sustainability

MDPI

Article

New Environmental Controversies: Towards a Typology of Green Conflicts

Mikkel Fugl Eskjær and Anders Horsbøl *

Department of Communication and Psychology, Aalborg University, 9000 Aalborg, Denmark
* Correspondence: horsboel@ikp.aau.dk

Abstract: As the ecological crisis deepen, new environmental controversies emerge. Whereas traditional environmental conflicts mostly concern socio-economic interests clashing with environmental protection, recent conflicts are increasingly pitting different environmental considerations against each other. These green conflicts have received scattered attention in the scholarly literature, mostly in the form of case studies in relation to renewable energy plants, such as wind turbines and solar panels. However, there is a need for more systematic approaches to conceptualize the green conflicts. This article embarks on that task by developing a typology of green conflicts as they appear in public discourse and mediated communication. We test the model on public debates on four different topics: national parks, organic farming, wind turbines, and nuclear energy. Our data suggests that green conflicts can increasingly be found across a wide range of environmental and climate change issues. However, green conflicts are not simply replacing traditional environmental conflicts, but are rather adding new layers to environmental controversies by reconfiguring conflict lines, actor positions, spatial scales, and temporalities.

Keywords: environmental conflicts; climate change; ecological crisis; news media; public debate; environmental discoursed

Citation: Eskjær, M.F.; Horsbøl, A. New Environmental Controversies: Towards a Typology of Green Conflicts. *Sustainability* **2023**, *15*, 1914. https://doi.org/10.3390/su15031914

Academic Editor: Alan Randall

Received: 5 December 2022
Revised: 4 January 2023
Accepted: 9 January 2023
Published: 19 January 2023

1. Introduction

As the ecological crisis deepens, it becomes more conflictual. There is hardly any area of society untouched by climate change or the consequences of ecological deterioration. Environmental concerns move center stage, resulting in new tensions, new conflicts, and new actors entering environmental discourses. Thus, the nature of environmental controversies is changing. Traditionally, environmental considerations were predominantly seen as clashing with socio-economic interests related to growth, extraction, or employment. Recently, however, different environmental considerations are increasingly set against each other. Thus, we propose a distinction between environmental and green conflicts, where the latter represents a new chapter in environmental controversies.

The emergence of green conflicts is a logical outcome of the ecological crisis. It involves several interlocking problems like climate change and the loss of biodiversity. As the consequences of these multiple crises become evident, more voices are calling for action. Even sectors traditionally opposed to environmental regulation, such as agriculture or energy production, have adapted an increasingly pro-environmental stance. Environmental conflicts have consequently become more complex. They reflect competing solutions and incompatible approaches to the timeframe or scaling of environmental interventions. Increasingly, environmental conflicts are found in the pro-environmental camp pitting different environmental priorities against each other.

Traditional environmental conflicts as well as emerging green conflicts take place across multiple arenas. Mediated communication offers a good vantage point for observing the emergence of green conflicts. News media constitute a major arena of public deliberation [1]. It serves as a forum for societal self-observation [2] by linking actors from

different functional systems and forcing them into an ongoing negotiation of environmental concerns. In a highly decentered society, the media furthermore tends to accumulate a disproportionate concentration of symbolic power that reflects core social values, including social, private, and corporate responses to the ecological crisis.

The notion of green conflicts that we present here is based on a strictly second order perspective. We are concerned with green conflicts *as they appear in public discourse and mediated communication*. We do not attempt to evaluate the underlying scientific arguments. Our aim is to map emerging green conflicts as they are presented to the public. How has climate change and the ecological crisis challenged traditional notions of environmental conflicts? How are environmental concerns and priorities clashing in public environmental communication? What kind of green conflicts are gaining public attention?

To answer these questions, the paper starts by examining existing notions of green conflict. Based on this account, we propose a typology of green conflicts as they emerge in the present media landscape. In the subsequent methodological section, we present the research design used to test the model. This is followed by a presentation of major empirical findings and a discussion of the model's implications for environmental communication.

2. Conceptual Background: From Environmental to Green Conflicts

The notion of green conflicts that we propose differ from earlier models and conceptualizations [3]. In contrast to environmental conflicts over scarcity, as struggles for environmental justice, or as political conflicts over socio-environmental interactions, we focus on green conflicts as communicative conflicts. In that respect our concept resembles the notion of mediated environmental conflicts [4], although our model focuses exclusively on *emerging* conflicts concerning green priorities. In both cases, however, mediated environmental conflicts are part of a long history of environmental controversies.

Public discourse on the environment has always been contentious, and debates on green issues are often synonymous with conflicts that set different social concerns up against each other. Thus, to some extent environmental concerns cannot be separated from public and corporate conflicts over environmental priorities. It is therefore hardly surprising that we find several axes of conflicts in relation to notions like the environment, sustainability, or green transition.

Environmental conflicts arise out of the complex interactions between natural and human systems. As such, environmental conflicts are not uniquely modern, and all civilizations seem to have experienced some sort of 'antagonism between humankind and nature' [5]. Poets in ancient Rome were complaining about noise, pollution, traffic congestion, emptied chamber pots, and the destruction of natural beaty [6]. These historical observations indicate that environmental conflicts are 'woven into human society' [7], including pre-modern societies.

In a modern context, environmental conflicts commonly manifest themselves in relation to tangible problems of pollution and environmental degradation, or as the invisible risks associated with 'high modernity' [8]. Thus, in its most basic form environmental struggles reflect how 'some people want to protect the natural environments of particular places, whereas others want to exploit them' [9]. Consequently, traditional environmental conflicts are mostly distributional conflicts over economic benefits vs. nature preservation.

The integration of environmental concerns into the political process, combined with the acceleration of the ecological crisis, has led some observers to predict that 'environmental conflict is among the greatest challenges facing humanity in the 21st century' [7]. It reflects how environmental struggles are transforming as environmental problems and regulation generate new fault lines and antagonisms. Conflicts over direct extra-activism such as mining, logging, or drilling, are now accompanied by new environmental conflicts as when pressure on wildlife generate conflicts with local farmers, or when nature conservation deny poor or indigenous people access to natural resources [10,11].

2.1. Climate Change as a Driver of Green Conflicts

Recently, the main driver of green conflicts has arguably been climate change. Public discussions of climate change have moved from controversies over the causes and extent of climate change to partial consensus on climate change as anthropogenic. This development has far from eliminated controversies but given way to new lines of conflicts where climate concerns collide with environmental concerns. As Giddens points out: '(green) values are not necessarily the same as those connected to controlling climate change, and may indeed run counter to them (. . .) Clashes can easily occur between conservationist values and policies relevant to global warming' [12].

Thus, around the turn of the millennium, we see the emergence of new terms to describe environmental conflicts that goes beyond conflicts of exploiting versus protecting the environment. Although research output in this area is uneven, a literature search across a wide range of databases point to increasing attention to this new generation of environmental conflicts. We have identified two common terms in the research literature: 'green conflicts' (n = 26) and 'green-on-green' conflicts (n = 22). Whereas the former is rather generic, designating a wide range of environmental conflicts, the latter is more akin to the definition that we are proposing.

In a study of public attitudes to wind turbines, Warren et al. observe that: 'The wind energy debate represents a new kind of environmental controversy which divides environmentalists of different persuasions' [13]. They point out how environmental conflicts traditionally, 'revolve around the balance between socio-economic benefits (e.g., employment, investment) and environmental costs' [13]. When it comes to wind power, however, 'there are strong 'green' arguments on both sides of the debate' [13]. They characterize this controversy as a 'green on green debate' and then go on to suggest that it might be a 'foretaste of environmental debates to come: society has gone green (at least in its rhetoric), but what kind of greenness do we want?' [13].

Since then, the notion of green-on-green conflicts has been picked up in several studies, primarily in relation to wind energy. However, these studies have not yet resulted in a systematic investigation of the controversies that divide 'environmentalist of different persuasions' [13]. It is this notion that we intend to develop and expand by proposing a typology of 'green conflicts' in a later section.

2.2. Mediated Environmental Conflicts

Environmental conflicts not only entail struggles over the distribution of environmental good and bad, but also over recognition. Without recognition, fighting environmental exploitation and injustice is likely to fail. Gaining recognition is therefore essential to most environmental concerns. Conflicts over recognition often takes place in public arenas like the media. Sociology has described the relation between media and protests movements as a structural coupling [14] or 'grammar of interaction' [15] as they both benefit from this symbiotic relationship. Environmental movements need the media to publicly raise environmental issues and concerns which otherwise tend to be overlooked by administrative and political systems. Staging protests or other forms of extra-parliamentary activism is an efficient strategy that commonly result in extensive media attention [16]. The media, on the other hand, profit from environmental protests as they provide dramatic news and visually attractive stories.

Media research has looked at the dynamics of mediated environmental conflicts. Drawing on empirical research and the notion of switching points [17], Hutchins and Lester consider environmental conflicts the product of 'vital interactions occurring at the switching points between activism, journalism, formal politics, and industry' [4]. Recently, Konkes and Foxwell-Norton [18] have added a fifth factor to this model by pointing out the importance of science and scientists in environmental disputes. As our analysis will show, several of these actors and switching points are present in news stories on green conflicts.

This preliminary review indicates that research literature on green conflicts is scattered over several research fields and marked by terminological ambiguity. It also suggests that

the emergence of green conflicts is a largely overlooked topic in most disciplines, including environmental communication and climate change journalism.

3. Green Conflicts: A Typology

Based on the above, we hypothesize that green conflicts will increasingly come to define, or at least to influence, future environmental struggles. To test this hypothesis we present a model of green conflict as their appear in public news media. Before getting there, however, we need to discuss how existing models conceptualise conflicts between competing green agendas.

Over the years, theories on environmental discourses have modelled environmentalism's underlying political and ideological assumptions. Dobson, for instance, distinguishes between two fundamental positions, ecologism and environmentalism, arguing that they differ 'not only in degree but also in kind' [19]. Whereas ecologism constitutes a new political ideology, environmentalism does not. The latter is based on a 'managerial approach' which assumes that we can overcome the ecological crisis within the structures of the present economic system. It consequently 'presents no sort of a challenge (. . .) to the twenty-first-century consensus over the desirability of affluent, technological, service societies' [19]. Ecologism, on the other hand, questions the anthropocentric foundation of modern politics and calls for radical change to status quo. The conflict between ecologism and environmentalism is therefore mostly a 'clash between green values' [19], rather than a conflict between specific environmental interventions.

Other models offer more fine-grained typologies. Dryzeck [20] identifies nine different environmental discourses. His model maps fifty years of competing environmental concerns represented by problem solving discourses, suvivalism, sustainability and green radicalism.

Most discoursive models share a theoretical focus on 'the political and social ideas that lie behind the environmental movement' [19]. Moreover, they tend to be ideal types representing generalised discourses about 'the politics of the earth' [20]. They model different approaches to green politics, environmental protection, resource extraction, and environmental justice. These approaches sometimes clash resulting in 'green paradoxes', that is, conflicting or incompatible environmental visions and ambitions. Still, the aim of environmental discourse theory is primarily to identify discoursive variations of ecology vs. economy.

The intention of our model is different. We suggest that green conflicts stand perpendicular to environmental discourses. Discourses may relate to green conflicts in at least three different ways. First, green conflicts may play out *within* one discourse; for instance, as a conflict between windmills as a sustainable source of energy and their negative impact on natural habitats. Second, conflicts may play out *between* discourses in the case of a more fundamental clash between values and assumptions, such as between the discourse of sustainable growth and more 'radical' green discourses [20]. Finally, the rise of a new discourse may *settle* or *reframe* environmental conflicts. Hajer [21], for instance, has argued that a discourse of ecological modernization has been successful in reframing environmental and economic concerns. For these reasons, environmental discourse theory is more focused on underlying political assumptions, and less adequate at identifying specific green conflicts.

Our aim is to locate the most common areas and arenas of emerging green conflicts. To do so we present a simple 2 $\times$ 2 model based on a distinction between climate change and the environment (Table 1). This is obviously an analytical construct. Climate change is part of the environment and vice versa. Yet, climate change and the environment comprise two dimensions of the ecological crisis and is useful to distinguish between different environmental concerns, scales, temporalitities, and agents.

Table 1. Typology of green conflicts.

	Environment	**Climate Change**
Environment	I. Conflict between two or more environmental concerns	II. Conflict between environmental problems and climate concerns
Climate Change	III. Conflict between climate intervention and environmental concerns	IV. Conflict between two or more climate change challenges

We define conflicts involving climate change as issues pertaining to 'dangerous anthropogenic interference with the climate system' [22]. Although climate change experiences and interventions are nearly always local and site specific, they are caused by reactions to, or consequence of, interferences with the Earth system. In contrast, we define conflicts over environmental issues as concerning all other aspects of the ecological crisis not directly related to the causes or consequences of global warming.

This distinction takes inspiration from the concept of planetary boundaries [23], which proposes nine boundaries that should not be transgressed if we want to keep Earth 'in the desirable Holocene state' [24]. One of these boundaries is climate change defined as atmospheric CO_2 concentration and radiative forcing. Green conflicts over climate change predominantly concern the first parameter. Other boundaries that often top environmental and green conflicts are land use, freshwater use, chemical pollution, and biodiversity. A later version of the model emphasizes climate change and biosphere integrity as 'core' planetary boundaries [25]. It underlines the centrality of climate change and the biosphere (environment) as distinct categories and sources of potential conflicts.

While we believe the distinction between environmental and climate change conflicts is relatively intuitive, we acknowledge implict grey zones. In the age of the anthropocene it has become increasingly difficult to distinguish between local and global environmental problems and to separate climate change from the ecological crisis. Planetary boundaries moreover interact. The loss of biodversity or ocean acidification, for instance, can be diretly related to climate change and may contribute negatively to climate change (through positive feedback loops). Nevertheless, such interconnections are rarely present in mediated discourses. We therefore present the distinction as an initial attempt at systematising emerging green conflicts as they play out in public communication. Further research will hopefully refine the model.

The model should be read left to right. The first quadrant concerns conflicts between different environmental priorities. The mainstreaming of environmental concerns has resulted in potential indefinite conflicts between degrees of acting green or sustainable. What, for instance, is the most sustainable form of agriculture? Is it based on organic, biodynamic, or permaculture principles? Increasingly, these conflicts intersect with climate change concerns adding new layers to the conflicts.

Quadrants II and III concern conflicts between environmental issues and climate change. They differ in terms of direction and causality. Is it environmental concern or climate change action that prompts the conflict? In principle, these conflicts are interchangeable and chicken-or-egg paradoxes. What is cause-effect relations in one conflict could be the opposite in another. In public debates, however, it is rarely so. Here, conflicts are almost always presented as caused by particular events or interventions by concrete agents. Hence, it makes sense to investigate the direction of disagreemets, and whether they are articulated primarily as environment-climate conflicts or the other way around.

Finally, quadrant IV concerns conflicts over competing responses to climate change in a manner similar to quadrant I.

4. Data and Methodology

To test the typology, we have carried out an empirical investigation of Danish public media. The investigation is mainly based on a probability sample and a combination of quantitative and qualitative content analysis. The research design involves several

steps. We started with a purpose selection of cases to illustrate the typology in Table 1. This preliminary selection resulted in four cases: (I) national parks, (II) organic products, (III) windmills, and (IV) nuclear power.

To obtain reliable and comparable data, we developed a common search strategy for all four cases based on (stemmed) keywords and Boolean search operations. Each search string follows the same formular: case AND (conflict OR protest) AND (nature OR environment) AND (climate change OR global warming) AND thematic variations (n1, n2). We then searched a national database on Danish news media (*Infomedia*), which includes print, electronic and digital platforms. To capture the development of green conflicts and permit longitudinal perspectives, the time range was set to 22 years (2000–2021). News items under 150 words were deselected, resulting in a sample of 7518 news items. This larger sample has been used for simple text mining operations (Figures 1 and 2).

To reduce the sample size for manual coding, we used a proximity operator (NEAR function) with a fixed distance (six words) between case (noun) and the conflict/protest terms. By further using a systematic sampling strategy for two of the four cases (selecting every fifth news item) we obtained a comparable sample size of 40–50 articles per case (n = 180). While such a sampling strategy tends to oversample conflict dominated news, it also provides focused and relevant data.

Data has been content analyzed using quantitative and qualitative approaches. A codebook of 14 variables was developed. Most variables concern manifest content like word counts, news genres, geographic orientation, and sources. They form the basis for frequency tables and figures aimed at detecting patterns and variations across the typology (Figures 3 and 4, Table 2). However, as we are dealing with an explorative study of emerging conflicts, it is difficult to design an exhaustive code book. To a large extent the analyses consequently rely on qualitative approaches consisting mostly of textual analysis and close readings.

5. Findings

As expected, data points to a significant increase in news reporting on green conflicts. Based on the entire sample (n = 7518), Figure 1 shows the annual change in news on the four selected cases. There are substantial differences in frequencies and annual variations among the cases, but also a significant increase in overall media attention as indicated by the linear trendline (R^2 = 0.78). The figure reveals a recognizable pattern from earlier studies that shows how media attention peaks around trigger events like major Conference of the Parties (COP) summits (2009, 2015), publications of assessment reports by the Intergovernmental Panel on Climate Change (IPCC) (2007, 2014, 2021) or the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) (2019). The sudden decrease in 2020 most likely reflects the impact of COVID-19.

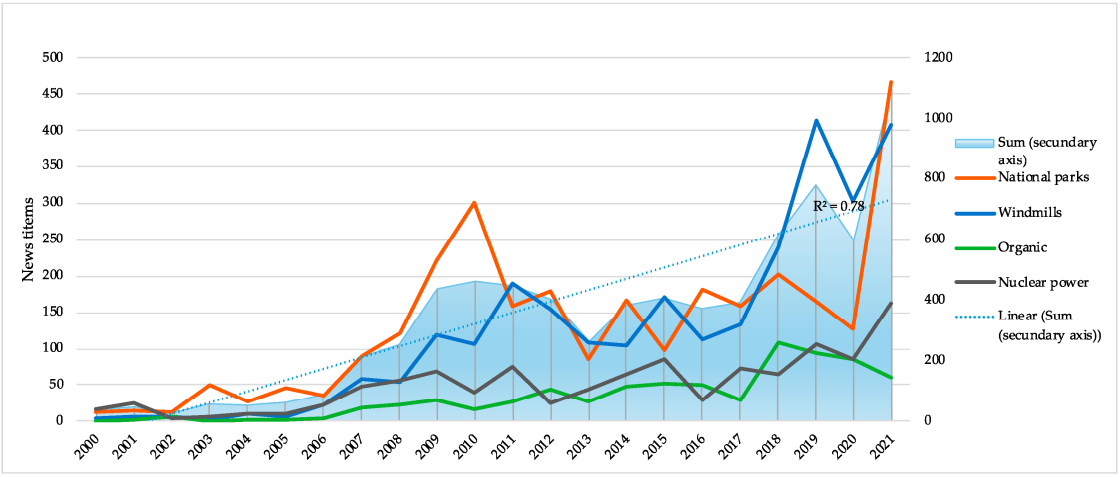

Figure 1. Timelines of green conflicts (2000–2021).

This general development forms the backdrop for the following analyses where we look at each of the four cases, mostly from a qualitative perspective, but supplemented with data from our content analysis. Each analysis starts with a brief historical backdrop before the main findings are presented.

5.1. Green vs. Green: National Parks

Quite fittingly, we start with national parks, which to some extent is the quintessential environmental conflict. It was efforts to preserve pristine nature from agricultural and economic exploitation, which sparked some of the earliest environmental movements. However, differing visions of national parks also led to the well-known conflict between conservation and preservation approaches to protecting the environment [26]. As such, natural parks can be considered the first green conflict where different green concerns, approaches, and priorities are set against each other.

To this day, national parks remain a contested area. Climate change, the ecological crisis, and the accelerating loss of biodiversity, have put national parks back in the spotlight. IPBES' [27] report on biodiversity documented a dramatic increase in the global rate of species extinction, and different 30-by-30 initiatives (e.g., [28]) under the Global Deal for Nature framework [29], recommend protecting at least 30% of the land, freshwaters, and sea by 2030. This has re-ignited efforts to expand or establish nature parks. Meanwhile, notions of re-wildering [30] have challenged traditional concepts and ideas of how to manage protected areas. It demonstrates that national parks are as topical as ever, associated with both traditional environmental conflicts and new emerging green conflicts.

Our data shows that traditional environmental conflicts remain dominant throughout the sample period. However, there are two major modifications to this observation. Firstly, by the end of the sample period traditional environmental conflicts have mostly been replaced by green conflicts. Secondly, even traditional environmental conflicts undergo a gradual transformation where conflicts over economic interests blend with image and reputation management. Early on, the agricultural sector acknowledged that an all-out opposition to national parks would damage its reputation. Rather, showcasing modern and responsible farming *inside* national parks would help generate public goodwill.

Increasing legislative activity aimed at establishing national parks has resulted in predictable conflicts over economic and environmental interests. However, it also raises principal questions about democratic influence and representation. Who can veto a national park, and who is to sit on the boards that regulate the parks? Thus, local protest groups frequently claim they have been squeezed by national interest groups. Environmental organizations on the other hand find that individual farmers have undue influence on common land.

These protests are mostly local and mainly reported in regional media as illustrated in Figure 2, which shows the distribution of platforms across the four conflicts (based on the entire sample frame as in Figure 1). The figure reveals how conflicts surrounding national parks differ from other conflicts by mostly involving local actors, regional media, and local news.

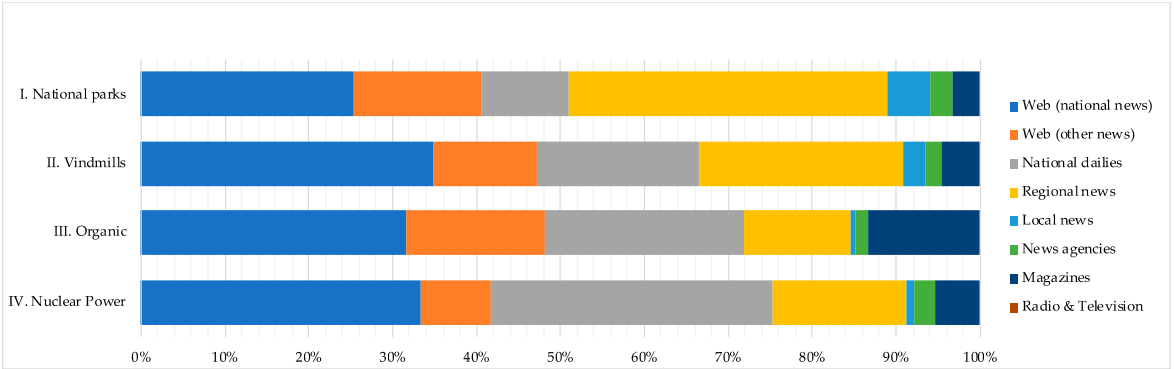

Figure 2. Distribution of media platforms (2000–2021).

As soon as legislation on national parks is passed, in effect becoming a political fait accompli, the conflicts also change. We move from economic conflicts to administrative and green conflicts where different environmental concerns clash against each other. Our data points to three such conflicts.

The first concern public use and access to natural parks. Who are allowed to use the parks? How will it affect hunting and fishing? Can you horse ride, mountain bike, or organize sports events in nature parks? There are several cases of local resistance to nature parks. Most often as a reaction to perceived restrictions in public access to the parks, for instance, because of fencing.

The second conflict centers on the fear of large or wild animals. Inspired by notions of re-wildering, grassing animals like cows, wild horses, or bison, have been introduced to keep back vegetation and to restore pristine landscapes (hence the need for fencing). Releasing animals into nature parks has been contested by lay-people and interest-group who feel uncomfortable with the sudden presence of large mammals. Whereas park managers reassure that they listen to public concerns, less patient apologists find this fear irrational. They see it as a token of our deep alienation from nature. It points to a fundamental ambiguity in public reactions to re-wildering. Or as a headline rhetorically asks, 'Can nature become too wild?'

The final conflict surrounding nature parks concerns animal well-being. Introducing mega-fauna in nature park easily runs up against structural constraints in small European countries [31]. Due to the limited size of these parks, which are basically isolated islands of semi-wild nature, there are no predators to regulate the herds. Since food supply is the only regulator, animals sometimes go hungry, especially in winter. This has resulted in sensational news stories and generated vocal protests from animal rights defenders ensuring a heated confrontation between emotional and rather technical discourses on animal welfare.

Underneath these managerial conflicts we find more isolated and principal conflicts concerning, for instance, the base line of nature preservation. Is the aim to re-create pre-industrial agricultural landscapes, pre-historic nature or even pre-human wilderness? Another conflict is between levels of human interventions. Should nature be left to itself, or should mega-fauna be released onto the wild to keep re-forestation at bay? Is it natural to fence in wild animals? What about predators like wolfs; can they co-exist with farmers and hunters? It points to the apparent paradox that (wild) nature needs cultivation, something the media has been quick to jump on. However, it also points to an inherent arbitrariness in public deliberations of green conflicts. Are some green interests more important than others? Who decides the priorities? Why do some green conflicts command public attention while others are neglected or ignored?

5.2. Environment vs. Climate: Organic Farming

In this section we look at green conflicts surrounding organic farming. Whereas some see ecology as a universal solution to the ecological crisis other regard it as inadequate. It reflects how ecology is both a science and a worldview. As a technical term it carries precises meanings about biological processes. As a cultural meme it has become a shorthand for 'environmentalism' [32]. This ambiguity creates 'confusion in how one relates to the other, while also allowing ecologically inspired ideas to proliferate through societal discussions' [32]. It explains why organic production has become a popular and contentious topic that involves both lifestyle and scientific arguments. It may also explain why this conflict is marked by a higher degree of discursive diversity and citizen engagement compared to the other cases, resulting in more op-eds and opinionated news (see Figure 3).

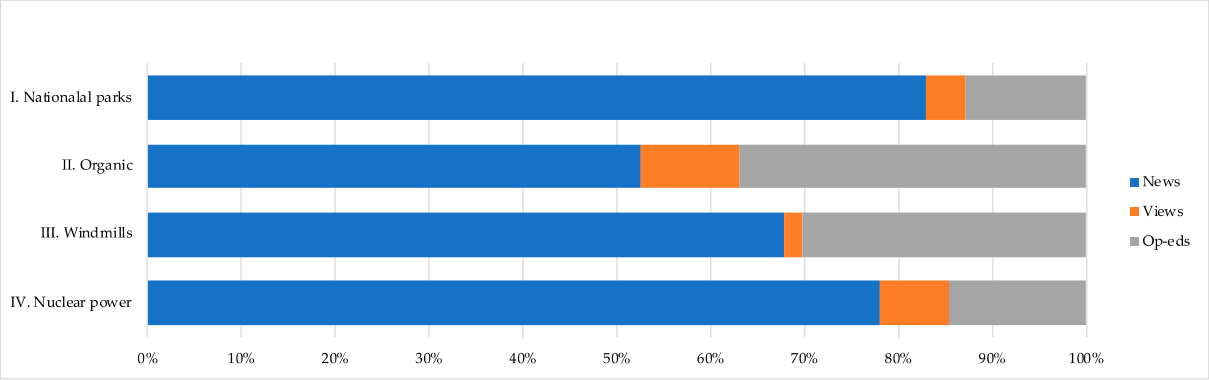

Figure 3. Distribution of news genre (2000–2021).

In most parts of Europe, ecology has been embraced by both agriculture and consumer habits. In 2020, organic farming made up 9.1% of total EU agricultural land with Austria (25%), Estonia (22%), and Sweden (20%) topping the list [33]. The share of retail sales of organic products has also become significant with the largest portions in Denmark (12.1%), Austria (11.3%) and Switzerland (10.8%) [34].

In Danish news media, organic farming has mostly been contested in relation to conventional agriculture, notions of sustainability, and climate change. As organic farming has become a multi-billion Euro business, popular among consumers and politicians, the conflict with conventional agriculture has turned 180 degrees. Earlier, environmentalists criticized conventional farming as unsustainable. Now, the agroindustry increasingly attacks organic production, sometimes aggressively, to avoid or jeopardize green regulations. These PR attacks typically center on land use (yield per hectare) or nitrogen intake as being less efficient in organic farming. Frequently, the argument converges with a recurrent trope about organic farming as unable to feed the world population. The underlying message is that organic farming is for the rich, and that poor people will suffer from ill-advised green ambitions. This way, ecology is presented as an ideology that is unsupported by facts, and conventional farming as painted unjustly black by the media.

Another strategy is to point to internal disagreements in the organic community. This includes differing views on the use of sulphur, sludge, and pressure-treated wood in organic production. Or whether organic farming should operate on industrial scales or remain niche. It illustrates how public perception of organic production rest on unclear criteria. However, it also shows that technical issues are easily turned into lifestyle conflicts. In addition, there is a touch of *Schadenfreude* at play; if even the most dedicate ecologists cannot agree, how can ordinary folks take organic principles seriously.

More recently, organic principles have been linked to sustainability and climate change, highlighting several green dilemmas. A contentious issue is whether principles of organic farming are sustainable and climate friendly. One line of critique is that overseas or out-of-season organic products are unsustainable if they have been transported over long distances, a point often made by climate activists.

The opposite position considers organic production and sustainability as two of a kind. It includes rather rosy scenarios of organic farming as a solution to most environmental (and societal) disorders. This view also finds its way into soft news on the consumption of organic products as a path to individual sustainable behavior. NGOs and political parties on the left occasionally buy in to this uncritical view. Moreover, organic consumer behavior is increasingly associated with climate concerns and an expression of individualized climate action, not least among young climate activists.

Finally, there is a skeptical position, which warns against sustainability as a euphemism for growth. Seen from this position, organic farming represents one of the few safeguards against greenwashing and corporate tendencies to water down sustainability.

5.3. Climate vs. Environment: Wind Turbines

Questions about wind power have been a contentious issue for years and given rise to local conflicts in both North America [35] and Europe [36]. Due to its relatively early introduction as a green technology, these conflicts have become emblematic for a larger field of green conflicts between climate concerns and environmental concerns. Denmark is a front runner in terms of the deployment of wind turbines, contributing close to 50% of the electricity supply. Recently, this development has stagnated, not least due to a range of local protests [37].

Our data indicates that the debate over wind turbines is highly conflictual. Protests often invoke concerns about landscape, biodiversity, lack of democratic involvement and noise. Support for wind turbines typically refer to our shared responsibility towards mitigating climate change as well as expected positive impacts on jobs and the local economy. Another strategy is to counter protesters' arguments with comparisons to other forms of noise and visual impact that we have come to accept, for instance, in relation to traffic and physical infrastructures.

Protesters sometimes characterize their opponents as the wind turbine 'industry' or 'lobby', evoking a sense of non-local, semi-democratic and profit-oriented actors. At the same time, pro-voices describe protesters as representing a Not In My Backyard (NIMBY) attitude, implying a hypocritical and egoistic approach to the green transition.

Some news stories take a more procedural perspective suggesting alternative approaches to establishing wind farms. They often quote academic experts who call for legislation and better ways of local engagement and ownership. These stories provide examples of best practices in terms of generating support or minimizing local resistance by highlighting benefits to local communities. However, the latter also illustrates how green conflicts sometimes tend to be overdetermined as multiple concerns are made relevant, including job creation, democratic decision making, and nuisance for wind turbines neighbors.

Mediated news on wind power involves a wide range of actors. Compared to other green conflicts, the debate moreover has a clear local orientation dominated by lay citizens and local politicians (see Figure 4).

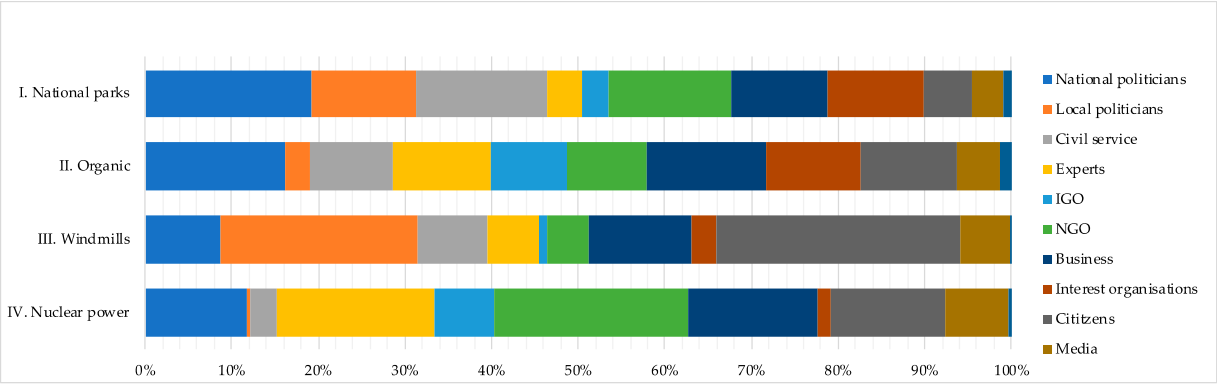

Figure 4. Share of actors mentioned (2000–2021).

As in other green conflicts, actor constellations and conflictual positions vary considerably. Whereas representatives of the wind trade are cast as supportive of wind turbines, local citizens can be found on both sides of the conflict. The same holds true for politicians and NGOs. As for the latter, traditional NGOs such as the National Society for Nature Conservation often raises concerns about the impact on local landscapes and biotopes. In contrast, climate change activists like 'The Green Students Movement' argue that global climate concerns trump local considerations. Thus, the press frequently juxtaposes environmental NGOs from both sides of the conflict. It not only highlights the dilemmas and complexities at play, but also constructs the disagreements about wind power as a *green* conflict.

Whereas roughly one half of articles focus on specific local events, the other half addresses issues that cut across local concerns. Both types of news reporting appear in the entire period, although the frequency of cross-local articles increases in the latter half of the sample, adding a layer of trans-local reflections to the debate.

Local articles typically focus on processes of municipal project planning in relation to wind turbines. It includes questions about procedural control by the authorities, mandatory public hearings, and local political discussion. Cross-local articles, on the other hand, regularly invoke a wider timescale where national climate plans for carbon reduction is taken into consideration. Such perspectives tend to problematize the progress and ambitions of municipalities. A yet wider timescale considers the potential harmful consequences of not doing enough, or not acting at all, to fight climate change, although this future orientated perspective is invoked less frequently.

5.4. Clashing Climate Concerns: Nuclear Power

Nuclear power has been contested by environmentalism long before climate change entered the public agenda. In their seminal paper, Gamson and Modigliani [38] demonstrate how media debates over nuclear power in the USA moved from a dominating frame centering on 'progress' to an interpretative package focusing on 'public accountability' and incontrollable, even 'runaway', risks. In the history of nuclear energy, several accidents have generated worldwide media attention and fueled concerns and resistance to nuclear power: the Three Mile Island (USA, 1979), Chernobyl (The Soviet Union, 1986), and Fukushima (Japan, 2011). Resistance to nuclear power has even given rise to political parties, most notably the Green Party in Germany. In Denmark, protest movements in the late sixties and early seventies succeeded in changing public opinion resulting in a political decision to abandon the implementation of nuclear power. Recently, the debate has taken a new turn as climate change concerns have resulted in environmentalist arguing for nuclear power. Such an argument resonates with a much-debated decision by the European Union (2022) to include nuclear power in its taxonomy of climate-friendly energy.

In our data, nuclear power is almost exclusively discussed in the context of the (accelerating) climate crisis. On the one hand, it its argued that nuclear power is a climate friendly alternative to fossil fuels due to its low level of CO_2-emission. At the same time old and new objections are put forward. Risks of terrorist attacks are presented as increasing the probability of nuclear disasters, while questions surrounding nuclear waste are generally regarded as unresolved. It shows that some disagreements over nuclear power still result from mostly environmental concerns (quadrant III in the typology).

However, data also contains examples of green conflicts between incompatible climate concerns (quadrant IV). Opposition to nuclear power, for instance, include worries about energy dependency on (undemocratic) providers of uranium, huge economic construction cost associated with nuclear energy, and the duration of plant construction. As for the later, it is argued that construction time can last for decades, making nuclear power unsuitable to respond to the urgency of the climate crisis. Solving climate change with nuclear power may consequently aggravate rather than mitigate the problem.

Academic experts and NGOs are key actors in news on nuclear energy. Whereas NGOs are mainly quoted in opposition to nuclear power, the sample provides several examples of experts positioned on each side of the conflict. Academic expertise is consequently represented as conflictual. Disagreements, however, extend well into the environmental movement, where NGOs such as Greenpeace opposes nuclear power unlike new environmental think tanks, which are re-considering nuclear power as part of the energy mix.

Quite tellingly, ordinary citizens play a minor role in these debates just as local politicians are largely absent from the discussions. Instead, powerful international politicians are mentioned as key decision makers. Thus, in terms of news geography, the issue is mainly treated at a national or international level (see Table 2) and covered in national media outlets (see Figure 2). In contrast to news on wind turbines, there are hardly any discussions of the potential impact of nuclear power plants on local communities or environments.

Table 2. Distribution of news geography (2000–2021).

	I. National Parks		II. Organic		III. Windmills		IV. Nuclear Power	
	n	%	n	%	n	%	n	%
Local news	32	68%	2	5%	29	55%	0	0%
Domestic (national) news	12	26%	29	74%	24	45%	17	41%
Foreign news	3	6%	8	21%	0	0%	24	59%
Total	47	100%	39	100%	53	100%	41	100%

Discussions at the national level are mostly about whether Denmark should revise its rejection of nuclear power considering the climate crisis. In political terms, however, it remains a bit of a pseudo debate as there are no influential politicians actively pushing for, or proposing, any policy change. Thus, the potential implications of introducing nuclear power remain distant and is only discussed in a rather hypothetical mode. This contrasts with international reporting on nuclear power, which generally operates on a much shorter timescale. Here, news stories cover political decisions from around the world to either shut down or intensify nuclear power production within a short time frame of only a few years. At the same time, this time-specific reporting is overlayered by more comprehensive timescales that are concerned with global responses to climate change and the role of nuclear power in future energy supplies.

6. Discussion and Conclusions

In the preceding analysis we have tested the proposed typology of green conflicts. It shows that green conflicts have become more frequent and can be found across a wide range of climate change and environmental issues. At the same time, the analysis suggests a broader variation than first hypothesized. While we find green conflicts in all the model's four quadrants, they are most visible in quadrants II and III and less articulated in quadrants I and IV. In the latter two, green conflicts furthermore tend to replace traditional environmental conflicts at a later stage. These findings cut across different environmental issues adding a wider dimension to existing studies on particular conflictual topics such as wind turbines [39], hydroelectric power plants [40], and wild life regulation [41].

Overall, our findings suggest that climate change constitutes the main fault line in emerging green conflicts, especially when clashing with more traditional environmental concerns. As a 'core' planetary boundary [25], climate change can be considered a risk and conflict multiplier. It questions traditional environmental concerns and challenges existing green solutions in a way that often transgresses traditional environmental scales and temporalities. As a planetary risk, climate change goes beyond local environmental problems and interventions as well as national climate targets.

A significant pattern emerges in relation to the direction of disagreements. Conflicts in quadrants I and III are generated by environmental concerns, whereas conflicts in quadrants II and IV emerge due to climate change concerns. It leads to different geographic orientations and constellations of actors. In general, environmental concerns result in more local news and local actors [42]. Conflicts generated by climate change, on the other hand, tend to be more national or internationally orientated, as documented in Table 2. It also involves more experts and IGOs, as shown in Figure 4, indicating more abstract lines of conflict. At the same time, local actors and local news reporting are also articulating concerns for climate change, suggesting a more complex picture of global-local relations and anxieties.

This pattern also influences underlying timescales. Emerging conflicts located in quadrants III and IV reflect the urgency of the climate crisis. It points to a more fundamental shift that has turned traditional environmental temporalities upside down. Until recently, climate change was mostly considered an abstract, statistical risk that belonged to the future compared to more immediate environmental problems. Recent climate change reports, however, show that our window of action is very narrow. New research [43,44], reported extensively in the media, suggest that in order to limit global warming to 1.5 °C, we only

have a few years left to act. Global greenhouse gas emissions must peak before 2025, or we will be on a fast track to an 'uninhabitable' world [45]. Such a timescale is even shorter than the ones required to fix more traditional environmental problems associated with pollution, oxygen depletion, or environmental restoration.

For the same reasons, data indicates a tentative shift in public perceptions of irreversibility. Traditional environmental conflicts highlighted the short-sightedness of economic gains compared to risks of irreversible damages to the environment. Now, risks of local environmental deterioration seem less alarming than the prospect of acceleration extinction rates for entire species [27]. Whereas local biotopes may recover and survive in new environments, ecological collapse on a planetary scale is truly irreversible.

The analysis further shows that actor positions cannot be predicted from actor categories. Agents such as farmers, citizens, experts, and NGOs, frequently appear on both sides of the conflicts. Thus, when it comes to green conflicts it is harder to map conflictual positions than in traditional environmental conflicts. We are moving into a more fluid terrain with less clear-cut positions and a more diverse set of antagonisms. These antagonistic positions extend well beyond institutional politics and include conflicting positions within academia and civil society.

Finally, green conflicts rarely stand alone, but are often co-articulated with other issues such as job creation, democracy, and the economy [46,47]. As such, green conflicts appear alongside traditional environmental conflicts in a complex mix, which in most cases are context specific and depending on the underlying causal direction of the conflicts [48]. It further highlights the need to differentiate between various types of green conflicts.

Overall, our findings suggests that green conflicts are increasingly redefining environmental controversies. They reflect the diversity of technological, political, and social responses to the ecological crises. At the same time, they also point to the interdependent and paradoxical nature of climate change and the environment. In an already ecologically damage world, mitigating climate change is key. To adapt to climate change we need to preserve and restore nature on a very ambitious level. In the long run, we cannot solve one without the other. In practical terms, however, communicating about environment problems and climate change simultaneously all too often result in incompatible solutions and temporalities.

While conflicts are part of thriving democratic publics, they can be dealt with more or less constructively as disagreements, conflicts, or cooperation. Public communication reveal how we navigate in, and communicate about, these interlocking crises. Articulating and negotiating green conflicts is therefore decisive for envisaging a path that defies the zero-sum logic of traditional environmental conflicts. It forces us to recognize the inseparable yet conflictual relations of climate change and the environment as a new norm in environmental communication.

Limitations and Further Research

There are different limitations to the present study. While the sample of Danish news stories provides empirical evidence, national data also reflect country-specific conditions. Thus, the non-local orientation of the nuclear power debate in Denmark is likely to be different in countries relying on nuclear energy. Similarly, the second order observations surrounding the wind turbine debate may be different in countries with a more recent history of wind power. Furthermore, green conflicts pertaining to environmental justice are less pronounced than might be expected in media landscapes more concerned with the Global South. To capture these national differences, adjustments to our search formular may also be productive.

As for the typology, the case studies document the presence of all four kinds of green conflict. However, conflicts concerning national parks, organic farming, wind turbines, or nuclear power, only illustrate general tendencies in each corner of the typology. Data should consequently be regarded as explorative, and future studies could seek to test and

replicate the model in relation to other emerging conflicts pertaining to, for instance, solar energy, carbon capture, or electric vehicles.

Finally, while our study centers on the textual content of media debates, other approaches to green conflicts would include, for instance, studies of attitudes and trust, decision-making processes, and public governance.

Author Contributions: Conceptualization, M.F.E. and A.H.; Writing—original draft, Mikkel Fugl Eskjær and A.H.; Writing—review & editing, Mikkel Fugl Eskjær and A.H. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Data Availability Statement: Data is contained within the article.

Conflicts of Interest: The authors declare no conflict of interest.

References

1. Hilgartner, S.; Bosk, C.L. The Rise and Fall of Social Problems: A Public Arenas Model. *Am. J. Sociol.* **1988**, *94*, 53–78. [CrossRef]
2. Luhmann, N. *Die Realität der Massenmedien*, 2nd ed.; Erweiterte Auflage; Westdeutscher Verlag: Opladen, Germany, 1996.
3. Le Billon, P. Environmental Conflict. In *The Routledge Handbook of Political Ecology*; Perreault, T., Bridge, G., McCarthy, J., Eds.; Routledge: Oxon, UK, 2015; pp. 598–608.
4. Hutchins, B.; Lester, L. Theorizing the enactment of mediatized environmental conflict. *Int. Commun. Gaz.* **2015**, *77*, 337–358. [CrossRef]
5. Hughes, J.D. *An Environmental History of the World: Humankind's Changing Role in the Community of Life*, 2nd ed.; Routledge: London, UK; New York, NY, USA, 2009.
6. Hughes, J.D. *Environmental Problems of the Greeks and Romans: Ecology in the Ancient Mediterranean*, 2nd ed.; Ancient Society and History; Johns Hopkins University Press: Baltimore, MD, USA, 2014.
7. Peterson, T.R.; Feldpausch-Parker, A.M. Environmental Conflict Communication. In *The SAGE Handbook of Conflict Communication*; SAGE Publications, Inc.: Thousand Oaks, CA, USA, 2013; pp. 513–536.
8. Beck, U. *Risk Society: Towards a New Modernity*; Sage: London, UK, 1992.
9. Buckley, R. The law in green conflicts. *Environ. Plan. Law J.* **1999**, *16*, 100–101.
10. Martinez-Alier, J. *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*; Edward Elgar Publishing: Northampton, MA, USA, 2002.
11. Nixon, R. *Slow Violence and the Environmentalism of the Poor*; Harvard University Press: Cambridge, MA, USA, 2011.
12. Giddens, A. *The Politics of Climate Change*; Polity: Cambridge, UK, 2009.
13. Warren, C.R.; Lumsden, C.; O'Dowd, S.; Birnie, R.V. 'Green On Green': Public perceptions of wind power in Scotland and Ireland. *J. Environ. Plan. Manag.* **2005**, *48*, 853–875. [CrossRef]
14. Luhmann, N. *Die Gesellschaft der Gesellschaft*; 2. Aufl.; Suhrkamp: Frankfurt, Germany, 1997; ISBN 3518582402.
15. Gitlin, T. *The Whole World Is Watching. Mass Media in the Making & Unmaking of the New Left.*; University of California Press: Berkeley, CA, USA, 1980.
16. Hansen, A. *Environment, Media and Communication*; Routledge: London, UK, 2010.
17. Arsenault, A.; Castells, M. Switching Power: Rupert Murdoch and the Global Business of Media Politics: A Sociological Analysis. *Int. Sociol.* **2008**, *23*, 488–513. [CrossRef]
18. Konkes, C.; Foxwell-Norton, K. Science communication and mediatised environmental conflict: A cautionary tale. *Public Underst Sci* **2021**, *30*, 470–483. [CrossRef] [PubMed]
19. Dobson, A. *Green Political Thought*, 4th ed.; Routledge: London, UK; New York, NY, USA, 2007.
20. Dryzek, J.S. *The Politics of the Earth. Environmental Discourses*; Oxford UP: Oxford, UK, 2005.
21. Hajer, M.A. *The Politics of Environmental Discourse: Ecological Modernization and the Policy Process*; Clarendon Press: Oxford, UK; Oxford University Press: New York, NY, USA, 1995; ISBN 978-0-19-827969-3.
22. UN. *United Nations Framework Convention on Climate Change*; United Nations: New York, NY, USA, 1992.
23. Rockström, J.; Stefen, W.; Noone, K.; Persson, Å. Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecol. Soc.* **2009**, *14*, 1–32. [CrossRef]
24. Rockström, J.; Steffen, W.; Noone, K.; Persson, Å.; Chapin, F.S.; Lambin, E.F.; Lenton, T.M.; Scheffer, M.; Folke, C.; Schellnhuber, H.J.; et al. A safe operating space for humanity. *Nature* **2009**, *461*, 472–475. [CrossRef] [PubMed]
25. Steffen, W.; Richardson, K.; Rockström, J.; Cornell, S.E.; Fetzer, I.; Bennett, E.M.; Biggs, R.; Carpenter, S.R.; de Vries, W.; de Wit, C.A.; et al. Planetary boundaries: Guiding human development on a changing planet. *Science* **2015**, *347*, 1259855. [CrossRef]
26. Farley, H.M.; Smith, Z.A. *Sustainability: If It's Everything, Is It Nothing?* 2nd ed.; Critical Issues in Global Politics; Routledge: Abingdon, UK; New York, NY, USA, 2020; ISBN 978-0-8153-5715-5.

27. IPBES. *The Global Assessment Report on Biodiversity and Ecosystem Services. Summary for Policymakers*; Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES): Bonn, Germany, 2019; p. 56.
28. EU. *EU Biodiversity Strategy for 2030: Bringing Nature Back into Our Lives*; European Commission: Brussels, Belgium, 2020.
29. Dinerstein, E.; Vynne, C.; Sala, E.; Joshi, A.R.; Fernando, S.; Lovejoy, T.E.; Mayorga, J.; Olson, D.; Asner, G.P.; Baillie, J.E.M.; et al. A Global Deal for Nature: Guiding principles, milestones, and targets. *Sci. Adv.* **2019**, *5*, eaaw2869. [CrossRef] [PubMed]
30. Monbiot, G. *Feral: Rewilding the Land, the Sea, and Human Life*; Penguin Books: London, UK, 2014.
31. Economist. A Dutch park that mimics nature angers animal rights activists. *The Economist*, 7 June 2018.
32. Ghazoul, J. *Ecology: A Very Short Introduction*, 1st ed.; Oxford University Press: Oxford, UK, 2020; ISBN 978-0-19-883101-3.
33. Eurostat. *Organic Farming Statistics*; European Commission: Brussels, Belgium, 2022.
34. Shahbendeh, M. Retail Sales Share of Organic Products in Selected Countries in Europe in 2020. *Statista*. 2022. Available online: https://www.statista.com/statistics/632772/retail-sales-of-organic-products-european-union-eu/ (accessed on 27 October 2022).
35. Rand, J.; Hoen, B. Thirty years of North American wind energy acceptance research: What have we learned? *Energy Res. Soc. Sci.* **2017**, *29*, 135–148. [CrossRef]
36. European Commission, Joint Research Centre. *The Social Acceptance of Wind Energy: Where We Stand and the Path Ahead*; Publications Office: Luxembourg, 2016.
37. Johansen, K. Blowing in the wind: A brief history of wind energy and wind power technologies in Denmark. *Energy Policy* **2021**, *152*, 112139. [CrossRef]
38. Gamson, W.A.; Modigliani, A. Media discourse and Public Opinion on Nuclear Power: A Constructionist Approach. *Am. J. Sociol.* **1989**, *95*, 1–37. [CrossRef]
39. Arifi, B.; Winkel, G. Wind energy counter-conducts in Germany: Understanding a new wave of socio-environmental grassroots protest. *Environ. Politics* **2021**, *30*, 811–832. [CrossRef]
40. Carvalho, A.; Pinto-Coelho, Z.; Seixas, E. Listening to the Public–Enacting Power: Citizen Access, Standing and Influence in Public Participation Discourses. *J. Environ. Policy Plan.* **2019**, *21*, 563–576. [CrossRef]
41. Skogen, K.; von Essen, E.; Krange, O. Hunters who will not report illegal wolf killing: Self-policing or resistance with political overtones? *Ambio* **2022**, *51*, 743–753. [CrossRef]
42. Díaz-Pont, J.; Maeseele, P.; Egan Sjölander, A.; Mishra, M.; Foxwell-Norton, K. (Eds.) *The Local and the Digital in Environmental Communication*; Global Transformations in Media and Communication Research-a Palgrave and IAMCR Series; Palgrave Macmillan: Cham, Switzerland, 2020.
43. IPCC. Summary for Policymakers. In *Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*; Cambridge UP: Cambridge, UK, 2022.
44. WMO. *United in Science 2022 A Multi-Organization High-Level Compilation of the Most Recent Science Related to Climate Change, Impacts and Responses*; World Meteorological Organization: Geneva, Switzerland, 2022.
45. UN News. UN Climate Report: It's 'Now or Never' to Limit Global Warming to 1.5 Degrees. 2022. Available online: https://news.un.org/en/story/2022/04/1115452 (accessed on 4 December 2022).
46. Horsbøl, A. Green conflicts in environmental discourse. A topos based integrative analysis of critical voices. *Crit. Discourse Stud.* **2020**, *17*, 429–446. [CrossRef]
47. Dryzek, J.S.; Pickering, J. *The Politics of the Anthropocene*, 1st ed.; Oxford University Press: Oxford, UK; New York, NY, USA, 2019.
48. Lester, L.; Hutchins, B. (Eds.) *Environmental Conflict and the Media*; Global Crises and the Media; Peter Lang: New York, NY, USA, 2013.