors and at different scales [41,42].

2. Aims and Rationale of the Study

In line with the reasoning above, this systematic review aims at understanding how psychosocial theories and concepts are currently used to address the human and social dimensions of decarbonization and identify key trends and research gaps to inform research and practice.

To the best of our knowledge, this is the first systematic attempt to map and inquire into the current role of social psychology in decarbonization, documenting how it is implicitly or explicitly theorized and used, and how socio-psychological processes affect transition processes and outcomes.

Indeed, this represents a notable research gap, as previous reviews [43–45] have been mainly sectorial—understanding the contribution of psychology in socio-technical transition (i.e., food, mobility, energy, etc.) and limiting in their focus to particular aspects of change, such as technology acceptance and adoption/consumption [44], or conceptual and action-oriented for energy transition research [43,45]. Moreover, these reviews have mainly focused on 'transitions'—e.g., the transition from fossils to renewables—examining related psychological barriers and enablers.

A perspective that partially overlooks how psychological factors can actively work to maintain system stability, such as reinforcing or sustaining carbon lock-in and path dependency [46,47] and undermining the phase-out of technologies, substances, or practices that are harmful to the environment [48]. A core issue in transition research is the relationship between stability and change [49]. Transition research and policy agenda seem to be moving from a first rationale aimed at promoting transitions to another aimed at accelerating transitions, deliberately destabilizing and phasing out current unsustainable systems [49,50]. For this reason, we address the decarbonization topic by acknowledging the change and stability dynamics in systemic change processes.

This gaze also depends on the research context from which this review originated, focusing on enabling tipping points in coal and carbon-intensive regions [51,52], addressing

socio-technical, socio-ecological, and socio-institutional change. These involve, for example, the diffusion and adoption of low-carbon technologies, the sustainable use/restoration of natural resources, successful and just phase-out interventions, or the maintenance of stability in energy systems, e.g., the acceptance of coal supportive policies or the intensive exploitation of fossil fuels and natural resources.

The overall objective of the paper is to map and synthesize the psychosocial contribution to decarbonization studies in the social scientific literature. Its specific goals are: (a) to provide a first description of the field using qualitative analysis and narrative synthesis of literature strands; (b) to describe the main psychosocial trends that delineate this research field and its main characteristics in terms of subjectivities, contexts, and areas of sustainability transformation; (c) to pinpoint research gaps and propose research directions for integrating psychosocial theories and methods to examine decarbonization of energy systems.

These goals are translated into four specific research questions:

1. How is the psychosocial dimension of decarbonization operationalized in the available literature?
2. What are the key psychosocial dimensions and levels of explanation/analysis adopted in current literature?
3. What are the main sustainability areas of transformations investigated and their relation to psychosocial factors (e.g., behavioral, technological, political, biophysical change)?
4. What are the most studied subjectivities and contexts?

By focusing on subjectivities, social objects, and psychosocial processes at the heart of literature, the paper discusses and contextualizes current research trends highlighting how psychosocial processes influence decarbonization (and vice versa) and proposes research directions regarding the adoption of psychosocial interpretative frames and interdisciplinary collaboration for its study.

3. Materials and Methods

The systematic review was based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) 2020 statement [53]. It followed three different phases, as illustrated in the flow diagram below: identification, screening, and inclusion (Figure 1).

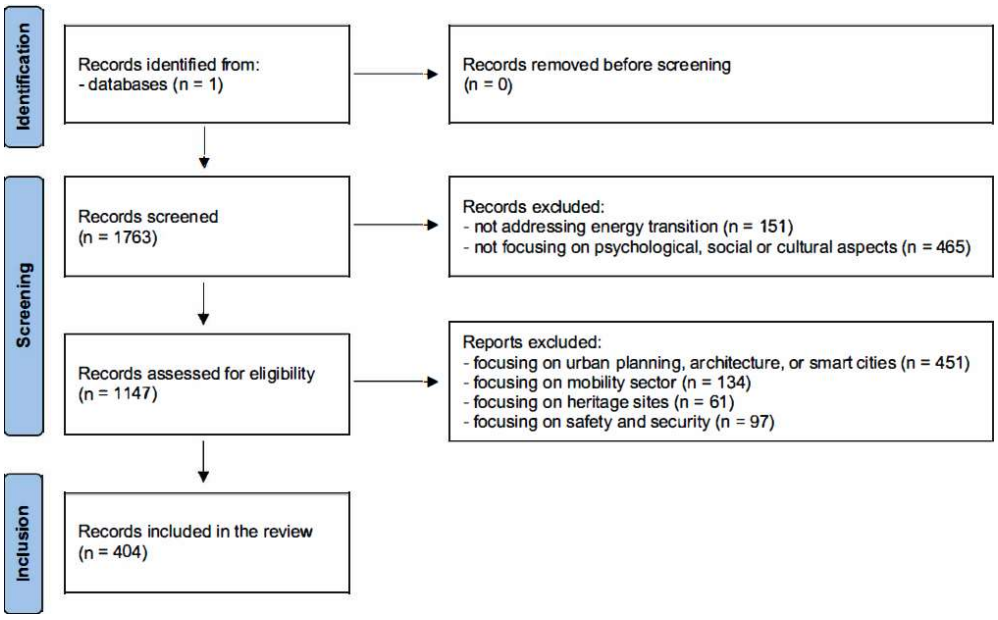

Figure 1. Flow diagram for the PRISMA procedure.

3.1. Data Source and Search Strategy

Concerning the identification phase, we limited the search to the Scopus database for several reasons: (a) it is multidisciplinary, thus, it covers a broader range of knowledge areas than other databases (e.g., PsychINFO for psychology, BioOne for environmental sciences, etc.); (b) it is reliable, thus, it identifies sources and authors more accurately than free-access search engines (e.g., Google Scholar); (c) as noted by Wolsink [54], it makes fewer systematic errors than other multidisciplinary databases (e.g., Web of Science); and (d) it covers a superior number of journals, especially for recent articles, compared to Web of Science [55,56], which is the case of this review.

A series of queries were tested to retrieve all the relevant literature, i.e., not to leave out relevant documents for the choice of too narrow keywords or, on the contrary, not to include off-topic documents for the selection of too broad keywords.

The actual query, which is reported below, consisted of two parts. The first one contained operands related to the analysis contexts, including relevant disciplinary domains (i.e., psycho*, cultur*), and the spatial/relational levels (e.g., communit*, household*, etc.). The second part contained operands selected to capture studies related to the subjects and topics relevant for the review (e.g., decarbon*, low-carbon, post-carbon, coal, etc.), purposefully eliciting literature related to change and stability in energy systems, i.e., energy transition, path dependency, and carbon lock-in [46,47].

(psycho* OR cultur* OR public* OR citizen* OR communit* OR household* OR individual OR collectiv* OR social AND decarbon* OR low-carbon OR post-carbon OR zero-carbon OR "carbon neutral" OR coal).

The search was limited to titles, abstracts, and keywords of journal articles and reviews published in English and indexed within the social science, psychology, and multidisciplinary subject areas.

The timespan covered five years (from January 2015 to June 2020). It was chosen because, since 2015, the interest from social sciences in the topic of decarbonization in terms of scientific publications has constantly started to increase (see Figure 2).

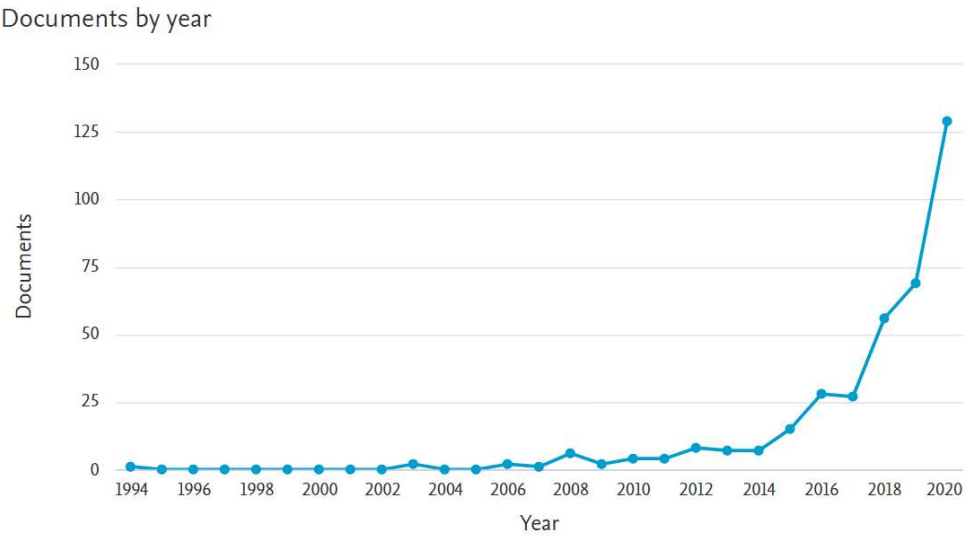

Figure 2. The trend of articles addressing decarbonization from a social science perspective from 1994 to 2020. Source: Scopus.

3.2. Search Outcomes

The search on the Scopus database with the selected query produced 1763 records, which were equally distributed among seven researchers for screening. The team involved professors, research fellows, and a PhD candidate with extensive training in social psychology and a background in sustainability research.

Each researcher checked the assigned records for potential duplicates in the screening phase. Then, the researchers preliminarily defined a set of eligibility criteria and consensually decided to exclude: 1. the records not addressing the topic of energy transition (e.g., those referring to 'carbon' as a molecule); 2. the records addressing the topic of energy transition without any reference to psychological, social, or cultural factors.

Moreover, we decided to exclude other records, following an iterative and shared screening process, coherently with our focus on coal and carbon-intensive regions. They regarded strands of research on 1. urban planning, architecture, and smart cities (mainly from a technical perspective); 2. mobility sector; 3. heritage sites; and 4. safety and security issues (e.g., workers' safety in coal mines or coal-fired power plants).

Finally, we retained only the research articles (e.g., case studies, surveys, etc.), leaving reviews and commentaries for subsequent reading and reflection. The screening phase was facilitated using a reference management system (Mendeley) and spreadsheets.

3.3. Data Extraction and Analysis

Therefore, concerning the inclusion phase, the resulting corpus submitted to content analysis was based on 404 records. Figure 3 shows the distribution of articles over the years considered.

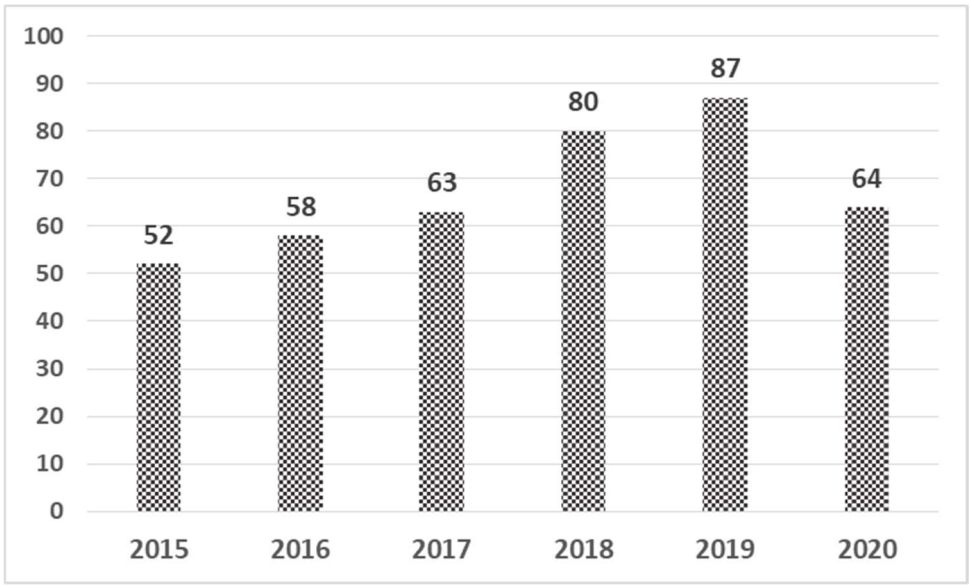

Figure 3. Records included in the review over the years.

The records were randomly distributed among seven independent judges who analyzed them autonomously. Specifically, the content of each record was manually coded using a grid developed ad hoc for the review. The coding grid included five main dimensions, which were defined a priori to provide an overall description of the articles. Several categories were initially defined through a top-down procedure for each dimension, drawing on the existing literature developing a taxonomy of psychosocial dimensions, sustainability problems, typologies of change, etc. Then, the categories were further integrated by a bottom-up procedure, including elements emerging from the articles and thus using an inductive-deductive approach to the data. The team discussed and negotiated every addition or change during coding, and the task protocol was constantly updated and refined. The main dimensions regarded:

(1) Location, i.e., the geographical context hosting the study;
(2) Actors, i.e., the individuals or social groups playing a role in the study (e.g., laypeople, civil society, unions, companies, NGOs, policymakers, experts, media, etc.);

(3) Event, i.e., the (deliberate or unexpected) critical point triggering a change (e.g., biophysical processes, external shocks, political decisions, individual changes, societal transformations). (In particular, we adopted the following definitions. Biophysical processes: any event in the biosphere, physical process, or environmental modification that produces a change. External shocks: any external, indirect event that forces an activity to change or to stop rapidly. Political decisions: any new law, political commitment, international or national plan or regulation that causes a change. Individual changes: any event happening at the individual level that transforms life priorities and activates a chain of changes. Societal transformations: any event in society that generates a series of transformations);

(4) Typology of change, i.e., the transition pathway described in the study (e.g., regular, hyper-turbulence, shock, disruptive, avalanche), cf. [57]. (Quoting the authors, we defined the categories as follows ([57], p. 404). Regular: "corresponds to environments that regularly experience a low intensity, gradual change". Hyper-turbulence: "corresponds to environments that feature a high frequency of high-speed change in one dimension". Shock: "corresponds to environmental changes that are rapid and high in intensity, come rarely, and are relatively narrow in scope. A specific shock may dissipate and disappear after a while, returning to the baseline, or it may lead to a stepwise structural change". Disruptive: "corresponds to changes that infrequently occur, develop gradually, but have a high-intensity effect in one dimension". Avalanche: "occurs very infrequently, but is of high intensity, of high speed, and simultaneously affects multiple dimensions of the environment. Avalanche change leads to permanent changes in the environment");

(5) Theoretical constructs, i.e., the social-psychological and cultural concepts framing the study.

The final grid was consolidated through an iterative process aimed at matching and clarifying the categories inductively identified by each judge, preserving the richness of nuances present in the articles, and reducing complexity and data dispersion.

Then, we qualitatively described and interpreted each of the dimensions considered to provide insights into constructs, processes, and dynamics of change examined in the social science literature about decarbonization.

4. Results

The following sections discuss the results focusing on location and actors, events and typologies of change, and psychosocial factors and processes inquired about in the literature. We aim to highlight how subjectivities, socio-material objects, and psychosocial patterns of decarbonization are addressed in the current social science literature.

4.1. Locations and Actors

The most frequently mentioned locations in the articles are in the United States of America (USA, 101) and Europe (95), often with cross-country studies. Nevertheless, European studies are mostly represented by central and northern regions such as Germany (22), Netherland (13), Norway (10), and the Czech Republic (9). Besides them, many articles focus on the United Kingdom (UK, 62), Australia (61), China (33), and Canada (17). Moreover, a more limited set of articles (12) examined small islands (e.g., Canary, Maldives, Fiji, Galapagos) mostly in countries with developing economies.

Within the different locations, some regions have received specific attention, as in the case of the Appalachian Mountains for their natural gas reserves, or mining contexts in Australia and India, due to major political developments. An example is the coal seam gas boom in eastern Australia (Queensland), which received consistent attention in recent years. However, it can also be noted that, overall, the literature seems still very unbalanced from an English-speaking perspective or, more generally, according to the reading "the west towards the rest" [58]. The voices and views of the African continent, for example, are almost absent. On the other hand, Asia is emerging, mainly due to a growing interest

in China. Nevertheless, this may result from a bias in search strategy. Including more languages such as French, Spanish, or Chinese may have included more research from other regions (e.g., Africa or Latin America).

As illustrated in Figure 4, the most recurring actors in the examined literature are what we categorized as laypeople: they are mainly non-expert citizens whose viewpoint is being investigated. This is the case, for example, of the study by Gunzburger et al. [59] about the social representation of an unconventional gas extraction project in a former coal-mining area of France. However, articles in which laypeople are conceived as prosumers—thus involving a more agentic role in the energy system—are also present, e.g., [60]. Furthermore, references to laypeople in terms of unheard 'minorities' to be given a voice are present as well: exemplars are the articles that focus on indigenous communities [61], women [62], or young [63] and elderly people [64]. Overall, the importance dedicated to laypeople seems to be directed to three main aspects: the interest in opinions, attitudes, and representations circulating among non-experts, the transition of role from consumers to prosumers, and in-depth analysis of the relationship between decarbonization processes and facets of intersectionality and injustices.

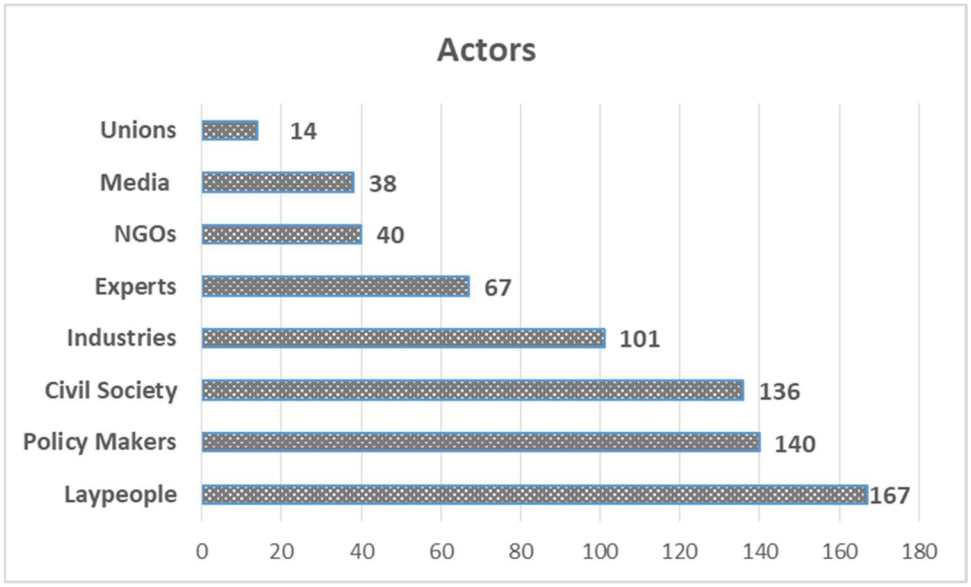

Figure 4. Actors considered in the articles covered by the literature review. Numbers refer to the number of articles considering a specific actor.

Articles included in the review also frequently consider policymakers and civil society both as sources and objects of transformation (see the section on events and typologies of change below). For example, Shin [65] examines the role of local governance in facilitating instances of policy innovation in a Chinese community. Kotikalapudi [66] focusing on the political economy of coal in Bangladesh is an example of considering the effects of what we could call negative tipping points on civil society: the government's plan to increase the share of coal in the electricity mix to reach energy needs triggers opposition by local communities, who perceive their livelihoods endangered.

References to companies and experts follow. In particular, the work by Bell, Fitzgerald, and York [67] investigating fossil fuel industries' efforts to retain cultural hegemony is an example of considering companies as key actors in the competition among narratives and visions. Differently, the recent work by Keough and Ghitter [68] identifies barriers and mitigation strategies to redesign a Canadian resource-intensive city in a non-consumptive sustainable place. It is an example of the importance of including the perspective of experts to identify potential obstacles to the low-carbon transition.

Interestingly, non-governmental organizations (NGOs) and media are much less considered in the literature we examined. Concerning NGOs, an example is the work by

Talukdar [69] on the hostility and crackdown toward Greenpeace by the Indian government on the coal matter. Concerning the media, an example is a recent work by Vossen [70] investigating how the Dutch printed press frames nuclear energy in the context of climate change. Finally, very few articles consider unions, such as the work by Snell [71] that addresses the notion of 'just transition', its competing interpretations, conceptual understandings, and related challenges in an Australian coal region. The scarcity of interest towards these three actors should be further investigated as it might be just the effect of the scientific disciplinary segmentation, or it might signal the difficulty that NGOs and unions face in being recognized as critical players in this domain (as opposed, for example, to climate change issues), and to acknowledge the impact that media have in advocating or silencing alternative voices to those of policymakers, companies, and experts.

4.2. Events and Typologies of Change

The most frequently examined events regard societal transformations (i.e., changes in society that affect various spheres) and political decisions (i.e., policy implementations that are expected to produce changes) at different scales, ranging from local to national or, even, supra-national levels (Figure 5).

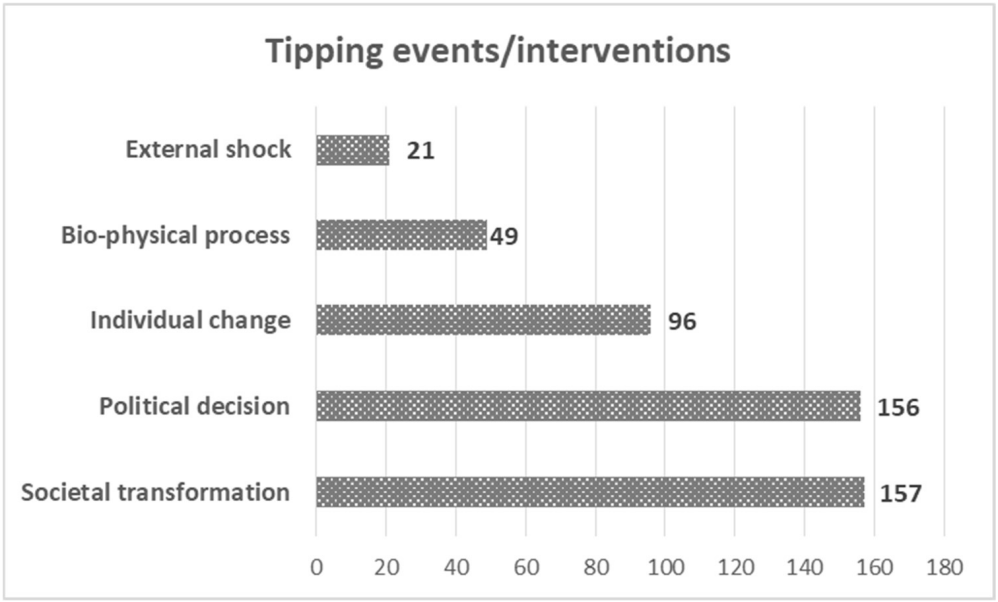

Figure 5. Different events examined in the articles covered by the literature review. Numbers refer to the number of articles examining a specific event.

Specifically, the work by Stewart, Anda, and Harper [72] proposing a community-directed approach to enhance mitigation strategies and development aspirations in remote indigenous communities in Australia is an example of the effects that societal transformation has on a local scale. In their research, the authors show that rural indigenous communities are already applying (culturally meaningful) strategies to reduce resource use. Rather than imposing top-down and behavior-oriented interventions, the author suggests leveraging the existing changes and the implemented endogenous strategies to achieve greater effectiveness. Similarly, the work by Gunderson et al. [73] acknowledging de-growth and collective ownership as core social conditions to better realize the environmental gains of alternative energy is an example of societal transformation on a global scale. Articles on political decisions include both studies on the levels of social acceptance of low-carbon policy implementations (e.g., the recent article by Seo, Kim, and Yoo [74], assessing the public preference for increasing natural gas generation and reducing CO_2 emissions in South Korea) and studies on local conflicts triggered by political choices (e.g.,

the work by Černoch et al. [75], examining the narratives of the opposition to brown coal mining in the Czech Republic).

Almost one hundred articles reviewed also focus on individual changes (i.e., transformations that occur at an individual level that affect other domains of individuals' lives). Breadsell, Byrne, and Morrison [76], for example, examined the effects of moving to low-carbon homes on individual and household practices. Studying a local Australian community from a longitudinal viewpoint, the authors show how design and technology improve water and heating practices. However, more personal hygiene practices are more difficult to change and more dependent on individual habits.

Bio-physical processes (i.e., environmental transformations, such as the so-called 'natural' events that trigger changes) and external shocks (i.e., indirect and sudden events that require effective management) are much less considered in the articles analyzed. Among the few examples, the work by Lu and Xu [77] addressing the low-carbon reconstruction and sustainable development of a local Chinese community after a severe seismic event is an example of a biophysical process. The paper by Luke and Emmanouil [78] working on the coal seam gas boom in an Australian region is an example of external shock.

Regarding the typologies of change (see Figure 6), it has been interesting that the authors did not always problematize the type of transformation/transition in the articles.

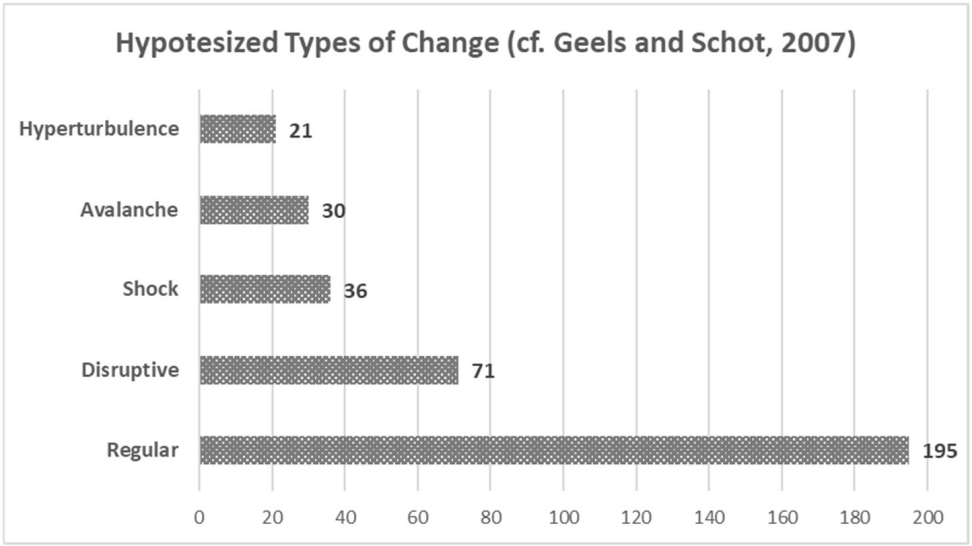

Figure 6. Different typologies of change examined in the articles covered by the literature review. Numbers refer to the number of articles examining a specific typology of change.

As a result, most of the selected articles described a hypothesizing "regular" transition, probably because they assume a steady and linear path of transformation without really putting it into question, emphasizing how psychosocial research tends to neglect the nature and sequence of transformations.

4.3. Psychosocial Dimensions and Decarbonization

In the sustainability literature, what is socio-psychological may be contested and the object of different disciplines and research traditions. This makes it difficult to draw definite boundaries, which become increasingly blurred, cf. [79]. Moreover, as pointed out by Rizzoli et al. ([80], p. 674), even if social psychology is a well-established discipline, the 'social' has never been unique and what it means is still an open question—i.e., "social means 'social topics/subjects of research' or requires theorizations accounting for how the social is integral to the individual?" Therefore, to analyze and report the literature review results, we firstly coded the articles highlighting the explicitly addressed psychosocial factors and processes. Then, we clustered these articles based on their psychosocial level of explanation. For this purpose, we referred to Doise's systematization [81] on the levels of

explanations in social psychology, coupled with the clustering realized by Sarrica et al. [5] on energy social studies.

In the first group, we grouped articles that examine the intra-individual processes through which people organize their perception of the environment or their behavior concerning the environment. This level mainly refers to the social cognition research tradition, comprising psychosocial dimensions such as attitudes, motivation, or needs that predict or explain cognitive and behavioral dynamics at the individual level (e.g., technology adoption; pro-environmental behaviors). We refer to this category of studies as the *intrapersonal level*.

The second group of studies includes articles that examine how psychosocial factors affect interpersonal and intergroup processes and vice versa. Classic studies are about social influence, social comparison, group polarization, social identities, or social justice. We refer to this group as the *community level*, comprising articles dealing with inter-individual and intergroup dynamics in a given situation, focusing on the dynamic relations that can be established among specific individuals in a given moment. To simplify, this group of studies embodies a relational, local, and situated perspective that inquires how groups and communities promote, adapt, or resist change.

Finally, the third group regards the ideological or cultural realm, considering systems of beliefs, representations, values, and norms collectively constructed, shared, and expressed in a particular society or by specific groups. We refer to this group as the *societal level* involving studies on the influence of psycho-cultural structures in meaning-making processes and practices.

Within these three clusters, we identified a group of thirteen categories of psychosocial dimensions and research trends (See Table 1). We describe and discuss these categories more in-depth in the following paragraphs.

4.3.1. The Intrapersonal Level: Cognitive and Affective Experience

Studies in this category (N = 135) examine processes of socio-cognitive appraisal and inner mediators of these processes. This cluster concerns how individuals perceive and represent the external reality—technological, political, environmental, etc.—and how inner states affect cognition orienting individual thinking and action. The subgroup on socio-cognitive appraisal includes studies dealing with attitudes, environmental concern, risk perception, awareness, and knowledge. The subset on 'inner mediators' includes personality, motivations, needs, and emotions studies. We present a more in-depth account of the literature on these factors below.

Attitudes—Many articles examine attitudes (n = 33) often regarding social objects such as technologies or behaviors. Attitude studies often lie on a rational decision-making paradigm, where dependent variables such as behavioral intention or purchase decisions can be explained by attitudes toward the object. These studies frequently draw on classic psychosocial theories on behavioral change (e.g., Theory of Planned Behavior—TPB [82]). An example of this approach is the article by Hou and Hou [83], which used an extension of the TPB to examine farmer adoption of low-carbon agriculture. From a different perspective, Shamon et al. [84] assessed attitudinal change toward different energy technologies by exposing participants to pro and counterarguments and showing how message persuasiveness is related to compatibility with the initial attitude and perceived familiarity with the topic. McGuire and Beattie [85] investigated the relationship between explicit and implicit attitudes to carbon footprint and self-report measures on low-carbon behaviors, highlighting the limit of self-reports and questioning their usability in designing policies or interventions for behavioral change.

Environmental concern/risk perception—Another crucial dimension addressed in the literature refers to environmental concern and risk perception (n = 29), namely the negative appraisal of the anthropogenic impact on the environment, e.g., climate change or the deployment of technologies and infrastructures, such as fracking. These studies refer to the well-known concepts of environmental concern, risk perception [86–88]), or represen-

tation [89], alternatively stressing how intraindividual processes of appraisal are socially constructed and culturally determined. An example is the study of Xiang et al. [90], finding that climate change risk perception may contribute to inaction, as perceived intractability hinders the intention to adopt low-carbon behaviors. Further, the articles by O'Connor and Fredericks [91] and Bec, Moyle, and McLennan [92] illustrate how the risk perception of disruptive technologies (i.e., fracking or unconventional gas) can be shaped by context-based considerations involving the assessment of the risk-opportunity nexus.

Knowledge—The dimension of knowledge (n = 49) is addressed by scholars referring to awareness (n = 19), knowledge (n = 17), or learning/knowledge construction (n = 13), and is mainly related to the acceptance of technologies and policies. For example, Kim et al. [93] showed that local exposure to air pollution increases public knowledge and awareness of environmental problems and reduces satisfaction with the governments, but not the opposition to coal-fired energy production, explained by education levels. Chodkowska-Miszczuk, Martinat, and Cowell [94] showed that the citizens' support for biogas power plants was determined by high awareness of the technology functioning due to previous visits to the plants and proper communication and engagement activities. On the user and consumer side, Tsaur and Lin [95] demonstrated that a lack of awareness about photovoltaic systems' perceived ease of use predicts the attitude toward the technology and hinders the intention to adopt.

Trust—Finally, the role of trust (n = 18) in energy system change is inquired about at different levels, ranging from collective support to individual decisions and behaviors. It is well-known that when people have little knowledge about technical solutions, trust in third parties affects the perception and assessment of energy policies and technologies [96]. This is exemplified in the article by Owens [97] on public trust toward actors involved in the coal seam gas development. Alternatively, trust can influence personal willingness to engage with low-carbon solutions. An example is a study by Koirala et al. [98], in which community trust explains the willingness to participate in community energy systems, or the paper by de Wilde [99] investigating the role of three modes of trust (interpersonal, impersonal, and professional) in homeowners' decisions for low-carbon retrofit.

More on the relevance of inner structures and states, the reviewed studies referred to personality traits, motivations, needs, or emotions often associated with disruptive technologies or socio-ecological conditions or transformations.

Personality—Personality traits were addressed by a few studies (n = 9), such as that by Huijts, de Vries, and Molin [100] on loss aversion, or that by Obschonka et al. [101] on psychological adversity. The latter proposes that major societal changes, such as the industrialization processes, may have led to persistent personality traits and demonstrates that the historical dominance of the coal industry in Wales and England had a significant effect on personality traits of psychological adversity, characterized by neuroticism (people more likely to experience anxiety and depression) and lower life satisfaction and expectancy.

Wellbeing and life quality—In this regard, aspects of quality of life (n = 10)—here interpreted as life quality, livelihood, or stress—were addressed by a few studies about changes in the energy system. Examples are the paper by Phelan and Jacobs [102], showing how social and environmental externalities of coal seam gas projects may influence the quality of life, resulting in lower life satisfaction and a weaker economy; or the paper by Lai et al. [103] on psychological stress induced by an undesirable change of land use in rural communities.

Motivation and needs—Motivation and needs (n = 11) are at the forefront of a research strand focusing primarily on individual drivers for behavioral change and the adoption of low-carbon behaviors and technologies at the household level. One example is the study by Smale and Kloppenburg [104], which examined how householders engage with new business models and digital infrastructures related to prosumerism (energy platforms fostering self-consumption or local exchange). Individual autarky and autonomy were found as strong motivations for adopting energy storage technologies, conceived as a way

to engage in energy management by setting terms and conditions that can respond to justice principles.

Emotions—Finally, emotions were the least considered psychological dimension in the literature (n = 2). A rare example is the study by Duffy and Whyte [105] analyzing emotional connections and responses to transformations in the coal industry and mining community in the Latrobe Valley. The study examines how feelings of anger, grief, loss, and abandonment characterize the coal industry decline and concludes that a politics of emotion and affect is fundamental for designing and accompanying phase-out transformations encompassing the disruption of place histories and memories captured in the sites.

4.3.2. The Community Level: Coping, Adaptation, and Transformation

Studies in this category (N = 174) deal with psychosocial factors and processes in intra-group and intergroup dynamics. These studies inquired about cohesion and conflict within groups and communities, collective identification processes and their role in intergroup dynamics, perception of justice and equity about energy system change, or sense of place and agency in decarbonization processes.

Community cohesion—At an intra-community level, studies examine community cohesion and conflict (n = 33), often referring to dimensions such as a sense of community or belonging, and mainly about grassroots innovations for sustainability or community responses to disruptive changes. This is exemplified in Aiken's [106] and Grubert and Skinner's [107] studies.

The first analyzed how community rhetoric and practice of the Transition Movement are consensus-seeking and eliding profound antagonisms and differences within the movement to maintain cohesion and engagement.

Regarding community conflict, the second analyzed a case of community division about CSG development, which is explained by long periods of uncertainty about the project, which have led to the construction of detailed visions and narratives about the (economic and demographic) future of the community to the extent that opposition to the project is conceived as an opposition to one's destiny and view about what is right.

Collective identification—Identification processes are the most recurrent and considered psychosocial dimensions (n = 50), revealing the importance scholars devote to identity processes in the energy transition, see also [34].

Studies consider different types of collective identity and their role in decarbonization processes ranging from place identity to national identity or activist identity, to name a few. Cislak, Wojcik, and Cichocka [108] examined the association between national identification and the support for anti-conservation policies in Poland (subsidies for the coal industry, deforestation plans). National identification was associated with supporting these policies only when a collective narcissistic component was present, namely, a defensive form of ingroup identification based on the belief that others do not appreciate, recognize, or value their ingroup enough. Collective narcissism is associated with an instrumental view of nature, which can be exploited to bolster the group's image as strong and independent in contrast to policies perceived as forced upon the ingroup. The paper by Luke et al. [109] instead focuses on the intersection of social identities and place identities and how they can shape social responses to unconventional gas development. The study discusses the implications on coalition building between NGOs and community protesters, observing that identification with activists was often rejected by local protesters viewing activists as outsiders, both socially and geographically.

Justice—On perceived justice and equity (n = 40), articles addressed topics such as the development of renewables, phase-out of fossil fuels, or policy measures for energy efficiency (e.g., energy poverty), often adopting an environmental justice lens, cf. [110].

In this regard, and from a psychological perspective, justice often stems in the forms of perception of injustice, deprivation, or loss, or from perceived distributive equity, such as the case of community benefits from renewable energy projects. Regarding renewable energy deployment, for example, Yenneti, Day, and Golubchikov [111] explored the spatial

justice elements in land acquisition for large-scale solar energy projects in India. Their study sheds light on how the land acquisition was characterized by multiple forms of injustice (i.e., lack of recognition of land use by local people and legal rights to that land, lack of information, cheating of illiterate people), alienating vulnerable communities from their sources of livelihood. To facilitate community acceptance and support towards renewable energies, community benefits are often considered in the literature to address distributional justice and convince communities to host energy facilities. The dimension of community benefits encompasses different aspects such as the ownership of facilities, providing jobs or other services, or distributing low-cost energy. For example, Chodkowska-Miszczuk, Martinat, and Cowell [94] found that benefits provided to the community (local jobs, support for cultural events, facilities renovation, e.g., roads) enhanced the acceptance of biogas plants, having a significant effect on shaping the relationship between the company, the facility, and the community.

Agency—Strictly connected to justice, community agency (n = 28) has been addressed by scholars inquiring into the mechanisms, processes, and outcomes denoting collective responses to change, using efficacy, resilience, capacities, or empowerment concepts and theories.

For example, the studies by McCrea, Walton, and Leonard [112,113] tested and extended a model of community resilience, showing that community wellbeing is predicted by community spirit and cohesion (relationships and inclusiveness), which in turn predicts resilience. Moreover, trust in the community, its leaders, local government, and decision-making procedures are crucial in determining the perception of effective community resilience. Further examples come from Revell and Dinnie [114] and Westrom [115] in Scotland. The first analyzes how the Scottish policy framework tries to empower communities by providing opportunities to gain control of local resources and fully engage in the low-carbon economy and decision-making, while the second investigates how community-owned renewable energy and related community benefits re-shaped local power relations creating opportunities to transform the governance of the island toward greater community autonomy and legitimacy.

All in all, these studies stress how the agency can be constrained by material and symbolic resources available to the communities coping with energy system change [116] and how individuals and communities with fewer resources and capacities, or with histories of disadvantage and powerlessness, can be more vulnerable, less resilient, and thus unable to cope effectively in the face of transformations.

Sense of place—The sense of place also plays an important role in the literature on decarbonization (n = 22), involving various theories and constructs related to place-based experience and meaning-making, e.g., place representations, place attachment, or spatial imaginaries. In this regard, these studies demonstrate that sense of place or place-based meanings can influence the appraisal and the coping with place change, infrastructure siting, or climate action. For example, Batel et al. [117] showed that opposition to energy infrastructure might arise when people perceive and represent the essence of the siting place as natural and uncontaminated, and conversely, the essence of technology as industrial, which in turn explain the perceived unfit between place and technology. The place–technology fit is also addressed by Cowell [118] through the case of gas-fired power plants and landscape disturbance. Sense of place can also be determinant in climate action at the community level. The spatialization of community (how the space is perceived, conceived, and lived) leads to imaginaries' underlying interpretation and action about territorial transformations based on low-carbon energy [119]. All these results are relevant, as they demonstrate the relevance of the symbolic fit of technologies and places in siting energy facilities to foster the acceptance and support by local communities and social license to operate. Furthermore, they stress how space and place are crucial ingredients of energy transition scholarship examining the territoriality of energy transition [120,121].

4.3.3. The Societal Level: The Socio-Cultural Dimension of Decarbonization

Studies in this category (N = 205) examine the influence of the socio-cultural and ideological domains in decarbonization processes. Psychosocial dimensions such as values, beliefs, ideologies, as well as social representations, frames, imaginaries, or social memory are adopted to study how signification processes and coping about change are dependent on pre-existing frames of reference within specific cultures, them being geographically-based such as countries or regions, or group-based, such as governments or local communities.

Values—For what concerns values (n = 56)—defined as moral, social, or aesthetic principles accepted by an individual or society as a guide to what is good, desirable, or important, namely the worth, usefulness, or importance attached to something (APA Dictionary of Psychology (https://dictionary.apa.org/, accessed on 13 April 2022))—the examined literature highlights how value orientations play a crucial role in shaping interpretation and response to the introduction of disruptive technologies or environmental changes, as well as in determining conflictual and cooperative intergroup processes. These considerations are clearly at stake in Brunner and Axsen's and Sherval et al.'s studies on unconventional gas development [122,123]. The first considers the link between value orientation and public acceptance of unconventional gas, demonstrating that biospheric-altruistic values (i.e., interest in the wellbeing of others and the environment) and environmental concern predict opposition to unconventional gas developments. In contrast, support for gas development is linked with egoistic and traditional values (i.e., preservation and promotion of individual wellbeing, orientation toward stability, and conformity). On the other hand, the second explored the reasons behind the unconventional coalition between environmentalists and farmers in the mobilization against CSG in Australia. The authors claim that the alliance between actors often deemed rivals arose as a form of rural citizenship through the alignment of values about rurality and its stewardship when confronted with competing land uses and threats to the water-land-soil nexus.

Beliefs—strictly connected to values, scholars examine the role of beliefs (n = 70)—the associations of some characteristic or attribute with an attitude object such as nature or technology—in environmental commitment in the public and private sphere. At the interface between values and beliefs, these contributions can be directly linked with a prominent socio-psychological model to explain support for environmental actions, i.e., the value-belief-norm model [124,125]. An example is the study of Barr and Pollard [126] on the Transition Movement, which sheds light on the beliefs and values associated with re-localization—the main action frame of the movement—and that stands as a between space among competing beliefs on environmental activism and initiatives for cultural and behavioral change (i.e., pragmatist vs. inner transformation). Schuldt et al.'s [127] study took a more cognitive and individual-based psychological lens to investigate the role of second-order beliefs (i.e., beliefs about beliefs) in predicting individual-level policy support and preferences. They illustrate how second-order beliefs that pertain to proximal reference groups such as friends, family members, and the national reference group strongly predicted the support for coal-to-gas policies.

Social norms—In line with this reasoning, social norms (n = 34)—as the belief that an important person or group of people will approve and support a particular behavior—are other crucial constructs addressed in the literature, often referring to climate change responsibility and action. An example is the study by Stoll-Kleemann and O'Riordan [128] which clarifies that although people know and care about climate change, agreeing on the necessity to act and shared responsibility for action, a denial of responsibility for climate action—displacing it to others, such as industry, egoistic or rich people—contributes to moral disengagement hindering the adoption of low-carbon behaviors.

Future imagination—Different articles address future imagination (n = 28) in transition processes. These studies frame their research object as vision, imaginary, aspiration, projection and use these constructs as theoretical or methodological means to study, and support envisioned or desired transformation processes, e.g., vision and scenario development [129,130].

For example, Longhurst and Chilvers [131] documented the diversity of visions for energy transition produced by different societal groups and how they envision transition in particular ways. Visions conveyed by the state, business sector, and academia were more associated with dominant imaginaries (large socio-technical change, incumbent neoliberal models, narrow problematization). In contrast, civil society associates more with alternative imaginaries (emphasizing social and cultural change, equity and justice, environmental issues). The article by Levidow and Raman [132] examined the waste policy conveyed by the UK government as an attempt to accommodate different and competing socio-technical imaginaries of waste management to gain political legitimacy: the eco-localization imaginary, involving localization of resource flows and uses and institutional responsibility, and the dominant imaginary, coinciding with liberal techno-economic operations argued to make the system more resource-efficient.

Shared interpretative frames—The category of shared interpretative frames (n = 16) embodies all those concepts and theories that encompass shared meanings and interpretative frames or repertoires. In this category, we can find the constructs elaborated in social psychology and sociology from the seminal works of Moscovici on social representations [133] and Goffman on frames [134].

For instance, Bec, Moyle, and Char-Lee [92] used Social Representation Theory to investigate public and stakeholder perceptions of coal seam gas extraction. In contrast, Bailey, Devine-wright, and Batel [135] explored the symbolic fit between representations of a proposed high voltage powerline and representations of the siting place in a rural area. Regarding frames, articles often focused on how technologies, policies, and environmental problems are framed in public discourse and, eventually, the effects of such frames on public opinion or discourse. Stauffacher et al. [136] analyzed the geothermal debate in Swiss mass media, revealing it was largely shaped by major events (i.e., Fukushima, earthquakes, political elections) and that the two dominant frames of geothermal energy (energy transition and risk) were emphasized by different groups: industry actors focused on the technology potential for the energy transition, scientists on information about risks. Feldman and Hart [137] examined how low-carbon energy policies (e.g., carbon tax, fuel efficiency) are framed and how this might affect public opinion and support for such policies. These studies highlight the power of framing and representing and their effects on the contextual politics of change.

Social memory—In line with these studies, collective memory (n = 1) is also considered, though rarely, as the main object of inquiry. For example, the study by Alexandra [138] about collective memory in the Latrobe Valley—a brown coal mining and burning region—stresses how coal has been deeply political and cultural in the historical development of the Valley. In this regard, collective memory coincides with a socio-material linkage and cultural understanding that contributes to path dependence, with coal memory and identity constraining and shaping future transformative pathways for the region.

Table 1. Summary of the results from the systematic review: clustering of studies according to their level of analysis, the psychosocial dimension and social object examined.

Analytical Level	Category of Studies	Psychosocial Dimension(s)	n (Percentage)	Prototypical References	Link between Psychosocial Dimension and Research Object
Individual (micro)		- Attitudes	33 (6.23%)	[83–85]	Attitudes toward low-carbon behaviors (e.g., farming) Attitude change about energy technologies Attitude and behavioral choice for reducing the carbon footprint
		- Environmental concern, risk perception	29 (5.48%)	[90–92]	Climate change perceived intractability and public engagement Risk-opportunity nexus moderating risk perception about energy projects

Table 1. *Cont.*

Analytical Level	Category of Studies	Psychosocial Dimension(s)	*n* (Percentage)	Prototypical References	Link between Psychosocial Dimension and Research Object
	Socio-ecological appraisal	- Knowledge, awareness, learning	49 (9.26%)	[93–95]	Air quality awareness and behavioral outcomes in the public and private sphere Awareness of technology functioning predicting technology acceptance and use
		- Trust	18 (3.40%)	[97–99]	Trust towards actors involved in CSG affects its acceptance Community trust influencing willingness to engage in community energy Assessment and adoption of low-carbon retrofit dependent on information-seeking and trust towards friends, professionals, and authorities
		- Personality traits	9 (1.7%)	[100,101]	Persistent personality traits due to context history of place exploitation for energy generation
	Inner states and mediators	- Wellbeing, quality of life, livelihood, environmental stress	10 (1.89%)	[102–104]	Reduction of life quality or psychological stress due to energy projects and territorial transformation
		- Emotions	2 (0.37%)	[105]	Affective states and responses to disruptive changes of place
Total			150 (28.35%)		
Community (meso)	Collective identification	- Social identities, place identities	50 (9.45%)	[108,109]	National identity and perceived in-group discrimination explain support for coal policies and instrumental view of nature Place identity VS activist identity: identity positioning and intergroup dynamics in protest
	Cohesion and conflict	- Sense of community, community division	33 (6.24%)	[106–109]	Maintenance of a sense of community and community vision in environmental movements Intracommunity conflict on CSG visions and future aspirations for the community
	Fairness and equity	- Perceptions of justice, deprivation, loss, or distributive equity	40 (7.56%)	[109,111]	Environmental injustices (recognition, procedural, distributive) in land acquisition for solar farms Lack of recognition of local voices and needs in phase-out decisions Community benefits fostering acceptance of renewables
	Agency	- Empowerment, efficacy, resilience, capacities, capabilities	28 (5.29%)	[113–116]	Community coping and resilience in CSG development Empowering effects of community benefits from renewables
	Sense of place	- Place representation, spatial imaginary, place attachment	22 (4.16%)	[117–119]	Role of place representations/meanings in technology appraisal Role of spatial imaginaries in interpreting low-carbon energy future
Total			174 (32.89%)		
Societal (macro)	Values	- Value orientation, local values	56 (10.58%)	[122,123]	Value orientation explains support or opposition to unconventional gas Alignment of values about rurality conducing to coalition-building
	Beliefs	- Environmental beliefs	70 (13.32%)	[126,127]	Beliefs about relocalization as actionable meaning for tackling climate change Second-order beliefs explaining support for coal-to-gas policies

Table 1. *Cont.*

Analytical Level	Category of Studies	Psychosocial Dimension(s)	*n* (Percentage)	Prototypical References	Link between Psychosocial Dimension and Research Object
	Social norms	- Second-order beliefs, moral norms	34 (6.43%)	[128]	Social norms and moral disengagement with climate change
	Future imagination	- Imaginary, aspiration, vision, projection	28 (5.29%)	[117,118]	Struggling visions about energy transition by different societal groups Conflicts between socio-technical imaginaries about the waste management
	Shared interpretative frames	- Social representations, frames	16 (3.02%)	[92,135–137]	Social representations about coal seam gas Fit between social representations of place and technology Frames in the geothermal energy debate Frames of low-carbon energy policies to affect opinion and support
	Social memory	- Collective memory	1 (0.19%)	[138]	Coal-based memory as a socio-material linkage and cultural understanding contributing to path dependence
Total			205 (38.75%)		

5. Discussion

Through a systematic review, this article assesses the state of the literature and provides an overview of current psychosocial contribution to decarbonization studies. By examining subjectivities, social objects, and psychosocial processes addressed in the literature, we discuss and contextualize current research trends, highlighting how psychosocial processes impact decarbonization and vice versa.

We qualitatively described and interpreted each of the dimensions considered to provide critical insights into the examined constructs, processes, and dynamics of change. In doing so, we discuss our findings in dialogue with recent literature on the role of psychology in sustainability transition research, problematizing the adoption of psychosocial interpretative frames for studying decarbonization and discussing critical issues about the future of the discipline and interdisciplinary collaboration. The paper does not aim to be an exhaustive review of social psychological literature on decarbonization but provides a detailed discussion of existent concepts and trends and offers a valuable perspective on how this field of research has been organized in recent years. Our review indicates several positive trends in the literature and blind spots, research gaps, and criticisms that deserve further attention, work, and reflection.

5.1. Agents and Geographies of Decarbonization: Western Bias and the Neglected Role of Mesoscale Actors

Primarily and regarding the social and territorial facets, this review stresses that social science literature is biased toward certain types of subjectivities and geographies. Some authors have argued that social scientists interested in energy transition are obsessed with the public [139–141], engaging them as actors opposing or engaging in decentralized energy systems. In our sample, the research focus is often instrumental and normative, looking at social resistance, perception of justice and risk, prosumerism, and grassroots innovations that promote or hinder transition through technology acceptance, adoption, and social innovations.

In this context, decision-makers and firms' roles are viewed accordingly, highlighting their impacts on the democratic governance and social justice of energy system change, the related power differentials, and social struggles.

A large part of the reviewed literature is multi-stakeholder, dealing with intergroup conflict, consensus, and social influence about transformations. Nevertheless, we should underline that this literature almost neglects or obscures the role of mesoscale and intermediary actors such as media, unions, or NGOs.

Geographically, the literature is biased toward the developed countries (i.e., USA, EU, UK, Australia, Canada, China). The perspective from developing countries is almost missing. When present, it is often characterized by a Western gaze, i.e., research conducted by authors affiliated with Western institutions, confirming a trend in psychological research [142]. Though this can be distorted due to the exclusion of other languages rather than English, it still represents an important finding.

5.2. Typologies of Change: Going beyond Normative and Instrumentally Oriented Research of Transitions

Regarding the type of change addressed in the literature, this mainly concerns research areas related to technology consumption and acceptance, political legitimacy and consequences of policy decisions, and place or territorial transformations. The primary focuses of this literature refer to the socio-cultural change accompanying energy transition processes, political decisions, related effects, social struggles, and individual change in environmental cognition and behavior.

What is almost absent are studies considering biophysical and psychological processes together, adopting a socio-ecological perspective to inquire into the psychology of agents and the significance of objective contexts. This reveals a research gap and a trend of social psychological research toward the more instrumental facets of decarbonization (the socio-technical and socio-political), overlooking the embodied and existential interconnection between humans and the natural environments, and missing the opportunity to link ecological integrity with human health, wellbeing, and development [143].

5.3. Enhancing the Socio-Psychological Gaze to Decarbonization: Emotions, Time, and Historicity of Transitions

Regarding the role of social psychology and its contribution to decarbonization literature, we provided an overview of the literature trends and the main psychosocial focuses. The psychological understanding of climate change, energy transition, and other environmental issues has been criticized by different scholars for being dominated by individualistic perspectives [44,144]. Contrary to our expectations, this criticism applies only partially to the considered literature. The systematic review enlightens various psychosocial approaches and dimensions, showing that more 'social' and 'societal' forms of psychology can contribute, engage, or influence the debate.

Here, social psychology can be conceived as a theory of change and stability of systems, addressing and understanding the multi-dimensional interactions between impulses for radical transformation and the forces of stability and path dependence, namely transition and lock-in mechanisms [49]. This diversity of perspectives and approaches in the disciplinary understanding of decarbonization must be acknowledged and valued. While specific theories, models, and psychological dimensions prevail (e.g., theory of planned behavior, value-belief-norm model, risk perception, social identity), strengthening the relevance of specific psychosocial processes, we would like to stress the significance of what is silenced, obscured, or absent in the literature, and that we think can benefit future transition research. At the intrapersonal level, we found that personality traits, life quality, stress, and emotions are ignored or even suppressed, revealing a dominant focus on cognitive processes that neglects the lived experience and affective responses to socio-ecological, socio-political, or socio-technical change. Persistent traits in given populations due to histories of exploitation or injustices, reduced life quality and increase in environmental stressors, or the emotional aspects linked with transformations (e.g., fear, loss, hope, enthusiasm, guilt, anxiety, etc.) are all psychosocial phenomena that deserve further attention.

As some scholars recently stressed, the role of emotions has received little attention despite any required change for climate mitigation and adaptation requires a positive emotional commitment [145,146]. Understanding how emotions are linked to values, cognition, and action could benefit sustainability transition research by connecting individual experiences and processes with collective ones, e.g., group-based appraisals. In parallel, for what

concerns the social level studies, these seem mainly to address the role of identity processes in technology and policy acceptance struggles, the role of a sense of community or cohesion in grassroots organizations and disruptive events, or the role of perceptions of justice, sense of place, and collective coping and agency regarding place change and infrastructural development. These aspects contribute to decarbonization's socio-cultural and ideological underpinnings, where beliefs, values, social norms, and socially constructed and culturally shared frames influence action and thinking about a low-carbon future. While many of these studies implicitly address memory and how it affects group-based appraisals and dynamics, collective memory as a primary object of inquiry is relegated to a marginal role. We argue that memory deserves much more attention for understanding social change, as much as emotions.

Contrary to our expectations, most studies focus on transitions as non-linear transformations, acknowledging change and stability dynamics and focusing on the conditions that might scaffold or hinder and constrain transformations, defining boundaries and limiting the transformative potential.

However, the literature seems characterized by a temporal focus on the future, and less on stability and the past, coinciding with the normative rationale of transitioning to a new state. Understanding and acting about change always depends on how the pre-existent relates to current imagination, signification, and coping. Change and innovations do not happen in a vacuum. They are grounded in power and institutional relations and practices; they are historically, culturally, and territorially invested, influenced by pre-existent knowledge and experience [39]. The way innovations are designed, receipted, and implemented is arguably influenced by collective memories. Problematizing these elements opens new ways to understand the success or failure of innovations and transformations. Remarkable contributions on this matter are the critical approaches in social acceptance research examining the 'historicity of renewables' [147], the 'symbolic cultivation' of energy innovations [23,40], or the 'controversy spillover' in renewable energy deployment and responses [148].

These works address the temporal dynamics of change, i.e., the time and history of energy transition and deployment, and how social memory and knowledge influence the socio-cultural understanding of transformation and consequent responses. Inquiring into the role of collective memory can connect individual cognitive processes to social contexts that influence these processes [149] and better understand how groups and individuals come to share the same renderings of the past, interpret the present, and envision the future. In this direction, some scholars argue that less attention has been devoted to vulnerable communities and places involved in struggles over the old and the new [150]. This is the case of phase-out policies in coal-dependent or carbon-intensive regions, which must navigate a destabilization-reconfiguration pathway where phase-out and innovations interact [50]. Phase-out processes are extremely delicate phenomena highly susceptible to path dependency and multiple lock-in mechanisms. The risk of reinforcing lock-in and the intrinsic difficulties of breaking path dependency to trigger systemic transformations present underestimated socio-political and socio-psychological challenges and consequences. In this area, we think that more research is needed on how memory relates to anticipatory adaption, psychological preparedness, denial, disempowerment, and psychosocial lock-in [47]; how a significant minority can change the societal norm determining tipping points in social convention [151]; how phase-out policies and innovations can support the development of new identities and visions for community futures [50]; and how emotional states and responses influence coping, leading to adaptive or dysfunctional resilience pathways.

6. Limitations

The study presents some limitations that must be considered when reading the significance of the findings. First, results may be biased by choices in the search strategy and restrictions in data collection. For example, the choice of keywords produced limited records on psychosocial research in working environments (e.g., [152]) if we exclude studies

about workers' safety and security. The choice to include only the journals indexed as social science and multidisciplinary forcedly excluded important journals indexed in other areas and that are relevant to social psychology research (e.g., energy policy, which is indexed as environmental science). Otherwise, the choice to focus only on the English language may have underestimated scholarly literature from, among others, French- or Spanish-speaking countries, which are relevant to understanding the actual state of research from a global perspective. Another crucial aspect concerns the limited period of the review. We decided to consider only recent literature and a finite timespan to provide a snapshot of current research trends, making it difficult to detect trends and turning points in psychosocial research. Moreover, another point of concern regards the authorship of examined literature, namely who is conducting the research and their disciplinary affiliation and expertise. At first, we tried to address this point using indicators and metadata (e.g., affiliation). However, none of the strategies made it possible to detect disciplinary training or affiliation. Many scholars examining the psychosocial dimension of decarbonization may not be trained in psychology. This is a point that must be considered in future studies. A growing body of research suggests that researchers with social psychology expertise are often not conducting the psychological research in sustainability literature [153–155]. Finally, it is worth considering the perspective of the authors involved in this review and how psychosocial dimensions are framed. Indeed, all researchers involved have a solid background in social psychology and energy research though predominantly interested in the social and societal level of analysis. This is relevant to the way authors interpreted, labeled, and classified the literature, and, as many authors claim, alternative frames and interpretations are always possible [54]. All this considered, we hope we have provided an overview able to open and stimulate a discussion within the community of scholars interested in the psychosocial dimension of decarbonization and a critical reflection on socio-psychological research practice in the sustainability field.

7. Conclusions

To conclude and summarize, our study emphasizes the need for a greater engagement of psychology with the "social" as the object and the level of investigation [80].

As the closest field to sustainability, environmental psychology historically focused on intra-individual factors (e.g., attitudes, perceived control) to explain pro-environmental behavior and behavioral change [156]. This individualistic and cognitive paradigm has been widely criticized for lacking ecological validity [157], as it fails to adequately understand the mutual influence between individuals and their environment [39,158]. The discipline has been accused of looking at de-contextualized psychological factors [44] and making reductionist and mechanistic assumptions that view transformation as a linear on-off process, thus neglecting how situated factors, like institutions, culture, and socio-ecological processes, influence behavioral outcomes [22].

Researchers concerned with understanding and responding to climate change acknowledge that multiple disciplinary approaches are necessary to reach more significant explanatory potential [8]. This stresses the need to expand beyond a traditional theory-based and decontextualized approach to environmental issues to incorporate a 'place-based' approach and the willingness to collaborate in interdisciplinary teams focusing on specific sustainability problems [16,159]. This review stresses that theories and models from subfields in social psychology have much to offer to this agenda, e.g., community psychology on participatory action research and community development and resilience, political psychology on legitimacy, social dominance, minority influence, etc.

Social psychology needs to embrace the complexity of systemic change and the context embeddedness of agency in system transformation to increase its relevance for and impact on transformation research [24].

Many psychosocial approaches seem to fail to acknowledge the systemic dimension and context-dependence of transformation and appropriately consider the type, phase, or pace of change. Indeed, transitions are long-term processes that may take decades

and can be divided into different stages for examination—e.g., predevelopment, take-off, acceleration, and stabilization—and unfold at different paces in non-linear ways [160].

Dealing with this complexity, social psychology should systematically integrate its knowledge of psychological factors and engage in interdisciplinary debate about the nature and sequence of societal transformations, considering the timing and pace of transition and incorporating these aspects into their models [33]. This also involves conceiving agency and structure as part of the same process, as social structure and culture are influenced by individual actions and vice versa [14,161]. By building upon system analyses to explore the structural factors that affect social agents and their behavior, psychology can better provide explanatory models integrating structures and agency, namely the role of contextual and psychological factors in system transformations.

Recently, Steg et al. [45] proposed a research agenda that views the role of psychology in energy transition as instrumental to understanding (un)sustainable behaviors and the interventions promoting sustainable ones, as well as understanding public and political support for energy system transformations (i.e., policies, technologies, place changes, etc.). However, if not critically oriented, this research agenda may risk producing commodified and depoliticized subjectivities in research practice [162]. The risk is re-producing or supporting a managerial and capitalistic plan for transformation and being an instrument of power/powerful agents—see, e.g., the case of social acceptance research on renewables, especially large-scale infrastructures, cf. [147,163,164].

In line with this rationale, Wullenkord and Hamann [33] argue that psychology needs to focus more on niches and their role in sustainability transition, viewing individuals and groups not only as consumers or users (i.e., passive agents in transformation processes) but also as political agents and levers of change, and set a transformation-oriented research agenda for co-creation, e.g., how to deal with conflicting sustainability goals of various stakeholders [49,165].

This resonates with Nielson et al.'s [16] arguments on the need for theories and methodologies attentive to contextual effect, behaviors in non-consumer roles, and methodological frameworks that consider other units than individuals.

There seems to be an agreement about the need for a broader societal psychology approach [166], combining macro-level and micro-level analyses and connecting individual levels of explanations with the study of the relational and societal dynamics that shape and give meaningful essence to cognition, behavior and social phenomena about transitions [167]. This perspective stresses that to understand and instigate societal change, this should be considered within its own social and historical context, critically engaging with the politics of change and societal actors involved, revealing the multiplicity of factors and perspectives at stake in supporting or resisting change [168].

Transitions are inherently political processes that involve costs and benefits, winners and losers, and different individuals and groups struggle about desirable directions for change and appropriate ways to govern such processes. As social change always involves competing interests and perspectives engaged in a 'battle of ideas', societal psychology can examine the expression, negotiation, and contestation of views, their power differentials, and establish what interests and perspectives are marginalized or dominant and the social and psychological factors maintaining the status quo or seeking societal change [168]. Societal psychology is well-equipped for dealing with the analysis of the socio-cultural and relational dimensions of energy system change. More importantly, it has the potential to place itself across disciplines and theoretical frameworks concerned with the analysis of societal dynamics and structures and the analysis of individual-based factors and processes. However, as Wagner and Hayes [169] recognized, the divide between the 'social' and the 'individual' is both ontological and epistemological and thus requires different levels of explanations. Social psychology needs to embrace its intrinsic diversity and plurality in theories and methods for sustainability research. This must be nurtured for the sake of the discipline and low-carbon transition.

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References

1. Bagliani, M.; Dansero, E.; Puttilli, M. Territory and energy sustainability: The challenge of renewable energy sources. *J. Environ. Plan. Manag.* **2010**, *53*, 457–472. [CrossRef]
2. Kuzemko, C.; Lockwood, M.; Mitchell, C.; Hoggett, R. Governing for sustainable energy system change: Politics, contexts and contingency. *Energy Res. Soc. Sci.* **2016**, *12*, 96–105. [CrossRef]
3. Adil, A.M.; Ko, Y. Socio-technical evolution of Decentralized Energy Systems: A critical review and implications for urban planning and policy. *Renew. Sustain. Energy Rev.* **2016**, *57*, 1025–1037. [CrossRef]
4. Turnheim, B.; Berkhout, F.; Geels, F.; Hof, A.; McMeekin, A.; Nykvist, B.; van Vuuren, D. Evaluating sustainability transitions pathways: Bridging analytical approaches to address governance challenges. *Glob. Environ. Change* **2015**, *35*, 239–253. [CrossRef]
5. Sarrica, M.; Brondi, S.; Cottone, P.; Mazzara, B.M. One, no one, one hundred thousand energy transitions in Europe: The quest for a cultural approach. *Energy Res. Soc. Sci.* **2016**, *13*, 1–14. [CrossRef]
6. Sovacool, B.K. Diversity: Energy studies need social science. *Nature* **2014**, *511*, 529–530. [CrossRef]
7. Stern, P.C.; Sovacool, B.K.; Dietz, T. Towards a science of climate and energy choices. *Nat. Clim. Change* **2016**, *6*, 547–555. [CrossRef]
8. Stern, P.C. Energy: We need all hands on deck. *Nature* **2014**, *513*, 33. [CrossRef]
9. Tajfel, H.E.; Fraser, C.E. *Introducing Social Psychology: An Analysis of Individual Reaction and Response*; Penguin Press: New York, NY, USA, 1978.
10. Reser, J.P.; Swim, J.K. Adapting to and coping with the threat and impacts of climate change. *Am. Psychol.* **2011**, *66*, 277. [CrossRef]
11. Oskamp, S.; Schultz, P.W. *Applied Social Psychology*, 2nd ed.; Prentice Hall: Upper Saddle River, NJ, USA, 1998.
12. Clayton, S. *The Oxford Handbook of Environmental and Conservation Psychology*; Oxford University Press: Oxford, UK, 2012.
13. Clayton, S.; Myers, G. *Conservation Psychology: Understanding and Promoting Human Care for Nature*; Wiley-Blackwell: Oxford, UK, 2015.
14. Caillaud, S. Social representations theory: A dialogical approach to the ecological crisis. *Pap. Soc. Represent.* **2016**, *25*, 6.1–6.30.
15. Gifford, R.; Kormos, C.; McIntyre, A. Behavioral dimensions of climate change: Drivers, responses, barriers, and interventions. *Wiley Interdiscip. Rev. Clim. Change* **2011**, *2*, 801–827. [CrossRef]
16. Nielsen, K.S.; Cologna, V.; Lange, F.; Brick, C.; Stern, P.C. The case for impact-focused environmental psychology. *J. Environ. Psychol.* **2021**, *74*, 101559. [CrossRef]
17. Clayton, S.; Devine-Wright, P.; Stern, P.C.; Whitmarsh, L.; Carrico, A.; Steg, L.; Swim, J.K.; Bonnes, M. Psychological research and global climate change. *Nat. Clim. Change.* **2015**, *5*, 640–646. [CrossRef]
18. Smith, N.; Joffe, H. How the public engages with global warming: A social representations approach. *Public Underst. Sci.* **2013**, *22*, 16–32. [CrossRef]
19. Gifford, R. Environmental psychology matters. *Annu. Rev. Psychol.* **2014**, *65*, 541–579. [CrossRef]
20. Van der Linden, S. The social-psychological determinants of climate change risk perceptions: Towards a comprehensive model. *J. Environ. Psychol.* **2015**, *41*, 112–124. [CrossRef]
21. Bamberg, S.; Möser, G. Twenty years after Hines, Hungerford, and Tomera: A new meta-analysis of psycho-social determinants of pro-environmental behaviour. *J. Environ. Psychol.* **2007**, *27*, 14–25. [CrossRef]
22. Steg, L.; Vlek, C. Encouraging pro-environmental behaviour: An integrative review and research agenda. *J. Environ. Psychol.* **2009**, *29*, 309–317. [CrossRef]
23. Upham, P.; Lis, A.; Riesch, H.; Stankiewicz, P. Addressing social representations in socio-technical transitions with the case of shale gas. *Environ. Innov. Soc. Transit.* **2015**, *16*, 120–141. [CrossRef]
24. Hanss, D. Commentary: We need to change: Integrating psychological perspectives into the multilevel perspective on socio-ecological transformations. *Front. Psychol.* **2021**, *12*, 724768. [CrossRef] [PubMed]
25. Panu, P. Anxiety and the ecological crisis: An analysis of eco-anxiety and climate anxiety. *Sustainability* **2020**, *12*, 7836. [CrossRef]
26. Hickman, C. We need to (find a way to) talk about . . . Eco-anxiety. *J. Soc. Work Pract.* **2020**, *34*, 411–424. [CrossRef]

27. Coffey, Y.; Bhullar, N.; Durkin, J.; Islam, M.S.; Usher, K. Understanding eco-anxiety: A systematic scoping review of current literature and identified knowledge gaps. *J. Clim. Chang. Health* **2021**, *3*, 100047. [CrossRef]
28. Albrecht, G.; Sartore, G.M.; Connor, L.; Higginbotham, N.; Freeman, S.; Kelly, B.; Stain, H.; Tonna, A.; Pollard, G. Solastalgia: The distress caused by environmental change. *Australas. Psychiatry* **2007**, *15*, S95–S98. [CrossRef]
29. Galway, L.P.; Beery, T.; Jones-Casey, K.; Tasala, K. Mapping the solastalgia literature: A scoping review study. *Int. J. Environ. Res. Public Health* **2019**, *16*, 2662. [CrossRef] [PubMed]
30. Loorbach, D.; Frantzeskaki, N.; Avelino, F. Sustainability transitions research: Transforming science and practice for societal change. *Annu. Rev. Environ. Resour.* **2017**, *42*, 599–626. [CrossRef]
31. Oishi, S. Socioecological psychology. *Annu. Rev. Psychol.* **2014**, *65*, 581–609. [CrossRef] [PubMed]
32. Uskul, A.K.; Oishi, S. What is socio-ecological psychology? *Curr. Opin. Psychol.* **2020**, *32*, 181–184. [CrossRef] [PubMed]
33. Wullenkord, M.C.; Hamann, K.R. We need to change: Integrating psychological perspectives into the multilevel perspective on socio-ecological transformations. *Front. Psychol.* **2021**, *12*, 655352. [CrossRef]
34. Schulte, M.; Bamberg, S.; Rees, J.; Rollin, P. Social identity as a key concept for connecting transformative societal change with individual environmental activism. *J. Environ. Psychol.* **2020**, *72*, 101525. [CrossRef]
35. Sarrica, M.; Rimano, A.; Rizzoli, V.; Passafaro, P. Are e-bikes changing the social representation of cycling? An exploration of articles on cycling in Italian online publications. *Sustain. Sci. Pract. Policy* **2020**, *16*, 155–168. [CrossRef]
36. Devine-Wright, P.; Batel, S.; Aas, O.; Sovacool, B.; Labelle, M.C.; Ruud, A. A conceptual framework for understanding the social acceptance of energy infrastructure: Insights from energy storage. *Energy Policy* **2017**, *107*, 27–31. [CrossRef]
37. Geels, F.W. Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Res. Policy* **2012**, *31*, 1257–1274. [CrossRef]
38. Smith, A.; Voß, J.P.; Grin, J. Innovation studies and sustainability transitions: The allure of the multi-level perspective and its challenges. *Res. Policy* **2010**, *39*, 435–448. [CrossRef]
39. Castro, P. Legal innovation for social change: Exploring change and resistance to different types of sustainability laws. *Polit. Psychol.* **2012**, *33*, 105–121. [CrossRef]
40. Batel, S.; Devine-Wright, P. Towards a better understanding of people's responses to renewable energy technologies: Insights from Social Representations Theory. *Public Underst. Sci.* **2015**, *24*, 311–325. [CrossRef]
41. Batel, S.; Castro, P. A social representations approach to the communication between different spheres: An analysis of the impacts of two discursive formats. *J. Theory Soc. Behav.* **2009**, *39*, 415–433. [CrossRef]
42. Sarrica, M.; Biddau, F.; Brondi, S.; Cottone, P.; Mazzara, B.M. A multi-scale examination of public discourse on energy sustainability in Italy: Empirical evidence and policy implications. *Energy Policy* **2018**, *114*, 444–454. [CrossRef]
43. Steg, L.; Perlaviciute, G.; van der Werff, E. Understanding the human dimensions of a sustainable energy transition. *Front. Psychol.* **2015**, *6*, 805. [CrossRef]
44. Bögel, P.M.; Upham, P. Role of psychology in sociotechnical transitions studies: Review in relation to consumption and technology acceptance. *Environ. Innov. Soc. Transit.* **2018**, *28*, 122–136. [CrossRef]
45. Steg, L.; Perlaviciute, G.; Sovacool, B.K.; Bonaiuto, M.; Diekmann, A.; Filippini, M.; Hindriks, F.; Bergstad, C.J.; Matthies, E.; Matti, S. A Research agenda to better understand the human dimensions of energy transitions. *Front. Psychol.* **2021**, 2421. [CrossRef]
46. Unruh, G.C. Understanding carbon lock-in. *Energy Policy* **2000**, *28*, 817–830. [CrossRef]
47. Wilson, G.A. Community resilience: Path dependency, lock-in effects and transitional ruptures. *J. Environ. Plan. Manag.* **2014**, *57*, 1–26. [CrossRef]
48. Rosenbloom, D.; Rinscheid, A. Deliberate decline: An emerging frontier for the study and practice of decarbonization. *Wiley Interdiscip. Rev. Clim. Change* **2020**, *11*, e669. [CrossRef]
49. Köhler, J.; Geels, F.W.; Kern, F.; Markard, J.; Onsongo, E.; Wieczorek, A.; Alkemade, F.; Avelino, F.; Bergek, A.; Boons, F.; et al. An agenda for sustainability transitions research: State of the art and future directions. *Environ. Innov. Soc. Transit.* **2019**, *31*, 1–32. [CrossRef]
50. Rinscheid, A.; Rosenbloom, D.; Markard, J.; Turnheim, B. From terminating to transforming: The role of phase-out in sustainability transitions. *Environ. Innov. Soc. Transit.* **2021**, *41*, 27–31. [CrossRef]
51. Tàbara, J.D.; Frantzeskaki, N.; Hölscher, K.; Pedde, S.; Kok, K.; Lamperti, F.; Christensen, J.H.; Jäger, J.; Berry, P. Positive tipping points in a rapidly warming world. *Curr. Opin. Environ. Sustain.* **2018**, *31*, 120–129. [CrossRef]
52. Tàbara, J.D.; Lieu, J.; Zaman, R.; Ismail, C.; Takama, T. On the discovery and enactment of positive socio-ecological tipping points: Insights from energy systems interventions in Bangladesh and Indonesia. *Sustain. Sci.* **2021**, *17*, 565–571. [CrossRef]
53. Page, M.J.; Moher, D.; Bossuyt, P.M.; Boutron, I.; Hoffmann, T.C.; Mulrow, C.D.; Shamseer, L.; Tetzlaff, J.M.; Akl, E.A.; Brennan, S.E.; et al. PRISMA 2020 explanation and elaboration: Updated guidance and exemplars for reporting systematic reviews. *BMJ* **2021**, *372*, n160. [CrossRef]
54. Wolsink, M. Social acceptance revisited: Gaps, questionable trends, and an auspicious perspective. *Energy Res. Soc. Sci.* **2018**, *46*, 287–295. [CrossRef]
55. Pranckutė, R. Web of Science (WoS) and Scopus: The titans of bibliographic information in today's academic world. *Publications* **2021**, *9*, 12. [CrossRef]
56. Aghaei Chadegani, A.; Salehi, H.; Yunus, M.; Farhadi, H.; Fooladi, M.; Farhadi, M.; Ale Ebrahim, N. A comparison between two main academic literature collections: Web of Science and Scopus databases. *Asian Soc. Sci.* **2013**, *9*, 18–26. [CrossRef]

57. Geels, F.W.; Schot, J. Typology of sociotechnical transition pathways. *Res. Policy* **2017**, *36*, 399–417. [CrossRef]
58. Mahbubani, K. The West and the rest. *National Interest* **1992**, *28*, 3–12.
59. Gunzburger, Y.; Agnoletti, M.F.; Deshaies, M.; Ferey, S.; Raggi, P. Social perception of unconventional gas extraction on the outskirts of a former coal-mining area in Northeast France. *Extr. Ind. Soc.* **2017**, *4*, 53–62. [CrossRef]
60. Inderberg, T.H.J.; Tews, K.; Turner, B. Is there a prosumer pathway? Exploring household solar energy development in Germany, Norway, and the United Kingdom. *Energy Res. Soc. Sci.* **2018**, *42*, 258–269. [CrossRef]
61. Arriaga, M.; Nasr, E.; Rutherford, H. Renewable energy microgrids in northern remote communities. *IEEE Potentials* **2017**, *36*, 22–29. [CrossRef]
62. Mohideen, R.; Batra, P.; Khan, P. Low-Carbon Energy Transition in India: Implications for Gender Equality and Social Inclusion. *IEEE Technol. Soc. Mag.* **2020**, *39*, 76–84. [CrossRef]
63. Coffey, J.; Threadgold, S.; Farrugia, D.; Sherval, M.; Hanley, J.; Askew, M.; Askland, H. 'If you lose your youth, you lose your heart and your future': Affective figures of youth in community tensions surrounding a proposed coal seam gas project. *Sociol. Ruralis* **2018**, *58*, 665–683. [CrossRef]
64. Rohse, M.; Day, R.; Llewellyn, D. Towards an emotional energy geography: Attending to emotions and affects in a former coal mining community in South Wales, UK. *Geoforum* **2020**, *110*, 136–146. [CrossRef]
65. Shin, K. Mission-Driven Agency and Local Policy Innovation: Empirical Analysis from Baoding, China. *J. Chin. Political Sci.* **2017**, *22*, 549–580. [CrossRef]
66. Kotikalapudi, C.K. Corruption, crony capitalism and conflict: Rethinking the political economy of coal in Bangladesh and beyond. *Energy Res. Soc. Sci.* **2016**, *17*, 160–164. [CrossRef]
67. Bell, S.E.; Fitzgerald, J.; York, R. Protecting the power to pollute: Identity co-optation, gender, and the public relations strategies of fossil fuel industries in the United States. *Environ. Sociol.* **2019**, *5*, 323–338. [CrossRef]
68. Keough, N.; Ghitter, G. Pathways to sustainable low-carbon transitions in an auto-dependent Canadian city. *Sustain. Sci.* **2020**, *15*, 203–217. [CrossRef]
69. Talukdar, R. Reigniting a debate on coal: Case study on the Indian Government's crackdown on Greenpeace. *Cosmop. Civ. Soc.* **2018**, *10*, 47–62.
70. Vossen, M. Nuclear energy in the context of climate change: A frame analysis of the Dutch print media. *J. Stud.* **2020**, *21*, 1439–1458. [CrossRef]
71. Snell, D. 'Just transition'? Conceptual challenges meet stark reality in a 'transitioning'coal region in Australia. *Globalizations* **2018**, *15*, 550–564. [CrossRef]
72. Stewart, J.; Anda, M.; Harper, R.J. Low-carbon development in remote Indigenous communities: Applying a community-directed model to support endogenous assets and aspirations. *Environ. Sci. Policy* **2019**, *95*, 11–19. [CrossRef]
73. Gunderson, R.; Stuart, D.; Petersen, B.; Yun, S.J. Social conditions to better realize the environmental gains of alternative energy: Degrowth and collective ownership. *Futures* **2018**, *99*, 36–44. [CrossRef]
74. Seo, S.J.; Kim, J.H.; Yoo, S.H. Public preference for increasing natural gas generation for reducing CO2 emissions in South Korea. *Sustainability* **2020**, *12*, 2636. [CrossRef]
75. Černoch, F.; Lehotský, L.; Ocelík, P.; Osička, J.; Vencourová, Ž. Anti-fossil frames: Examining narratives of the opposition to brown coal mining in the Czech Republic. *Energy Res. Soc. Sci.* **2019**, *54*, 140–149. [CrossRef]
76. Breadsell, J.K.; Byrne, J.J.; Morrison, G.M. Household energy and water practices change post-occupancy in an australian low-carbon development. *Sustainability* **2019**, *11*, 5559. [CrossRef]
77. Lu, Y.; Xu, J. Low-carbon Reconstruction: A Meta-Synthesis Approach for the Sustainable Development of a Post-Disaster Community. *Syst. Res. Behav. Sci.* **2018**, *33*, 173–187. [CrossRef]
78. Luke, H.; Emmanouil, N. 'All dressed up with nowhere to go': Navigating the coal seam gas boom in the Western Downs region of Queensland. *Extr. Ind. Soc.* **2019**, *6*, 1350–1361. [CrossRef]
79. Zehr, S. The sociology of global climate change. *Wiley Interdiscip. Rev. Clim. Change* **2015**, *6*, 129–150. [CrossRef]
80. Rizzoli, V.; Castro, P.; Tuzzi, A.; Contarello, A. Probing the history of social psychology, exploring diversity and views of the social: Publication trends in the Eur. J. Soc. Psychol. from 1971 to 2016. *Eur. J. Soc. Psychol.* **2019**, *49*, 671–687. [CrossRef]
81. Doise, W.; Mapstone, E.T. *Levels of Explanation in Social Psychology*; Cambridge University Press: Cambridge, MA, USA, 1986.
82. Ajzen, I. The theory of planned behavior. *Organ. Behav. Hum. Decis. Processes* **1991**, *50*, 179–211. [CrossRef]
83. Hou, J.; Hou, B. Farmers' adoption of low-carbon agriculture in China: An extended theory of the planned behavior model. *Sustainability* **2019**, *11*, 1399. [CrossRef]
84. Shamon, H.; Schumann, D.; Fischer, W.; Vögele, S.; Heinrichs, H.U.; Kuckshinrichs, W. Changing attitudes and conflicting arguments: Reviewing stakeholder communication on electricity technologies in Germany. *Energy Res. Soc. Sci.* **2019**, *55*, 106–121. [CrossRef]
85. Beattie, G.; McGuire, L. The modifiability of implicit attitudes to carbon footprint and its implications for carbon choice. *Environ. Behav.* **2018**, *52*, 467–494. [CrossRef]
86. Pidgeon, N. Climate change risk perception and communication: Addressing a critical moment? *Risk Anal.* **2012**, *32*, 951–956. [CrossRef] [PubMed]
87. Dietz, T.; Stern, P.C.; Guagnano, G.A. Social structural and social psychological bases of environmental concern. *Environ. Behav.* **1998**, *30*, 450–471. [CrossRef]

88. Gifford, R.; Nilsson, A. Personal and social factors that influence pro-environmental concern and behaviour: A review. *Int. J. Psychol.* **2014**, *49*, 141–157. [CrossRef]
89. Joffe, H. Risk: From perception to social representation. *Br. J. Soc. Psychol.* **2003**, *42*, 55–73. [CrossRef]
90. Xiang, P.; Zhang, H.; Geng, L.; Zhou, K.; Wu, Y. Individualist–collectivist differences in climate change inaction: The role of perceived intractability. *Front. Psychol.* **2019**, *10*, 187. [CrossRef]
91. O'Connor, C.D.; Fredericks, K. Citizen perceptions of fracking: The risks and opportunities of natural gas development in Canada. *Energy Res. Soc. Sci.* **2018**, *42*, 61–69. [CrossRef]
92. Bec, A.; Moyle, B.D.; McLennan, C.-L.J. Drilling into community perceptions of coal seam gas in Roma, Australia. *Extr. Ind. Soc.* **2016**, *3*, 716–726. [CrossRef]
93. Kim, S.E.; Harish, S.P.; Kennedy, R.; Jin, X.; Urpelainen, J. Environmental degradation and public opinion: The case of air pollution in Vietnam. *J. Environ. Dev.* **2020**, *29*, 196–222. [CrossRef]
94. Chodkowska-Miszczuk, J.; Martinat, S.; Cowell, R. Community tensions, participation, and local development: Factors affecting the spatial embeddedness of anaerobic digestion in Poland and the Czech Republic. *Energy Res. Soc. Sci.* **2019**, *55*, 134–145. [CrossRef]
95. Tsaur, R.C.; Lin, Y.H. Exploring the consumer attitude of building-attached photovoltaic equipment using revised technology acceptance model. *Sustainability* **2018**, *10*, 4177. [CrossRef]
96. Huijts, N.M.; Molin, E.J.; Steg, L. Psychological factors influencing sustainable energy technology acceptance: A review-based comprehensive framework. *Renew. Sustain. Energ. Rev.* **2012**, *16*, 525–531. [CrossRef]
97. Owens, K. Coal Seam Gas Regulation in New SouthWales: Drawing the Connections Between Risk, Communication and Trust. *Environ. Plan. Law J.* **2019**, *36*, 552–564.
98. Koirala, B.P.; Araghi, Y.; Kroesen, M.; Ghorbani, A.; Hakvoort, R.A.; Herder, P.M. Trust, awareness, and independence: Insights from a socio-psychological factor analysis of citizen knowledge and participation in community energy systems. *Energy Res. Soc. Sci.* **2018**, *38*, 33–40. [CrossRef]
99. De Wilde, M. The sustainable housing question: On the role of interpersonal, impersonal and professional trust in low-carbon retrofit decisions by homeowners. *Energy Res. Soc. Sci.* **2019**, *51*, 138–147. [CrossRef]
100. Huijts, N.; de Vries, G.; Molin, E.J. A positive shift in the public acceptability of a low-carbon energy project after implementation: The case of a hydrogen fuel station. *Sustainability* **2019**, *11*, 2220. [CrossRef]
101. Obschonka, M.; Stuetzer, M.; Rentfrow, P.J.; Shaw-Taylor, L.; Satchell, M.; Silbereisen, R.K.; Potter, J.; Gosling, S.D. In the shadow of coal: How large-scale industries contributed to present-day regional differences in personality and well-being. *J. Pers. Soc. Psychol.* **2018**, *115*, 903. [CrossRef] [PubMed]
102. Phelan, A.A.; Jacobs, S. Facing the true cost of fracking; social externalities and the role of integrated valuation. *Ecosyst. Serv.* **2016**, *22*, 348–358. [CrossRef]
103. Lai, P.H.; Lyons, K.D.; Kyle, G.T.; Kreuter, U.P. Coping with change in rural landscapes: The psychological stress of rural residents experiencing unconventional gas developments. *Land Use Policy* **2017**, *67*, 487–497. [CrossRef]
104. Smale, R.; Kloppenburg, S. Platforms in power: Householder perspectives on the social, environmental and economic challenges of energy platforms. *Sustainability* **2020**, *12*, 692. [CrossRef]
105. Duffy, M.; Whyte, S. The Latrobe Valley: The politics of loss and hope in a region of transition. *Australas. J. Reg. Stud.* **2017**, *23*, 421–446.
106. Aiken, G.T. The politics of community: Togetherness, transition and post-politics. *Environ. Plan.* **2017**, *49*, 2383–2401. [CrossRef]
107. Grubert, E.; Skinner, W. A town divided: Community values and attitudes towards coal seam gas development in Gloucester, Australia. *Energy Res. Soc. Sci.* **2017**, *30*, 43–52. [CrossRef]
108. Cislak, A.; Wojcik, A.D.; Cichocka, A. Cutting the forest down to save your face: Narcissistic national identification predicts support for anti-conservation policies. *J. Environ. Psychol.* **2018**, *59*, 65–73. [CrossRef]
109. Luke, H.; Rasch, E.D.; Evensen, D.; Köhne, M. Is 'activist' a dirty word? Place identity, activism and unconventional gas development across three continents. *Extr. Ind. Soc.* **2018**, *5*, 524–534. [CrossRef]
110. Schlosberg, D. *Defining Environmental Justice: Theories, Movements, and Nature*; Oxford University Press: Oxford, UK, 1997.
111. Yenneti, K.; Day, R.; Golubchikov, O. Spatial justice and the land politics of renewables: Dispossessing vulnerable communities through solar energy mega-projects. *Geoforum* **2016**, *76*, 90–99. [CrossRef]
112. McCrea, R.; Walton, A.; Leonard, R. Developing a model of community wellbeing and resilience in response to change. *Soc. Indic. Res.* **2016**, *129*, 195–214. [CrossRef]
113. Leonard, R.; McCrea, R.; Walton, A. Perceptions of community responses to the unconventional gas industry: The importance of community agency. *J. Rural Stud.* **2016**, *48*, 11–21. [CrossRef]
114. Revell, P.; Dinnie, E. Community resilience and narratives of community empowerment in Scotland. *Community Dev. J.* **2020**, *55*, 218–236. [CrossRef]
115. Westrom, M. Winds of change: Legitimacy, withdrawal, and interdependency from a decentralized wind-to-hydrogen regime in Orkney, Scotland. *Energy Res. Soc. Sci.* **2020**, *60*, 101332. [CrossRef]
116. De Wildt, T.E.; Chappin, E.J.L.; van de Kaa, G.; Herder, P.M.; van de Poel, I.R. Conflicted by decarbonisation: Five types of conflict at the nexus of capabilities and decentralised energy systems identified with an agent-based model. *Energy Res. Soc. Sci.* **2020**, *64*, 101451. [CrossRef]

117. Batel, S.; Devine-Wright, P.; Wold, L.; Egeland, H.; Jacobsen, G.; Aas, O. The role of (de-) essentialisation within siting conflicts: An interdisciplinary approach. *J. Environ. Psychol.* **2015**, *44*, 149–159. [CrossRef]
118. Cowell, R. The role of place in energy transitions: Siting gas-fired power stations and the reproduction of high-carbon energy systems. *Geoforum* **2020**, *112*, 73–84. [CrossRef]
119. Aiken, G.T. One-way street? Spatiality of communities in low carbon transitions in Scotland. *Energy Res. Soc. Sci.* **2018**, *36*, 129–137. [CrossRef]
120. Bridge, G.; Bouzarovski, S.; Bradshaw, M.; Eyre, N. Geographies of energy transition: Space, place and the low-carbon economy. *Energy Policy* **2013**, *53*, 331–340. [CrossRef]
121. Calvert, K. From 'energy geography' to 'energy geographies' Perspectives on a fertile academic borderland. *Prog. Hum. Geogr.* **2016**, *40*, 105–125. [CrossRef]
122. Brunner, T.; Axsen, J. Oil sands, pipelines and fracking: Citizen acceptance of unconventional fossil fuel development and infrastructure in Canada. *Energy Res. Soc. Sci.* **2020**, *67*, 101511. [CrossRef]
123. Sherval, M.; Askland, H.H.; Askew, M.; Hanley, J.; Farrugia, D.; Threadgold, S.; Coffey, J. Farmers as modern-day stewards and the rise of new rural citizenship in the battle over land use. *Local Environ.* **2018**, *23*, 100–116. [CrossRef]
124. Stern, P.C.; Dietz, T.; Abel, T.; Guagnano, G.A.; Kalof, L. A value-belief-norm theory of support for social movements: The case of environmentalism. *Hum. Ecol. Rev.* **1999**, *6*, 81–97.
125. Stern, P.C.; Dietz, T.; Kalof, L. Value orientations, gender, and environmental concern. *Environ. Behav.* **1993**, *25*, 322–348. [CrossRef]
126. Barr, S.; Pollard, J. Geographies of Transition: Narrating environmental activism in an age of climate change and 'Peak Oil'. *Environ. Plan.* **2017**, *49*, 47–64. [CrossRef]
127. Schuldt, J.P.; Yuan, Y.C.; Song, Y.; Liu, K. Beliefs about whose beliefs? Second-order beliefs and support for China's coal-to-gas policy. *J. Environ. Psychol.* **2019**, *66*, 101367. [CrossRef]
128. Stoll-Kleemann, S.; O'Riordan, T. Revisiting the psychology of denial concerning low-carbon behaviors: From moral disengagement to generating social change. *Sustainability* **2020**, *12*, 935. [CrossRef]
129. Gormally, A.M.; Whyatt, J.D.; Timmis, R.J.; Pooley, C.G. Renewable energy scenarios: Exploring technology, acceptance and climate–Options at the community-scale. *Appl. Geogr.* **2016**, *74*, 73–83. [CrossRef]
130. Fortes, P.; Alvarenga, A.; Seixas, J.; Rodrigues, S. Long-term energy scenarios: Bridging the gap between socio-economic storylines and energy modeling. *Technol. Forecast. Soc. Change* **2015**, *91*, 161–178. [CrossRef]
131. Longhurst, N.; Chilvers, J. Mapping diverse visions of energy transitions: Co-producing sociotechnical imaginaries. *Sustain. Sci.* **2019**, *14*, 973–990. [CrossRef]
132. Levidow, L.; Raman, S. Sociotechnical imaginaries of low-carbon waste-energy futures: UK techno-market fixes displacing public accountability. *Soc. Stud. Sci.* **2020**, *50*, 609–641. [CrossRef]
133. Moscovici, S. *La Psychoanalyse: Son Image et Son Public*, 2nd ed.; Presses Universitaires de France: Paris, France, 1961.
134. Goffman, E. *Frame Analysis: An Essay on the Organization of Experience*; Harvard University Press: Cambridge, MA, USA, 1974.
135. Bailey, E.; Devine-Wright, P.; Batel, S. Understanding responses to a UK high-voltage powerline proposal: The role of place and project-based social representations. *Pap. Soc. Represent.* **2016**, *25*, 2.1–2.24.
136. Stauffacher, M.; Muggli, N.; Scolobig, A.; Moser, C. Framing deep geothermal energy in mass media: The case of Switzerland. *Technol. Forecast. Soc. Change* **2015**, *98*, 60–70. [CrossRef]
137. Feldman, L.; Hart, P.S. Climate change as a polarizing cue: Framing effects on public support for low-carbon energy policies. *Glob. Environ. Change* **2018**, *51*, 54–66. [CrossRef]
138. Alexandra, J. Water and coal-transforming and redefining 'natural' resources in Australia's Latrobe region. *Australas. J. Reg. Stud.* **2017**, *23*, 358–381.
139. Wolsink, M. Social acceptance, lost objects, and obsession with the 'public'—The pressing need for enhanced conceptual and methodological rigor. *Energy Res. Soc. Sci.* **2019**, *48*, 269–276. [CrossRef]
140. Whitmarsh, L.; Nash, N.; Upham, P.; Lloyd, A.; Verdon, J.P.; Kendall, J.M. UK public perceptions of shale gas hydraulic fracturing: The role of audience, message and contextual factors on risk perceptions and policy support. *Appl. Energy* **2015**, *160*, 419–430. [CrossRef]
141. Chilvers, J.; Longhurst, N. Participation in transition (s): Reconceiving public engagements in energy transitions as co-produced, emergent and diverse. *J. Environ. Policy Plan.* **2016**, *18*, 585–607. [CrossRef]
142. Thalmayer, A.G.; Toscanelli, C.; Arnett, J.J. The neglected 95% revisited: Is American psychology becoming less American? *Am. Psychol.* **2021**, *76*, 116–129. [CrossRef]
143. Roszak, T.E.; Gomes, M.E.; Kanner, A.D. *Ecopsychology: Restoring the Earth, Healing the Mind*; Sierra Club Books: Oakland, CA, USA, 1995.
144. van Zomeren, M. Synthesizing individualistic and collectivistic perspectives on environmental and collective action through a relational perspective. *Theory Psychol.* **2014**, *24*, 775–794. [CrossRef]
145. Martiskainen, M.; Sovacool, B.K. Mixed feelings: A review and research agenda for emotions in sustainability transitions. *Environ. Innov. Soc. Transit.* **2021**, *40*, 609–624. [CrossRef]
146. Brosch, T.; Steg, L. Leveraging emotion for sustainable action. *One Earth* **2021**, *4*, 1693–1703. [CrossRef]
147. Batel, S. Research on the social acceptance of renewable energy technologies: Past, present and future. *Energy Res. Soc. Sci.* **2020**, *68*, 101544. [CrossRef]

148. Cuppen, E.; Ejderyan, O.; Pesch, U.; Spruit, S.; van de Grift, E.; Correljé, A.; Taebi, B. When controversies cascade: Analysing the dynamics of public engagement and conflict in the Netherlands and Switzerland through "controversy spillover". *Energy Res. Soc. Sci.* **2020**, *68*, 101593. [CrossRef]
149. Coman, A.; Brown, A.D.; Koppel, J.; Hirst, W. Collective memory from a psychological perspective. *Int. J. Politics Cult. Soc.* **2009**, *22*, 125–141. [CrossRef]
150. Johnstone, P.; Hielscher, S. Phasing out coal, sustaining coal communities? Living with technological decline in sustainability pathways. *Extr. Ind. Soc.* **2017**, *4*, 457–461. [CrossRef]
151. Centola, D.; Becker, J.; Brackbill, D.; Baronchelli, A. Experimental evidence for tipping points in social convention. *Science* **2018**, *360*, 1116–1119. [CrossRef] [PubMed]
152. Črešnar, R.; Nedelko, Z. Understanding future leaders: How are personal values of generations Y and Z tailored to leadership in industry 4.0? *Sustainability* **2020**, *12*, 441. [CrossRef]
153. Ryan, J.C.; Mellish, S.; Le Busque, B.R.; Litchfield, C.A. Enhancing the impact of conservation marketing using psychology: A research agenda. *J. Environ. Stud. Sci.* **2019**, *9*, 442–448. [CrossRef]
154. Marshall, N.; Adger, N.; Attwood, S.; Brown, K.; Crissman, C.; Cvitanovic, C.; de Young, C.; Gooch, M.; James, C.; Jessen, S.; et al. Empirically derived guidance for social scientists to influence environmental policy. *PLoS ONE* **2017**, *12*, e0171950. [CrossRef]
155. Tàbara, J.D. A new vision of open knowledge systems for sustainability: Opportunities for social scientists. In *World Social Science Report 2013: Changing Global Environments*; OECD Publishing, Paris/Unesco Publishing: Paris, France, 2013.
156. Steg, L. Values, norms, and intrinsic motivation to act proenvironmentally. *Annu. Rev. Environ. Resour.* **2016**, *41*, 277–292. [CrossRef]
157. Levitt, S.D.; List, J.A. What do laboratory experiments measuring social preferences reveal about the real world? *J. Econ. Perspect.* **2007**, *21*, 153–174. [CrossRef]
158. Sorrell, S. Reducing energy demand: A review of issues, challenges and approaches. *Renew. Sust. Energ. Rev.* **2015**, *47*, 74–82. [CrossRef]
159. Clayton, S.; Devine-Wright, P.; Swim, J.; Bonnes, M.; Steg, L.; Whitmarsh, L.; Carrico, A. Expanding the role for psychology in addressing environmental challenges. *Am. Psychol.* **2016**, *71*, 199. [CrossRef]
160. Rotmans, J.; Kemp, R.; van Asselt, M. More evolution than revolution: Transition management in public policy. *Foresight* **2001**, *3*, 15–31. [CrossRef]
161. Sovacool, B.K.; Hess, D.J. Ordering theories: Typologies and conceptual frameworks for sociotechnical change. *Soc. Stud. Sci* **2017**, *47*, 703–750. [CrossRef]
162. Stocco, N.; Gardona, F.; Biddau, F.; Cottone, P.F. Learning Processes and Agency in the Decarbonization Context: A Systematic Review through a Cultural Psychology Point of View. *Sustainability* **2021**, *13*, 10425. [CrossRef]
163. Cuppen, E.; Pesch, U. How to assess what society wants? The need for a renewed social conflict research agenda. In *A Critical Approach to the Social Acceptance of Renewable Energy Infrastructures*; Batel, S., Rudolph, D., Eds.; Palgrave Macmillan, Cham: London, UK, 2021; pp. 161–178.
164. Sarrica, M.; Carman, P.; Brondi, S.; Mazzara, B.M. Beyond wind turbines, solar panels and beautiful landscapes: Figurative components of sustainable energy in Italy. *Rev. Int. Psychol. Soc.* **2015**, *28*, 81–112.
165. Cuppen, E.; Breukers, S.; Hisschemöller, M.; Bergsma, E. Q methodology to select participants for a stakeholder dialogue on energy options from biomass in the Netherlands. *Ecol. Econ.* **2010**, *69*, 579–591. [CrossRef]
166. Gaskell, G.; Himmelweit, H.T. (Eds.) *Societal Psychology*; Sage Publications: Newbury Park, CA, USA, 1990.
167. Lopes, C.A.; Gaskell, G. Social representations and societal psychology. In *The Cambridge Handbook of Social Representations, Sammut, G.*; Andreouli, E., Gaskell, G., Valsiner, J., Eds.; Cambridge University Press: Cambridge, UK, 2015; pp. 29–42.
168. Howarth, C.; Campbell, C.; Cornish, F.; Franks, B.; Garcia-Lorenzo, L.; Gillespie, A.; Tennant, C. Insights from societal psychology: A contextual politics of societal change. *J. Soc. Political Psychol.* **2013**, *1*, 364–384. [CrossRef]
169. Wagner, W.; Hayes, N. *Everyday Discourse and Common Sense: The Theory of Social Representations*; Palgrave Macmillan: London, UK, 2005.