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## Policy narratives in forest fire management

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## LETTER

## Policy narratives in forest fire management

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E-mail: [nikola.tietze@outlook.de](mailto:nikola.tietze@outlook.de) and [lars.gerhold@tu-braunschweig.de](mailto:lars.gerhold@tu-braunschweig.de)**Keywords:** policymaking, forest fire management, narratives, decision-making, forest fire**Abstract**

As the risk of forest fires increases around the globe, the issues of how to control, suppress, and prevent them are the subjects of growing public and political attention. This study focuses on the political debate in Germany regarding forest fires and provides insights into the conceptualization of forest fires and forest fire management at the federal and state policymaking levels. By examining forest fire narratives through the policy lens, this case study takes an exemplary extreme weather event exacerbated by climate change as an opportunity to examine the policy response to this problem. In this way, we examine the role of policy narratives in civil and environmental protection and disaster management. The findings reveal that all politicians examined in this study agree that forest fire management is an urgent matter that needs to be supported. In the prevailing human-centered narrative, policymakers see active forest management and use as tools to improve forest resilience to fire and other calamities. Those who advocate a nature-based narrative assert that it is natural processes in protected forest areas that most effectively enhance resilience. The policy solutions derived from these views include financial support, recognition of the work of foresters, forest fire managers, and civil protection agencies as well as, depending on the type of narrative argument favored, either increased forest management or improved protection of forest ecologies. This suggests that narrative analysis may illuminate the rationales underlying previous policy decisions and the framework for future ones. This contribution throws light on how narratives shape policymaking and, by extension, disaster management. Future studies should therefore take into account the influence of prevailing narratives when it comes to evaluating the potential that policymaking can offer for disaster management in the future.

**1. Introduction**

Narratives help people to organize and make sense of information. Thus, many public policy academics and social scientists argue that narratives ‘construct policy realities’ (Shanahan *et al* 2018, p 926). By shaping public discourse and policymaking, narratives set the stage for addressing complicated issues and problem-solving approaches (e.g. Jones 2014, Kirkpatrick and Stoutenborough 2018).

Complex problem-solving grows more and more relevant for environmental politics as the past few years have been characterized by an increasing number of extreme weather events, including in Europe (UNDRR 2020). In Germany, forest fires have occurred on about 447 hectares per year on average

since 1991, most of them in pine forests in the north-eastern state of Brandenburg (Fernandez-Anez *et al* 2021, Gnilke and Sanders 2021). These forest fires have prompted many politicians to speak out about the problem and to offer possible solution strategies (see for example Kerbleski 2019, Baker *et al* 2020, MDR 2022).

The analysis of narratives underlying these political statements helps to shed light on people’s preferred ways of thinking about the world—their cognitive schemata (Roe 1994, Shanahan *et al* 2018). Recent research has often focused on the attribution of responsibility in the aftermath of forest fires (McLennan and Handmer 2012, Castelló and Montagut 2019). This attribution also becomes apparent in the analysis of narratives.

Previous analyses of forest fire narratives further reveal how emotional the debate on this threat is: fires are portrayed as something dangerous to combat and control (Paveglio *et al* 2011, Wilke 2016, Matlock *et al* 2017). Therefore, especially in the context of the climate crisis discourse, forest fires are oftentimes used as focusing events (Hopke 2020, Groff 2021).

By analyzing narratives of forest fire and the consequent decision-making on forest fire management in politics, this study examines how policy narratives affect interdepartmental problem-solving, affecting environmental, civil protection and climate policies and subsequent management practices on the ground. Because of their complexity (affecting different policy departments) and emotionality (metaphorical use and vivid perception) the analysis of policy narratives of forest fires and their management serves as an excellent case to investigate interactions between perception, narratives, and scope of action. We investigate how forest fire management and forest management are represented in policy debates, which responsibilities are attributed to different stakeholders, and which policy solutions are derived from these conditions. Our research illuminates how different conceptualizations legitimize different scopes of action for politicians, which in turn may affect the organizational structure of forest fire management and drive public discourse.

### 1.1. Narratives in policymaking

Narrative scholars agree that reciting, telling, and interpreting stories is a fundamental trait we use to construct and order our worlds (Böschen and Viehöver 2015, Gadinger and Yildiz 2017, Shanahan *et al* 2018, Gadinger and Simon 2019). With the so-called ‘argumentative turn’ in policy analysis, the focus of academic attention has shifted from the analysis of constitutions of power and conflict of interest to the use of language and emotion (Fischer and Forester 2002, Fischer and Gottweis 2012). Focusing on narratives enables policy researchers to circumvent the previously dominant view that rationalism is the sole guiding principle in political decision-making (Gadinger and Simon 2019). Assuming that democratic, collective decision-making is strongly influenced by narratives, it is important to assess how politicians present their arguments (Gadinger and Yildiz 2017).

### 1.2. The Narrative Policy Framework (NPF)

The assumption of the NPF is that humans are storytellers (*Homo narrans*) and that public policy is shaped by narratives (Jones 2018). It serves as the basis of this study because of its replicable, systematic, and falsifiable approach to analyzing narratives concerning policy (Jones and McBeth 2010). Assessing policy narratives calls for consideration of the following ‘narrative elements’ that underlie every story:

- a setting, in which the policy problem is explained,
- characters, usually a villain, a victim, and a hero,
- a plot, which shows interactions between characters and settings, and gives possible reasons for the current state, and
- the moral of the narrative, which usually includes a policy proposal to address the problem (Jones 2018).

Individual and shared ‘belief sets’ influence setting description, characterizations, plot use and consequent moral of the story (Jones 2018, Shanahan *et al* 2018).

The description of intentionality of characters and underlying causal mechanisms (such as, for example, intentional wrong-doing, lack of awareness, or structural limitations) gives insights into how a policy problem is constructed and supposed to be resolved (Stone 2011, Merry 2016, Shanahan *et al* 2019). Following certain storylines, the plots encourage in their audience a certain attitude towards, and suggestions for evaluating, the current measures and actions taken by the ‘main’ characters (see figure 1) (Stone 2011).

The plot types define how roles are distributed and refer to responsibilities (Stone 2011, Gadinger and Yildiz 2017). For example, according to Stone (2011), stories of decline are often used to characterize a policy problem so as to motivate people to take control. While stories of helplessness evoke feelings of vulnerability, she finds that stories of control convey a sense of hope and security. As instances of the former, however, conspiracy stories tend to focus on moral condemnation as they suggest that human agency is being abused by a few beneficiaries who act opaquely and for their own benefit (Stone 2011).

Narratives can further be used strategically by politicians to influence the political process. Focusing on the use of narrative strategies therefore implies examining different uses of narratives in relation to various goals (Jones 2018). As policymaking also depends on power relations, political groupings in power usually employ different strategies than do opposing groups (McBeth *et al* 2007). Generally, the opposing group seeks to mobilize more people behind an issue by expanding on its implications, arguing that the many have to bear costs that benefit a few (expansion strategy), while the governing coalition seeks to contain the issue and maintain the status quo by diffusing the benefits and presenting a minimal picture of the costs (containment strategy) (McBeth *et al* 2007, Shanahan *et al* 2011, 2013). Another strategy is to use scientific evidence to support one’s own statement, refute opposing statements or as a matter of fact (McBeth *et al* 2007).

### 1.3. The transformative power of policy narratives

Narratives can both express past and current experiences and help imagine possible futures (Böschen and

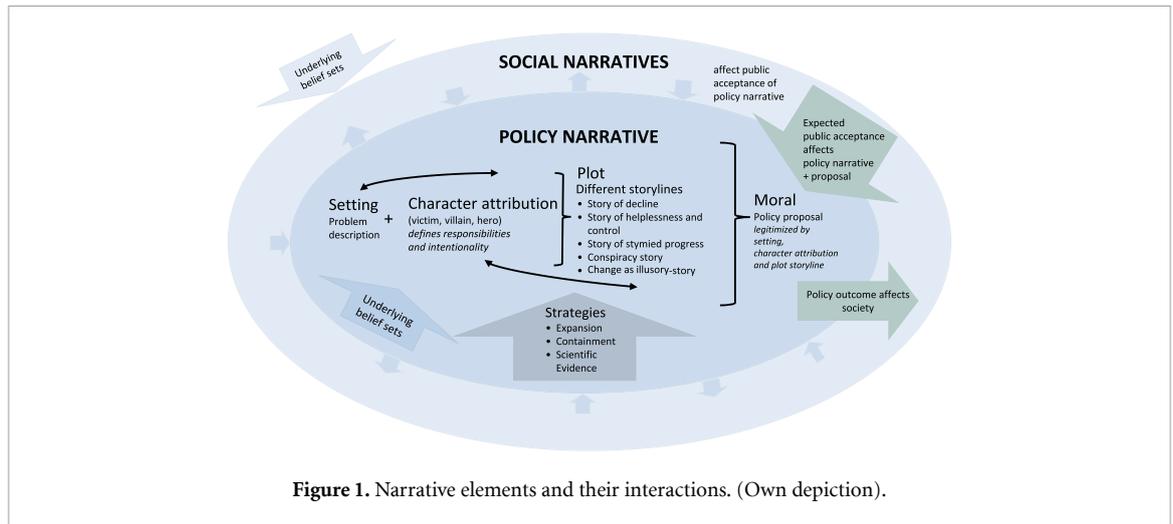


Figure 1. Narrative elements and their interactions. (Own depiction).

Table 1. Quality assessment of the material.

Criteria	Document type
Kind of document	Plenary protocols (at federal & state level)
Outer characteristics of the document	Well accessible and readable through online documentation
Inner characteristics of the document	Informative, transcription of the speeches
Intention of the document	Documentation & transparency of policymaking
Proximity of the document to its intention	Achieved through key word search & further in-depth selection steps
Origin of the document	Federal level: DIP ( <a href="http://www.dip.bundestag.de">www.dip.bundestag.de</a> ) State level: ELVIS ( <a href="http://www.parlamentsdokumentation.brandenburg.de/starweb/LBB/ELVIS">www.parlamentsdokumentation.brandenburg.de/starweb/LBB/ELVIS</a> )

Viehöver 2015). In this way, they provide information about expectations of political figures in terms of the behavior of protagonists and the responsibilities attributed to them. Analyzing narratives can therefore be useful in determining who is attributing agency to whom when it comes to making and justifying policy decisions (Roe 1994).

Arguments expressed in the form of narratives influence policymaking by devising and ‘storyboarding’ possible solutions, legitimizing those proposals and consequent decisions by creating a setting and a plot (Roe 1994, Bösch and Viehöver 2015, Gadinger and Yildiz 2017, Jones 2018). With the aim of legitimizing certain measures, narratives represent different stakeholders’ claims to power and ultimately serve to demonstrate the apparent plurality of voices in the debate (Gadinger and Yildiz 2017). The power of policy narratives arises as a result of their reception by a wider public and, building on this reception and interaction, can take a transformative dimension (van Dijk 2006). For example, Kirkpatrick and Stoutenborough (2018) show how decision-makers are guided by the expected public perception in their political decision-making and Jones (2014) reveals how narratives shape the public’s perceptions of climate change. Thus, as shown in figure 1, all policy narratives are affected by and in turn affect social narratives.

## 2. Method

To gain in-depth insights on political conceptualizations of forest fires, we used a structuring qualitative content analysis approach (Mayring 2000). Keyword research on online political plenary protocol databases (DIP and ELVIS) with the keywords ‘Waldbrand’ (forest fire); ‘Brand/brennen’ (fire/burning), and ‘Wald’ (forest) resulted in an initial collection of political speeches in the aftermath of frequent forest fires, between January 2019 and August 2021. As shown in table 1, the final material was chosen based on selected quality criteria on inner and outer characteristics, intention and origin of the documents (Mayring 2000).

The selection process led to the analysis of 152 political speeches from 24 plenary protocols at both federal and state forums. The speeches were evaluated by means of structuring qualitative content analysis, which aims to filter content that can be categorized according to specific themes and aspects (Mayring 2000). In this case, the specific theme is the political representation of forests and forest fire management, and the aspects refer to the narrative elements. These categories were derived both deductively (from theory) and inductively (grounded in the data analyzed). Following the systematic steps of qualitative content analysis, we first deduced master codes from the NPF

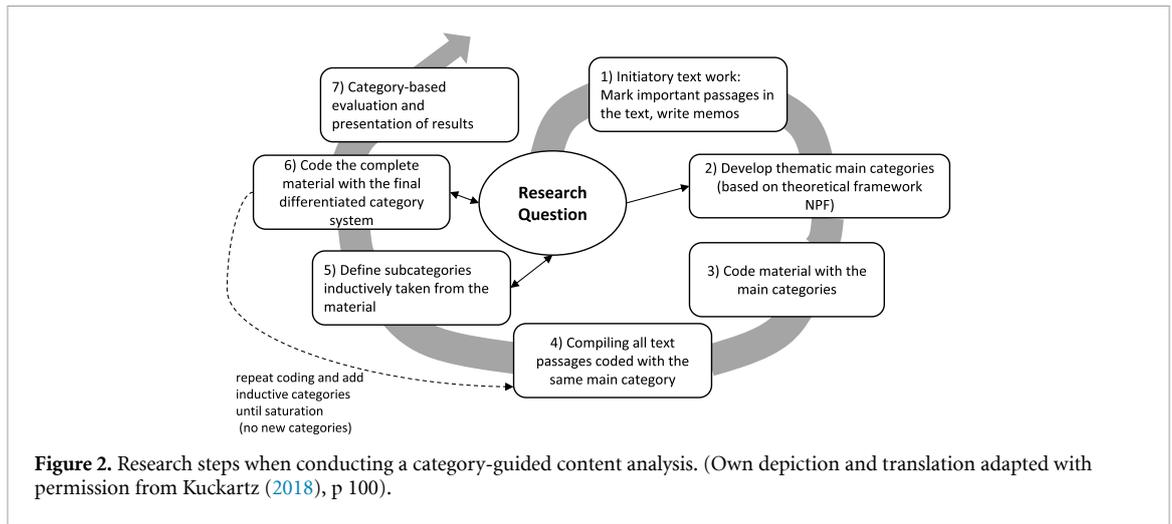


Figure 2. Research steps when conducting a category-guided content analysis. (Own depiction and translation adapted with permission from Kuckartz (2018), p 100).

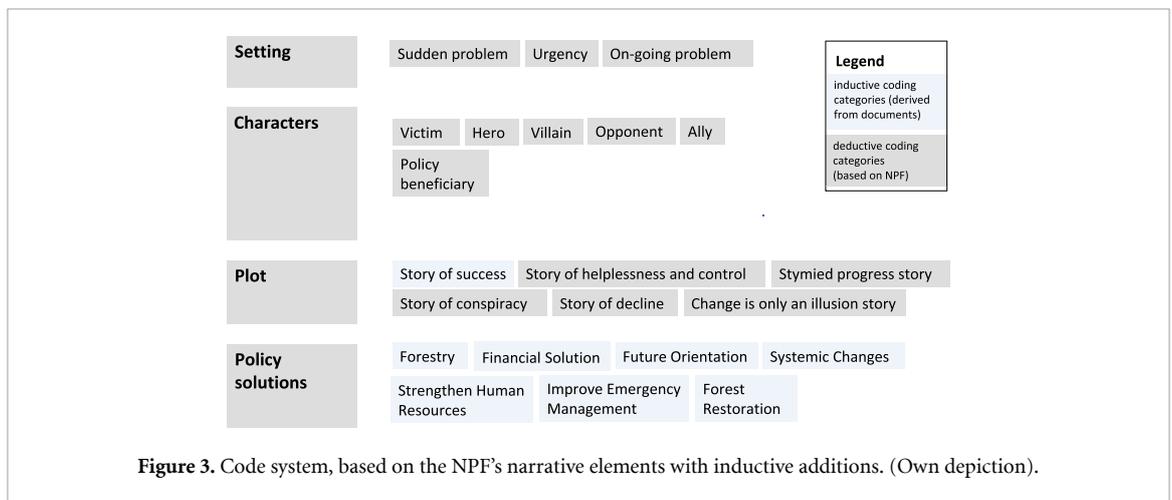


Figure 3. Code system, based on the NPF's narrative elements with inductive additions. (Own depiction).

(see figure 2, step 2). The code system was then extended by inductively adding codes from the analysis of the material (step 4) through multiple coding loops until theoretical saturation was reached, meaning that no more categories were needed to describe the qualitative data (see Strauss and Corbin 1998 and arrow in figure 2). This resulted in 126 codes and 1900 coded segments.

The narrative elements that identified and distinguished aspects of the narratives were divided into setting (on-going problem, sudden problem), characters (victim, villain, hero), plot (stories of helplessness and control, stymied progress, or decline, conspiracy stories, change as illusory, and an inductively added 'story of success'), and moral of the story, categorized by the policy solutions identified (see figure 3 and appendix).

### 2.1. Study context

Compared to other global regions, Germany is relatively free from the scourge of forest fires due to its temperate location, fragmented landscapes, and effective systems of monitoring (Galizia et al 2022). But climate change has increased the risk of forest fire in Germany as well (Goldammer 2019, Carnicer et al

2022). Germany's north-east is the most vulnerable to suffering forest fire because of its soil conditions, the transition of the continental climate (Glade et al 2017), and the pattern of tree growth that tends to consist of pine monocultures of the same age (Thonicke and Cramer 2006). The current picture of forest fire risks in Brandenburg shows a dependence on three factors: climatic and weather conditions (precipitation, heat, drought, wind, vapor pressure deficit), the forest condition (including soil conditions and types of tree species), and human interaction with the forest (recreational, economic and industrial use and misuse, and forest management) (Glade et al 2017, Blumroeder et al 2022). Against the backdrop of these particular conditions, we now look at the political debate in the context of policymaking at the state level as well as on the national stage.

To assess the political debate, it is important to understand the political and management responsibilities relevant to the topic. In accordance with general emergency management protocols, forest fire management in Germany is organized in a decentralized way. Local firefighters within each of the federal states and municipalities are responsible for

**Table 2.** Distribution of coded speeches by party and position.

Party	Coded speeches overall	Speeches in federal parliament	Speeches in state parliament
FDP	<u>12</u>	12	0
SPD	<u>29</u>	10	19
CDU/CSU	<u>49</u>	39	10
Die Linke	<u>17</u>	10	7
B90/Die Grünen	<u>31</u>	18	13
AfD	<u>17</u>	5	12
Speakers without affiliation	<u>3</u>	1	2
BVB/FW	<u>6</u>	0	6
Position in parliament			
Government	<u>85</u>	49	36
Opposition	<u>79</u>	46	33

fire management. For larger forest fires, firefighters consult with forest managers to make best use of the latter's local knowledge of the area. A specialty of the German system is that forest fires are mainly responded to by the many voluntary firefighters in rural areas (Goldammer 2019). For example, in Brandenburg, 95% of all active firefighters do this on a voluntary basis (LFV BB n.d.).

The federal government—chiefly represented on civil protection issues by the Federal Ministry of the Interior (MI), and the Federal Office for Civil Protection and Disaster Assistance (BBK)—only comes into play when supraregional or exceptionally catastrophic events occur that require the resources and equipment of, for example, the national policing and military authorities to support local organizations (Steinhorst and Vogelgesang 2012).

To put the different perceptions of forest fires and forest fire management into context, it is important to keep in mind that German politics features parties that either participate in or oppose the government. In the period under review, the Christian democratic CDU/CSU and social democratic SPD governed in the national parliament, the Bundestag, with Bündnis 90/Die Grünen (the Greens), the liberal democratic FDP, Die Linke (radical left) and AfD (radical right) making up the opposition.

Brandenburg's state parliament changed from a coalition of SPD and Die Linke to an alliance of SPD, CDU, and the Greens in September 2019. The opposition tended to be led by Greens before the September elections, and the AfD and Die Linke after, while the FDP representatives' contributions to debates concerning forest fires was negligible.

As shown in table 2, which lists the number of coded speeches from the different parties, the sample includes an equal number of speeches from the opposition and the government.

### 3. Results

The following analysis describes perceptions of the policy problem (setting), the attribution of roles,

responsibility, and plot (characters and plot), and the consequent policy solutions (moral of the story), and their justification.

#### 3.1. Forest fire perception and problem description

The problem description in state and federal parliament is mostly consistent amongst all speakers. All politicians portray forests as suffering from calamities and climate change and perceive the forest fire risk as growing. They may refer to forest fires as battle scenarios or 'raging' (L/6/81: 15,26)<sup>3</sup> and 'threatening' (G/7/9: 32) monsters to be tackled, with opposition speakers often stressing urgency. However, the representation of urgency and the perception of the problem as an on-going or sudden event differ. While most speakers present the issue as on-going and long-term, some neglect this temporal aspect. Apart from a few AfD speakers, all agree that climate change, because of heat and drought, heightens the risk of forest fires, and that forest fires and the poor condition of forests in turn influence climate change. Timeframes are referenced as a way to accuse the government of inaction and lack of preparation. In the Bundestag, the issue was raised more often in the context of climate change, which helps explain why the problem is viewed through a long-term lens more often than in the regional parliament, where the issue comes up mainly in debates about forest management or disaster prevention.

#### 3.2. Attribution of roles, responsibility and plots

Overall, forests are characterized as both victim and hero in the state and federal parliament. For example, forests are described as 'sick' (CDU/19137: 26) and 'in need of therapy' (AfD/19137: 20), but also praised as 'recreational area, [...] and an important source of income' (SPD/6/74: 101). Ecosystem functions

<sup>3</sup> The abbreviations stand for: party affiliation/document code/page number. Which speaker is talking specifically can be taken from the speech reference list (see appendix). CDU/CSU is abbreviated to 'CDU', Die Linke is abbreviated with 'L', and the Greens with 'G'.

provided by the forest are readily enumerated by political speakers. While in the context of climate change the role of forests as heroes that mitigate climate change is prominent, the discourse is still dominated by the victimization of the suffering forest.

Much discussion revolves around the responsibilities and roles of forest owners. Most speakers agree that forest owners and foresters are heroes for maintaining the state of the forest, creating ‘beauty’ (CDU/19224: 216) and thereby preventing forest fires. Some politicians consider it to be particularly unfair that ‘those whose forests actually store CO<sub>2</sub>, the forest owners, are now being expropriated over rising temperatures’ (FDP/19115: 75). Following this rationale forest owners and foresters should be beneficiaries of policymaking, as they are affected financially by the damage described and are therefore also seen as victims. Especially at the federal level, politicians on both sides present themselves as allies of the forest and forest owners, supporting them both financially. Forest owners are also viewed as allies of politicians in mitigating the problem by maintaining forest resilience to fire, although some representatives from the CDU/CSU and FDP (and occasionally the SPD) emphasize this more, and the Greens generally less.

Similarly, firefighters and voluntary helpers are praised as heroes and allies that ‘deserve our highest recognition’ (G/7/9: 32) especially at the regional level.

Furthermore, responsibility is imposed on the policymakers themselves, especially by the opposition, which portrays the governing parties as uncaring, creating a ‘spectacle’ or ‘hot air’ (G/19115: 81), or acting ‘only after the disaster had occurred’ (CDU/6/81: 9), and reminds the government of its duties. Wrong-doing is usually seen as a result of structural conditions, but sometimes representatives are accused of intentional harm. Generally, policymakers see their primary responsibilities as providing money and supporting emergency organizations and forest owners.

### 3.3. Policy solutions based on underlying belief sets

While the general description of the setting is consistent, differing character attribution and plot descriptions lead to different morals to the story and hence policy proposals. A closer look into character and plot use reveals two overarching yet conflicting belief sets, initiating two contrasting narratives which differ mainly in their timeframe and level of human involvement: one human-centered and one nature-based (see figure 4). These different underlying belief sets were revealed from the analysis of characters’ responsibilities and are further conveyed using differing plots. Figure 4 illustrates how setting description, character attribution, plot type and policy solutions generally differ in the two narratives.

The human-centered narrative reflects the belief set that forests require human support and that worsening forest conditions and increasing fire risks can be mitigated by more intensive forest management. The nature-based narrative calls for more regulations in forest management to protect the forest, in the belief that the forest recovers best by itself. These two contrasting narratives buttress differing policy proposals to mitigate forest fire risk (see figure 4).

Party affiliation and the speaker’s position in parliament seem to influence which narrative is used. The moral of the story that forest management is an appropriate policy approach to minimizing forest fires and addressing forests’ ecological degradation is prevalent at the federal level, and opinions differ on how active this management should be, with CDU/CSU and FDP politicians tending to favor increased human involvement and the Greens aiming to strengthen natural processes (cf figure 4).

For example, CDU/CSU speakers argue that sustainable forest management is inevitable to achieve the climate goals (CDU/19176: 30). The climatological benefit is justified by stating that ‘young managed mixed forests are the best CO<sub>2</sub> reservoir’ (CDU/19224: 180). The FDP agrees that ‘actively managed forests demonstrably bind more CO<sub>2</sub>,

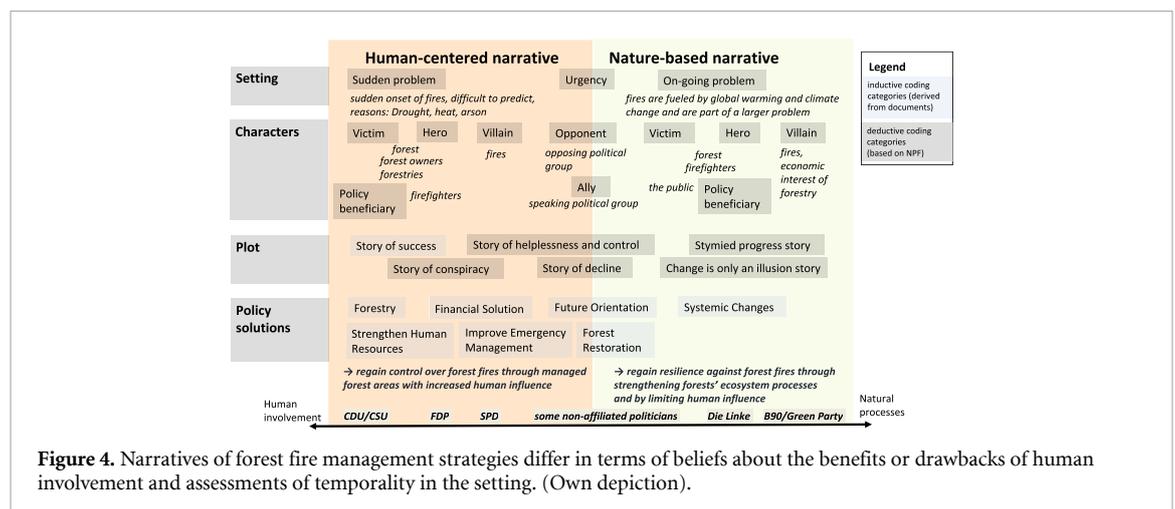


Figure 4. Narratives of forest fire management strategies differ in terms of beliefs about the benefits or drawbacks of human involvement and assessments of temporality in the setting. (Own depiction).

especially when wood is used as a building material' (FDP/19137: 16). Hence, it is concluded that to maintain the forest's function as 'number one climate protector, we must support forest managers' (CDU/19176: 21), especially as '[m]any private forest owners, [...] manage their forests in an exemplary manner and thus contribute to supporting the multiple functions of the forest' (FDP/19137: 22). This is put in strong contrast to leaving the forest to its natural processes, by limiting human influence: For example, a CDU/CSU speaker stresses that 'the German forest only stands for sustainability if it is managed and not set aside' (CDU/19176: 110).

The opposing approach is to advance forest restoration by asking for increased protection of forests 'that are untouched and provide real climate protection' (nA/19176: 31, see also GR/19115: 72). This nature-based narrative aims 'to put ecosystem services at the center of our discussion in politics' (GR/19137: 25). For some speakers, this ecosystem service appreciation goes hand in hand with more appreciation for forest owners as well (AfD/19224: 180), which again takes a human-centered turn. For others, it is more about a general acknowledgment of systems interconnectedness (LN/19178: 58) and strengthening natural processes such as natural rejuvenation instead of 'panic afforestation attacks with miracle tree species that do not even exist' (GR/19115: 82).

### 3.4. Strategic justification of policy solutions

To legitimize the need for certain actions identified in proposals, policymakers use different narrative plots and strategies (Gadinger and Yildiz 2017, Jones 2018, Shanahan *et al* 2018). For example, governing party representatives legitimize their past policy measures and future proposals by telling stories of success and control, often using containment strategies. In contrast, opposition members commonly use expansion strategies combined with stories of decline or stymied progress to present the governing coalition as incapable of addressing the problem and to underline the need to adopt their own proposals.

Overall, politicians only rarely refer to scientific evidence to justify their narratives. The little scientific evidence used mostly sets the stage for the policy proposals in the setting or plot part of the narrative. It was mainly used by governing parties. Oftentimes, numbers and percentages are referred to without source. Scientific evidence is rarely used as a matter of fact and more prominently given to emphasize a speaker's own statement. Less frequently, politicians use scientific evidence to refute the opposition's statement, e.g. by reasoning that another speaker's claim 'lacks any scientific basis' (CDU/19110: 88).

Plot and strategy choices as well as the overarching narratives influence and justify policymaking on forest fire management. For instance, the

nature-based narrative supports the safeguarding of forest ecosystems while the human-centered one argues for sustaining or increasing management. A human-centered narrative that focuses primarily on heroizing forest owners, foresters, and emergency responders justifies supporting them financially with minimal regulations, and typically views active forest management as the key solution. The nature-centered narrative on the other hand backs calls by the Greens to put more effort into natural rejuvenation and to reduce the economic exploitation of forests, while stressing that money is not the sole solution.

## 4. Discussion

The findings suggest that while setting and character introduction provide a basis for initiating a plot, the plotting and strategy elements of different narratives are used to support speakers' approaches to forest fire management. Hence, narratives are an important policymaking tool in risk-based contexts like forest fire management.

### 4.1. Theoretical implications

Previous social science research on forest fire management mostly focused on preparedness and decision-making strategies of firefighters, public perceptions of risk, or media reporting of forest fires (Weick *et al* 2005, McCaffrey *et al* 2013, 2020, Prior and Eriksen 2013, Groff 2021). The political aspect has been comparatively understudied, while the influence of different policy narratives on forest fire management strategies has been the subject of even less attention. This study closes that gap.

In comparison to previous narrative analyses concluding that different descriptions of the policy problem led to different morals to the story, the consensus we found in the setting description has been rare (Jones 2018). In risk and disaster policymaking, such as on forest fire management, the focus lies more on character and responsibility attribution and the problem's temporal and spatial extent. The importance of paying attention to timing and character attribution when applying the NPF to the disaster context has previously been identified by Crow *et al* (2017). Our research further supports previous findings that narratives have a performative function and can influence political decision-making by classifying and legitimizing possible policy approaches based on underlying belief sets (Gadinger and Yildiz 2017, Jones 2018, Shanahan *et al* 2018).

### 4.2. The forest's ambiguous role as hero and victim, and the forest fire as villain

A comparison of newspaper articles between 2001 and 2009 found that many German media outlets' reporting of forests as climate saviors and heroes in the battle against global warming evolved in a few

years to presenting forests more as victims of climate change (Biller 2011). Similar to Biller's study, the plenary speakers examined in our analysis agreed that forests are victims of forest fires, but heroes as well as victims in the context of climate change. In our case, the forest was increasingly portrayed as a victim of forest fires, and a hero only when related to climate change. Thus, the analysis shows that context influences characterization. Moreover, the hero portrayal served to stress the urgency and rationale for saving the suffering forest. This again illustrates the influence of character attributions and descriptions on the problem-solving approach (cf Jones 2014, Merry 2016, Shanahan *et al* 2019). As found in previous studies, images of battle or monsters serve as a call to arms for suppressing fire (Paveglio *et al* 2011, Wilke 2016, Matlock *et al* 2017). This proves that exclusion of emotions from policymaking is neither possible, nor always intended (Schaal 2009).

#### 4.3. Prevalent human-centered management approach

Our analysis helped to reveal the underlying belief sets and reasoning for the trending human-centered management approach. The perception of forest fires as monsters and invaders feeds the human-centered narrative of necessary human management of fires and forests. The tendency to a more human-centered management narrative originates in the long-term evolution of forest use in Germany (Borrass *et al* 2017), and current policy continues trying to prevent forest fires through effective management. In Spain, researchers have found a similar trend of more awareness of human landscape management in response to wildfires (Castelló and Montagut 2019). Castelló and Montagut (2019) argue that media reporting on wildfires in Spain has taken a turn from a romantic view of nature to a pragmatic one that focuses more on managing the environment, suggesting that generally in Europe the assumption prevails and is further nurtured that forest fires can only be prevented and controlled by increased human influence.

This is also evident in the results of policy proposals discussed by politicians in their speeches before the final vote on the proposals. Proposals that focused more on human intervention in forest management prevailed more often than proposals that focused more on strengthening ecosystem processes and limiting economic forest use. For example, in December 2019, the policy proposal 'Our Forest Needs Help' was adopted in the German Bundestag, which underscored the human-centered narrative that natural processes alone do not improve forest resilience to fire, but human influence does, while the proposal 'Preserving Forests through Effective Forest Protection' which can be traced back to a nature-based narrative, was not successful (see appendix). However, the analysis of the final political outcomes

also shows that, in general, the proposals of the coalition parties were always accepted and those of the opposition rejected (see appendix).

In practice, this means that other solutions, such as a more nature-based approach, do not have the support needed for a less suppressive but more adaptive and preventative approach to forest fire management, although recent research suggests shifting focus from suppressive control to more pragmatic mitigation and prevention (Moreira *et al* 2020). Despite previous studies pointing to the worth of exploiting nature's resilience and suggesting that (controlled) fire can have a positive impact on ecosystem regeneration (Marcolin *et al* 2019, Moreira *et al* 2020), most policymakers still focus on strengthening human control strategies. However, which strategy can best reinforce forests' resilience while also protecting people from fire depends on local conditions (McWethy *et al* 2019).

Perhaps the nature-based approach is currently less widespread because it builds on the description of an on-going problem occurring over a longer timeframe. Urgent and immediate problems, however, seem to be solvable by short-term measures and therefore appear easier to address. However, it is also very much about the concept of nature or the underlying understanding of ecosystems. Here it plays a central role whether the decision-makers are advised by scientists with a forestry-related or ecosystem-based background. The differences also result from a rather conservative set of values, which often seems to be opposed to a socio-ecological one. Further research should focus on these two opposing narratives and how they can be combined for constructive policymaking.

#### 4.4. Practical implications

As policy narratives interplay with social narratives, setting, character and responsibility attribution have shown to affect the narrative's moral, and thus policy proposals and subsequent decision-making on disaster and forest ecosystem management. Our research reinforces previous findings that narratives and their underlying belief sets frame policymaking (cf Jones 2014, Crow *et al* 2017, Lawlor and Crow 2018, Knackmuhs *et al* 2019, Shanahan *et al* 2019). This has implications for practice: politicians aware of underlying belief sets can thus communicate more clearly and purposefully. Agreeing on a common narrative for the policy issue of forest fires could make political decision-making swifter and more effective.

Policymaking in turn affects forest fire management by influencing the organizational structure and resources. For those who work with forests or in emergency organizations fighting fires, the awareness of policy narratives and underlying belief sets means they can use the power of narratives to convince politicians of their true needs by telling the right

stories. A narrative that goes from battling a monster-like villain to managing a natural phenomenon and possibly even harnessing its benefits would shift disaster management from being reactive to proactive (Moreira *et al* 2020), thereby helping efforts to mitigate climate change.

#### 4.5. Methodological implications

The study adds new findings on the qualitative use of the NPF as a methodology by applying it to complex policy issues. It suggests that, with complex problems, analyzing the description of settings might be less relevant, whereas studying causal factors and characters' roles—and hence the attribution of responsibilities—becomes key to identifying underlying belief sets and rationales for policy approaches. This study argues the value of applying the NPF to complex risk-related cases and suggests more methodology-oriented work on qualitatively using the NPF to improve clarity and transferability.

#### 4.6. Limitations

Although aiming for a systematic coding approach and using a codebook, coding is always influenced by the researcher's personal frame of reference, so achieving complete objectivity is impossible (Kuckartz 2018). Furthermore, speeches in the plenary debate are also a performative and manipulative act (van Dijk 2006). As this work is just a case study and relied exclusively on narrowly defined narratives, the authors have not discussed power relations (such as politicians' varying rhetorical skills or the allocation of speaking time). A mixed method approach including the study of power relations could offer more insights into these and other themes, supplementing this research.

### 5. Conclusion

Our study examined and emphasized the role of policy narratives in German forest fire management. The analysis of forest fire narratives shows how narratives are shaped by beliefs and that they influence proposals for action based on characterizations, plots, and descriptions of

problems. We highlighted the importance of language, emotion and contextualization in policymaking and argue that researchers as well as practitioners should pay more attention to underlying narratives. Policy narratives construct political realities and the deliberate use of political narratives allows skillful practitioners to influence policymaking and subsequent management structures. Scientific evidence is of secondary importance in legitimizing policy proposals on forest fire management, while the attribution of responsibility and the timeframe of the setting matter a lot. Hence, the way stories are told affects later practices such as forest fire or forest management by influencing, classifying, and sorting perceptions of the threat and possible solutions, thus framing the scope of action. We therefore urge future researchers, policymakers, and practitioners to consider how policy narratives shape climate-related, environmental, and civil protection policy realities and thereby policymaking and their subsequent influence on disaster management and society.

#### Data availability statement

The data that support the findings of this study are available on request from the corresponding author.

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#### Author contributions

Nikola Tietze: Investigation; data analysis; conceptualization; methodology, writing—original draft preparation, review and editing; Lars Gerhold: Assistance in conceptualization and methodology, writing—review & editing; Pierre L Ibsch: Assistance in conceptualization, writing—review & editing.

#### Conflict of interest

The authors declare no conflict of interest.

## Appendix

### I: Codebook

All coding of the material was based on a structured codebook, derived deductively from previous narrative policy studies and inductively from the material at hand until saturation (figures 2 and 3). Categories derived deductively from the Narrative Policy Framework have references to original NPF studies explaining the code, or focusing on its relevance in their analyses. Some of these codes may have subcodes derived inductively.

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#### Categories derived deductively from the Narrative Policy Framework (NPF)

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##### Narrative form (elements)

Code	Definition	Coding rule	Coding example
<b>Setting</b> (Jones 2018: 728)	Explanation of the policy problem providing information on <i>where when, and how</i> it originated	Code when speakers describe the current state/policy problem talking about forest fire or forest calamities and their origins.	<i>One thing is certain: Brandenburg is an area at risk of forest fires. The challenges posed by climate change add to this. In addition, large areas are contaminated with explosive ordnance and may not be entered in the event of a fire. Last year, we already experienced forest fires on a considerable scale. In 2018, Brandenburg counted 512 forest fires. (PIPr_LT\190613_6/81: 11: 3904–4273)</i>
<b>Sudden problem</b> (inductively added)	The problem is framed as a sudden emerging problem, that could not be foreseen and is over when reacted to.	Code if the following key words apply: 'Derzeit', 'Zur Zeit', 'Aktuell', 'im Augenblick', e.g. 'currently', 'at the moment', 'right now'.	<i>Ladies and gentlemen, dear colleagues, we have a special problem in the forest at the moment. The forest cannot solve our climate problems on its own. But destroying the forest or causing a lot of damage to it would just take us in the wrong direction in terms of climate protection (2019\19111_110919: 9: 4255–9: 4556)</i>
<b>On-going problem</b> (inductively added)	The problem is framed as part of an on-going crisis, not just a recent incident.	Code when it is said that the problem has existed or will persist for several years.	<i>The summer of 2019 has barely begun and the situation is already reminiscent of the forest fire year 2018; at least the number of forest fires is in these dimensions. That's why many people of Brandenburg are naturally asking: 'Is this now normality? Is this the state of the future, that as soon as summer comes, the drought is there? [...]' If we do not do anything, in 20 years these hot summers—like 2018 and before—will be normal summers, because temperatures—at least according to the Potsdam Institute for Climate Impact Research—will continue to rise. That's why we have to do something in Europe, in Germany and thus in Brandenburg, because the development can no longer be reversed, it can at most be stopped. (PIPr_LT\190613_6/81: 8: 2372–8: 3652)</i>
<b>Urgency</b> (inductively added)	Because of the extent of the problem, it is referred to urgency	Code if urgent action is called for as consequence of the problem description/setting.	<i>Dear colleagues, the air is burning in the forest—symbolically speaking. Back then, during the first forest dieback 40 years ago, we actually succeeded in saving the forest. We managed to reduce air pollutants in time. Now, too, we have to act very quickly to avert acute damage. We must pursue long-term strategies, and the two must fit together and be implementable. (PIPr_LT\191211_7/4: 83: 855–83: 1289)</i>

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<b>Characters</b>		Can also be non-human (Shanahan et al 2013)	
<b>Code</b>	<b>Definition</b>	<b>Coding rule</b>	<b>Coding example</b>
<b>Villain</b> (Shanahan et al 2013, Merry 2016)	The entity, which is held responsible/blamed for the problem/hurting the victim	Code if the origins of forest fire or forest damages are named, or their consequences are listed. Code contributing factors as well.	<i>The vast majority of forest fires have human causes. (2020\19158_070520: 171: 3419–171: 3538) Currently, the forest is suffering from storms, droughts, bark beetles. Timber markets have collapsed. (2020\19176_170920: 21: 4958–21: 5061)</i>
Intentional (Stone 2011, Gray and Jones 2016)	The entity blamed for intentionally causing or contributing to the problem	Code if intentional action is assigned to specific entities contributing to or causing the problem.	<i>Forests are being destroyed for the greed of those for whom the Renewable Energy Sources Act takes precedence over the preservation of still intact forests. I ask you: Does any citizen understand this? (PIPr_LT\191211_7/4: 84: 2123–84: 2641)</i>
Uncaring (Stone 2011, Gray and Jones 2016)	The entity causing or contributing to the problem through carelessness or lack of attention	Code if unawareness or carelessness is assigned to specific entities contributing to or causing the problem.	<i>However, due to the climate crisis with drought years and stress factors, our forests are under massive threat. Many people regretted this earlier. But far too many people in this House have slept for too long and delayed climate protection for years, and against their better judgment. And now you are shouting: Stop thief! (19137_191219, p. 18: 2711)</i>
<b>Victim</b> (Shanahan et al 2013, Merry 2016)	The entity, which is suffering from the problem/wrongdoing of the villain	Code if an entity is presented as suffering from the current situation and or/ in need of help.	<i>And those whose forests actually store CO2, the forest owners, are now being expropriated over rising temperatures. (2019\19115_260919: 75: 4430–75: 5144)</i>
<b>Hero</b> (Shanahan et al 2013, Merry 2016)	The entity praised for being able to fix the specified problem	Code if an entity receives praise for their actions to solve the problem.	<i>If foresters were not strong women and men who love nature, they would already be in trauma therapy. But no, the few who are still around are out there fighting—for their forest, for our forest. For that, they deserve our thanks. (2019\19115_26_09_19: 75: 4430–75: 5144)</i>
<b>Policy beneficiary</b> (O'Donovan 2018)	The entity that benefits from hero's actions or the proposed policy solutions	Code if entities are presented as benefitting from political actions (currently or in future).	<i>Unfortunately, they do not replace the emergency aid that we had demanded with our motion this summer for the small municipal and private forest owners in the amount of 200 million euros to compensate somewhat for the greater burdens on forest farmers. (2019\19129_261119: 32: 5233–32: 5501)</i>
<b>Allies</b> (Merry 2016: 378)	The entity supporting the solving of the problem	Code if an entity is presented as aiding heroes and contributing to the problem solving. Do not code if praised for solving.	<i>Our foresters have continuously transformed our forest into a climate-stable mixed forest over years and decades; we must continue to work on this. We must support them and not berate them. (2019\19110_10_09_19: 73: 403)</i>
<b>Opponents</b> (Merry 2016: 378)	The entity trying to hinder or hindering problem solving (intentionally or unintentionally)	Code if an entity is accused of delaying or not advancing policy progress. Only code if harming/delaying the solving process, not when referred to the entity causing the problem	<i>Mr. Interior Minister, I do not want to argue with you today about the definition of the words catastrophe or major incident. It is always a challenge for the comrades on the ground and for the people who live nearby. That's why we have to respond to it, and we should not get hung up on any wordiness. (190613_6/81: 27: 1245–27: 1602)</i>

<b>Plot</b> (Shanahan et al 2013)	Details on the policy problem showing interactions between characters and settings and giving possible reasons for the current state (Stone 2011: 168, Gadinger and Yildiz 2017: 161)		
<b>Code</b>	<b>Definition</b>	<b>Coding rule</b>	<b>Coding example</b>
<b>Stymied progress story</b> (Stone 2011: 168, Gadinger and Yildiz 2017: 161)	Plot referring to things that have/are hindering the progress of the problem solution/progressive change	Code if other party's policies or policy proposals are describe as delaying the problem solution or not advancing the problem solving.	<i>Yesterday was Minister Klöckner's National Forest Summit. What came out of it, as was unfortunately the case with the Climate Cabinet, was far too much hot air. But that's the last thing the climate and the forest need right now. Instead of getting the timber industry, environmentalists and civil society to join forces yesterday, the minister just drove a splitting wedge and insulted her critics. [...] But the forest needs less show and more 'tackling'</i> (2019\19115_26_09_19: 81: 3521–81: 4080)  <i>Otherwise, you cannot move fast enough with climate protection, but when it comes to forests, you prevent any new planting because you rely on natural regeneration. We rely on active forest management.</i> (2019\19129_26_11_19: 37: 3333–37: 3840)
<b>Change is only an illusion story</b> (Stone 2011: 168, Gadinger and Yildiz 2017: 161)	Plot referring to statements that change is not really happening- only an illusion	Code if another party's definition of progress and change is questioned and they are presented as lying or distorting reality. Do not code if they are accused of acting for own benefit (→ then it is a conspiracy story).	<i>We are talking about forest protection, after all. I will tell you one thing: it is no use having your picture taken with trees if they are being cut down behind the scenes. [...] Mrs. Merkel was quite touched that Greta Thunberg called on humanity to unite behind science. Well, in this sense, let us let a scientist have the last word. Mr. Mojib Latif said about your climate package: This is euthanasia for the world climate.</i> (2019\19115_26_09_19: 72: 0–72: 2606)
<b>Blame the victim story</b> (Stone 2011: 168, Gadinger and Yildiz 2017: 161)	Plot stating that the problem can be controlled by those suffering from the problem	Code if those suffering from the problem are blamed for their own fate. Only code when they are left to themselves with it.	<i>Not coded in this case</i>
<b>Story of conspiracy</b> (Stone 2011: 168, Gadinger and Yildiz 2017: 161)	Passages claiming that the problem can be controlled, but some stakeholders have kept this knowledge to themselves for their own benefit	Code if speakers attribute or suggest a conspiracy story. Extension to the NPF literature: Also code if no direct benefit is mentioned, but indirectly implied. Also code when discussing about 'truth' or 'reality'.	<i>Dear B90/The Greens, please stop drawing pictures that constantly talk about clear-cutting, pesticide use with helicopters, plantation management and timber factories! The truth is that forest conversion has been going on for decades. The difficulty is only that there is not the one truth in the forest.[...] The renunciation of clear-cutting demanded by you has already been legally implemented for a long time via the state regulations. And about the use of pesticides: in Germany, only 15 tons are used annually on less than 1% of the total forest area.</i> (2019\19115_26_09_19: 78: 1646–78: 3276)

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<p><b>Story of helplessness &amp; control</b> (Stone 2011: 168, Shanahan et al 2013, Gadinger and Yildiz 2017: 161)</p>	<p>Passages stating that the problem once out of control can be handled and solved through the proposed policy solution</p>	<p>Code if speakers refer to a situation seemingly uncontrolled (policy problem) and then state their solution to the problem (policy change). Include the part on the problem in the coding.</p>	<p><i>But even if we stop the consumption of all fossil energy, we already have too much Greenhouse gas in the air today. That means we have to get CO<sub>2</sub> out of the air again. The only machine that does that with solar energy is the tree. That's why we need more forests for climate protection.[...] We have seen many papers, Bonn Challenge etc., back and forth. But nothing has happened on the ground. We have to manage to get these 350 million hectares in the next five years. We are running out of time. That would actually have a stabilizing effect on the climate. That's why the FDP has already submitted a motion in the spring of 2019.</i> (2020\19176_170920: 88: 2739–88: 3694)</p>
<p>→ <b>Story of success</b> (inductively added)</p>	<p>A story focusing on what has been achieved already to fix the problem, stating that the current way of fixing it has been successful and should be continued</p>	<p>Code if code definition applies to a passage, may coincide with the containment strategy.</p>	<p><i>It is good—I say this at the very beginning—that these coalition groups have agreed to provide almost 1 billion euros in aid for the forest.</i> (19137_19_12_19, S. 15: 576)</p> <p><i>Another appreciation that could hardly be better expressed concerns our forest, a task of the century. Storms, drought, bark beetles—the forest is suffering as never before, and we are helping it as never before: 800 million euros together with the federal states and now another 700 million euros from the economic stimulus package to clear forests in order to reforest them.</i> (2020\19178_290920: 74: 5137–74: 5812)</p>
<p><b>Story of decline</b> (Stone 2011: 168, Shanahan et al 2013, Gadinger and Yildiz 2017: 161)</p>	<p>Stating or predicting the worsening of the situation if opposing policy solutions are chosen or continued</p>	<p>Code all passages referring to decline that are referring to the current state and policies, even if it is part of the setting. Do not code, if only the setting described.</p>	<p><i>But climate change is hitting Germany and Thuringia much harder than expected, and now, in what is probably the third year of drought, the Minister of Agriculture is once again offering farmers only drought aid. The forest farmers are to be fobbed off with crumbs for damaged wood processing and some forest conversion. That is far too little, says Die Linke.</i> (2020\19158_070520: 144: 711–144: 1090)</p>

Code	Definition	Coding rule	Coding example
<b>Causal mechanisms</b>	Causal mechanisms are indicating the source of the problem/reasons for the current state (Stone 2011, Shanahan et al 2013)		
<b>Inadvertent cause</b> (also code as <i>unaware villain</i> , Gray and Jones 2016)	‘some act intended to produce good is producing unforeseen negative side effects such as welfare benefits creating recipient dependence on state programs’ (Shanahan et al 2013)	Code if the code description applies. Code both, as <i>unaware villain</i> and <i>inadvertent cause</i>	<i>Not coded in this case</i>
<b>Mechanical cause</b> (also coded as <i>uncaring villain</i> , Gray and Jones 2016)	‘denotes an arrangement where actions are unguided but consequences intended such as when a system naturally produces harmful results (e.g. bureaucrats mindlessly performing their jobs)’ (Shanahan et al 2013)	Code if the code description applies. Code both, as <i>uncaring villain</i> and <i>mechanical causal mechanism</i> .	<i>However, due to the climate crisis with drought years and stress factors, our forests are under massive threat. Many people regretted this earlier. But far too many people in this House have spent years sleeping and procrastinating on climate protection, and against their better judgment. And then you shout here now: Stop thief! (19137_191219. 18: 2711)</i>
<b>Intentional cause</b> (also used by Rodrigues et al 2020) (also coded as <i>intentional villain</i> , Gray and Jones 2016)	‘has an actor who is purposefully causing harm for narrow benefit and is frequently manifest in conspiratorial stories’ (Shanahan et al 2013)	Code if the code description applies. Has been decided to be coded both as <i>intentional villain</i> and <i>inadvertent cause</i>	<i>That’s why we are also concerned that self-appointed experts are calling for forest management to be abandoned. This is not only irresponsible—because wood from countries with much lower standards would have to be imported—but it breaks sustainability. (2020\19176_170920: 21: 4406–21: 4955)</i>
<b>Accidental cause (fate)</b> (Stone 2011)	‘is a situation where there was no intended outcome guided by directed behavior; fate has simply placed upon us an unfortunate circumstance’ (Shanahan et al 2013)	Code if the code description applies.	<i>Not coded in this case</i>

<b>Moral (policy solution)</b>		The <i>moral</i> of the narrative and a solution to the problem is proposed ( <i>policy solution</i> ) (Jones 2018). All following codes were taken from the material deductively.	
<b>Code</b>	<b>Definition</b>	<b>Coding rule</b>	<b>Coding example</b>
<b>Systemic changes on all levels</b>	To prevent forests from burning/dying, systemic changes are necessary on all levels (e.g. in agricultural industry, transport sector, or climate protection)	Code if systemic changes are referred to as policy solution (see definition).	<i>Fourth. We have far too many grasses in the forests because of nitrogen from agriculture and traffic. This creates the conditions for ground fires and wildfires in extreme situations. So, against forest fires, electric cars and a different agriculture help; you have to summarize it like this. (190613_81, S. 18: 1766)</i>
<b>Future orientation</b>	References to maintain forests in a way that they can still provide their ecosystem functions for future generations	Code if definition applies. Also code references to the long-term duration and implications of this task.	<i>A coherent picture of future forestry and a clear vision are needed. It is necessary to reconcile the different interests. We must preserve our forest for future generations. (2021\19224_220421: 183: 932–183: 1416)</i>
<b>Financial solution</b>		<i>Do not code. Only code subcodes.</i>	
Providing financial support	Passages stating that financial support is necessary, or helpful, when trying to combat the problem	Code if definition applies to content of the passage.	<i>That, too, must give us pause for thought. There, too, we must be prepared to help. More training is needed, and more money is also needed in this area. (2019\19115_26_09_19: 86: 1690–86: 1848)</i>
Targeted & fast money flow	Passages that call for better directed money distribution, so that the financial support quickly reaches the beneficiaries	Do not code if just referring to the need to provide more money, only if references are made to modes of distribution.	<i>Aid money must get quickly and practically to where it is urgently needed: the grassroots. (2019\19137_19_12_19: 20: 0–20: 351)</i>
Ecosystem service pricing	Passages stating that ecosystem service pricing is necessary to save forests, it is important to use the political steering effect	Code if definition applies to content of the passage.	<i>Finally, I would like to emphasize once again that financial compensation is necessary for the services provided in the forest. That is why we call on the federal government to present ecosystem services on a scientific basis. Based on this, it must develop models that put a monetary value on these services[...]. (2021\19224_220421: 217: 316–217: 811)</i>
Insurances for owners	Passages stating that extreme weather insurances for forest owners are seen as beneficial in supporting them maintain their forests, and hence their forest's resilience	Code if definition applies to content of the passage.	<i>Another keyword on 'drought' from the B90/The Greens motion: In February, at the request of the coalition government, the Bundestag resolved to expand the catalog of weather-related elementary risks in the Insurance Tax Act to include the risk of drought. This will make it possible to take out insurance against drought damage under the same tax legal conditions as apply to other weather elementary perils. (2020\19158_070520: 171: 4631–171: 5125)</i>

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Money alone will not solve the problem	Passages that state that financial assistance alone does not suffice to solve the problem	Code if definition applies to content of the passage.	<i>The best help for our forest remains effective climate protection. But the forest also needs acute help. You, Madam Minister, are now pouring out the cornucopia. But it remains to be seen whether this will help the forest. After all, the federal funds will not be forthcoming until the states also contribute to the financing. Forests in states with tight budgets are at risk of being left empty-handed.</i> (2019\19137_19_12_19: 18: 3191–18: 3729)
International ambitions	Passages that refer to overarching policies, exceeding national boundaries (e.g. EU policies, funding etc.)	Code if definition applies to content of the passage.	<i>I believe that we need to focus on the fact that there are also funds at the European level that we can acquire additionally for the forest. This means that we may be able to provide funds from the CAP, from the EU's Common Agricultural Policy, for a European crisis reserve and at the same time for the funding capability of agroforestry systems.</i> (2019\19137_19_12_19: 15: 3488–15: 4024)
<b>Forest management</b>		<i>Do not code. Only code subcodes.</i>	
Economical use of forest	Economical use of the forest is necessary for future forests: 'Protection through use'	Code if definition applies to content of the passage.	<i>I have already briefly discussed the utility function. 'Protection through use' is the motto here. Set-asides are the wrong way to go, since wood must be used as a CO2 reservoir so that the carbon is permanently removed from the atmosphere.</i> (2021\19224_220421: 216: 4887–216: 5470)
Biotechnological innovation	Biotechnical innovation, such as developing new tree species is relevant for forests' resilience	Code if definition applies to content of the passage.	<i>But then we must also create the possibilities of breeding and examine the use of genetic methods; because time is pressing, and biological breeding also takes a long time.</i> (2019\19115_26_09_19: 83: 810–83: 1008)
Use of insecticides	Passages proposing or defending the use of Insecticides to save the forest and make it more resilient against fires	Code if definition applies to content of the passage.	<i>If you want healthy forests, you have to open the medicine cabinet, because the bark beetle cannot be stroked to death. It must be actively combated with insecticides, incidentally strictly according to the rules of science.</i> (2019\19137_191219: 26: 3723–4218)
Increased use of wood for construction	All comments on using wood in the construction sector to acknowledge the forests' value	Code if definition applies to content of the passage.	<i>Let us please also focus on a timber construction strategy in order to bind the CO2 in buildings for as long as possible. This helps the forest, the climate and the forest owners with an ecological natural forest management.</i> (2019\19115_26_09_19: 82: 2136–82: 2667)
Disposal of old ammunition	Text passages emphasizing the necessity of removing old ammunition from former military zones to reduce chances of ignition	Code if definition applies to content of the passage.	<i>It does not matter whether the shells, cartridges or bombs come from Allied or German weapons. These remnants of war must be removed, and quickly, so that less forest is lost to forest fires in the future.</i> (2019\19129_26_11_19: 63: 3198–63: 3605)
Damaged wood removal	Text passages emphasizing the necessity of removing damaged wood of the forests	Code if definition applies to content of the passage.	<i>We have to do something in the forest, we have to get the 1 million solid cubic meters of damaged wood out of the forest, and we have to fight the bark beetle.</i> (2019\19115_26_09_19: 73: 3748–73: 3898)

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Necessary changes in the forest industry	Text passages calling for structural changes in the forest industry	Code if definition applies to content of the passage. Might overlap with 'Strengthen Forest conversion' code.	<i>In addition to damage repair, reforestation and forest fire prevention, it is to deal primarily with the issues of forest conversion towards climate-resilient forests and thus also form a basis for developing the Brandenburg state forest into a climate forest in accordance with our coalition agreement. (PIPr_LT\191211_7/4: 86: 5332–86: 5656)</i>
<b>Forest transition</b>		<i>Do not code. Only code subcodes.</i>	
Create near-natural forests	Passages referring to the need of near natural forest	Code if definition applies to content of the passage.	<i>Therefore, we must now learn from these mistakes and support forest owners in creating near-natural forests that are most likely to withstand the extreme conditions caused by the climate crisis. (2021\19224_220421: 218: 1143–218: 1385)</i>
Strengthen 'Forest conversion'	Passages directly using the wording 'Forest conversion (Waldumbau)', and referring to their aim to support this	Code if definition applies to content of the passage.	<i>Without a stably functioning forest ecosystem, climate change cannot be mitigated and climate targets cannot be achieved. A Brandenburg forest will only exist in the future with extensive forest conversion. (PIPr_LT\210826_7/50: 76: 3459–76: 3808) Instead, in the long term, we ensure that we reduce the risk of forest fires by converting forests to species-rich mixed forests. (PIPr_LT\210127_7/33: 29: 1031–29: 1388)</i>
Increased climate resiliency of forests	Passages calling for increased climate resiliency to solve the problem of damaged stressed forests (that are vulnerable to forest fires)	Code if definition applies to content of the passage.	<i>The task now is to build up climate-resilient forests and to promote near-natural forestry; because—as can be seen everywhere; as can be seen by anyone who walks through the forests with their eyes open—the near-natural forests are more likely to survive droughts. We need climate-resilient agriculture with better crop rotations, with new crops, and with new systems. (2020\19158_070520: 139: 3231–139: 3652)</i>
Diverse species composition	Passages calling for diverse tree species composition in forests	Code if the focus lies on tree species.	<i>We agree that we need species-rich, diverse forests, preferably naturally regenerated, site-adapted, and free of clearcutting. (2020\19158_070520: 171: 1753–171: 1894)</i>
Balanced wildlife population	Passages referring the need of a balanced wildlife population for forest growth	Code if the focus lies on animals.	<i>This requires a balance between forest and game. (2019\19115_26_09_19: 86: 4566–86: 4618)</i>
Rejuvenation	Passages stating that natural rejuvenation is necessary for a forest transition	Code if natural regeneration is highlighted (often in contrast to other afforestation strategies).	<i>We agree that we need species-rich, diverse forests, preferably naturally regenerated, site-adapted, and free of clearcutting. (2020\19158_070520: 171: 1753–171: 1894)</i>
Afforestation	Text parts or sentences that emphasize the need of afforestation	Code if definition applies, or when specifics about how to plant trees are discussed.	<i>The drought years have ensured that we will have to completely reforest 245 000 hectares in the next few years. In total, 11 million hectares in Germany will have to be adapted to climate change. (2020\19178_290920: 90: 3485–90: 3696)</i>
Rethinking: appreciate forest ecosystem services	Passages that call for higher recognition of forest's ecosystem functions	Only code if the call for appreciation and rethinking is directly addressed.	<i>To honor our forest's ecosystem services for the future, we need to have new debates. (2020\19176_170920: 110: 4355–110: 4993)</i>

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Increased protection of the forest	Text passages that propose the establishment of protection zones, such as NP or UNESCO sites as policy solution	Code if the creation of protected areas is praised as measure to enhance forest's resiliency.	<i>If you want to protect forests in Bavaria, then it is quite clear what needs to be done now: There is an area in Bavaria that could be a UNESCO World Natural Heritage Site: The Steigerwald as a primeval beech forest. There you could make a third national park. (2019\19115_26_09_19: 72: 0–72: 2606) Yes, but not all forests are the same. [...] And I am not against the fact that we also use the forest partially, but we also need forests and moors that are untouched and provide real climate protection. Then we will have progress. (2020\19176_170920: 31: 4147–31: 4740)</i>
Monitoring and strategy	Passages aiming to establish or improve monitoring systems for forest, forest fire prevention or similar areas	Code if speakers call for improved monitoring.	<i>We also call for the national forest monitoring to be expanded in order to be able to act more quickly in the future in the event of major damage, especially in the coordination processes between the federal and state governments. In addition, there is the demand to launch a forest fire prevention strategy and [...] to work together with the federal states to ensure that we keep more qualified forestry personnel at the state institutions. (2019\19137_191219: 15: 1625–2715)</i>
<b>Strengthen human resources</b>		<i>Do not code. Only code subcodes.</i>	
More qualified personnel	Passages calling for more and qualified staff, trainings etc.	Code if definition applies to content of the passage.	<i>More staff for the forests. You have thinned out the staffing of the foresters' offices. But we need the staff in the foresters' offices (2021\19224_220421: 181: 3251).</i>
Higher salaries	Passages emphasizing the need of paying personnel in the forests and civil protection sector higher salaries	Code if definition applies to content of the passage.	<i>The forest needs more and well-trained foresters, and they need to be paid decently. (2019\19137_19_12_19: 17: 4806–17: 4904)</i>
Strengthen voluntary engagement	Passages that aim to motivate the public to volunteer, or that recognize the relevance of volunteering	Code when referred to ideas how to improve individual motivation or when recognizing voluntary helpers.	<i>The second thing that is added is the great volunteerism of thousands and millions of helpers. (2020\19153_0320: 75: 0–75: 2405)</i>
<b>Strengthening research</b>	Passages emphasizing the relevance of research to create resilient forests	Code if research is referred to as necessary contribution.	<i>We are driving research forward and bringing high-quality seed to the forefront. Incidentally, we were the world leader in seed research. (2021\19224_220421: 181: 2942)</i>
<b>Improve emergency management</b>		<i>Do not code. Only code subcodes.</i>	
Strengthen Bund-Länder-co-operation	Passages stating that cooperation between federal and state level should be improved to solve the problem	Code if the cooperation between federal and state level is addressed as policy solution.	<i>More than 100 million solid cubic meters of damaged wood are in our forests. 180 000 hectares are damaged in Germany alone. Close cooperation is needed. This can only be done if the federal government and the federal states stand together. (2019\19137_191219: 20: 0–20: 351)</i>

(Continued.)

(Continued.)

Strengthen exchange between emergency management	Different emergency management agencies (e.g. firefighters, forest staff, police and voluntary workers) need to cooperate to tackle the problem	Code if the strengthening of emergency management is addressed as policy solution.	<i>We want to get to work soon with a first model project. To do this, we need more fire protection units. We need fixed units that support the fire departments on site, as in the U.S. in the event of major incidents. This is not about working against each other, but about blue, white and red emergency forces working together. (2019\19108_28_09_19: 112: 3506–112: 3872)</i>
Strengthen emergency agencies	Strengthening of emergency agencies for example through regulations, money, and training	Code all passages referring to supporting and strengthening institutions.	<i>We are not doing the abolition of the obligation to bear costs in order to do something good for THW. We are doing it so that the security authorities in the country as a whole are supported. Security federalism needs to be reformed a bit. (2020\19153_0320: 73: 2351–73: 2745)</i>
Strengthen emergency infrastructure	All passages referring to an improved emergency infrastructure as policy solution (e.g. fire breaks, access...)	Code if definition applies to content of the passage.	<i>For example, the Department of Agriculture is actively looking for white spots in the distribution of firefighting water intakes. (PlPr_LT\190613_6/81: 12: 2507–12: 3139)</i>

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**Narrative strategies** → used to manipulate/control policy processes (Shanahan et al 2018)

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**Causal mechanisms** See plot  
(Shanahan et al 2018: 336f)

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**Scope of conflict** (Shanahan et al 2018: 336–37)

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<b>Expansion</b> (Mc Beth 2007: 90, Shanahan et al 2013)	Narrative that seeks to mobilize more people to the issue (against existing policy) by saying that only few people benefit from status quo while many are paying the costs	Code if the definition applies. Also code if it is not referred to many people paying but the expansion of the issue becomes apparent.	<i>I can assure you that, apart from one vehicle—I think that was in 2010—the Uckerland Fire Department has not received any vehicle from the state of Brandenburg. The technology is far outdated. We even drive into the moor and into the forest to Lieberose with a W50, just because it has the appropriate water tank. Brandenburg is wide and big. I would be happy to invite you to my fire department, then you can get an idea of it. I can assure you: I can show you all the scrap.</i> (PIPr_LT\200618_7/18: 47: 5119–47: 5943)
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<b>Containment</b> (Shanahan et al 2013)	Narratives highlighting the benefits for many while concentrating costs, to maintain the status quo (usually used by winning coalition)	Code if definition applies to content of the passage.	<i>[...] yes, people were worried—now recently in Jüterbog—but they were not in danger at any minute. They were not in danger because our emergency forces did an outstanding job. They were not because we received outstanding support. I would like to take this opportunity to thank everyone who helped us get this fire under control very quickly—also on behalf of the state government. I think I also speak on behalf of all Brandenburgers. [...] even in opposition, you have to try not to distort reality. There was no disaster in this country; neither last year nor this year. There were major disasters.</i> (190613_81, S. 20: 345)
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<b>Devil shift</b> (Shanahan et al 2013: 460, Shanahan et al 2018)	Passages in which the power of the adversary is exaggerated while the power of the speaker's group or is underestimated	Code if definition applies to content of the passage.	<i>The open questions must be clarified in a broad social dialog. This is probably why the coalition motion remains rather vague. Financial support must have a clear steering effect toward near-natural, mixed-age, diverse and climate-tolerant forests. We expressly support this goal. However, we remain skeptical about a more or less flat-rate area premium. It is a pity that the coalition is preventing a debate in committee by taking an immediate vote. So we can only abstain.</i> (2021\19224_220421: 218: 0–218: 560)
<b>Angel shift</b> (Shanahan et al 2018: 337)	A group's or coalition's ability and/or commitment to problem solving is highlighted whereas the villain's power is diffused	Code if definition applies to content of the passage. Might overlap with story of success. Also code if villain is not particularly referred to.	<i>We are introducing a sustainability premium in Germany for the first time. 1.5 billion euros for this forest. I cannot believe that the B90/The Greens, who talk a lot about the forest, could have even managed something like that.</i> (2020\19178_290920: 74: 5137–74: 5812)
<b>Scientific evidence</b> (McBeth et al 2007: 91f, Shanahan et al 2018: 344)	Scientific evidence is given for success or failure of policy solutions	<i>Do not code! Only code subcodes</i>	
Support argument (Shanahan et al 2018: 344)	Scientific evidence is given to support one's argument for a policy proposal	Code if definition applies. Also code if evidence is not demonstrably scientific but presented as having a similar value.	<i>On October 16th, the Parliamentary State Secretary, Mr. Pronold, said here—with the permission of the President, I quote: It is true that a managed forest can have a higher CO2 storage effect than an unmanaged forest.</i> (2019\19137_191219: 23: 1273–23: 1706)
Refute opposition's argument (Shanahan et al 2018: 344)	Scientific evidence is used to refute the policy proposal of political opponents	Code if definition applies. Also code if evidence is not demonstrably scientific but presented as having a similar value.	<i>The romantic idea of a forest wilderness that protects the climate unfortunately lacks any scientific basis.</i> (2019\19110_10_09_19: 88: 132–88: 250)
Matter-of fact (Shanahan et al 2018: 344)	Scientific evidence is presented to underline a matter as fact, without reference to a specific proposal	Code if definition applies. Also code if evidence is not demonstrably scientific but presented as such.	<i>We already have a temperature in the German forest that is demonstrably 1.5 degrees higher. If you put that in relation to the Paris climate targets, then you know that it will be difficult to get there at all.</i> (2020\19176_170920: 88: 1858–88: 2090)

**Belief system<sup>a</sup>** Set of values or beliefs influencing the narrative of the speaker and the perception of other speaker's narratives (Jones 2018: 728)

**Perception & framing of**

**Forest fire**

As unruly child			
As complex new normal			
As monster/beast			
As example for climate change			
- As CO <sub>2</sub> -emitter			
As forest damage			
As caused by humans			
As result of drought and heat			
As metaphor for urgency			

**Forest**

As national symbol			
As symbol for sustainability			
As regeneration/calm			
As climate factor			
→ Climate savior (Biller 2011)/CO <sub>2</sub> storage			
→ Climate patient (Biller 2011)			
As employer and economical factor			
As livelihood			
Symbol for comfort/Christmas			
As biodiversity-hotspot			
As teacher			
As service provider			
- Air filter			
- Regulating temperature			
- Water storage			

<sup>a</sup> The following codes as well as the structural variables have no code definitions, follow all the same coding rules and need no anchor examples, as they are deemed self-explanatory and rather aimed to be used for further reference and details on the setting and the structural variables. They were all taken from the material inductively.

**Structural variables****Mention** (Code only around the sentence in which the word 'forest fire' appears)

Occasion/recent event

Only code at occurrence of the word 'Waldbrand' (forest fire)

Sidenote		‘	
Main subject		‘	
Justification		‘	
Enumeration		‘	
Other topic		‘	

**Party affiliation and position in parliament**

Government

One code for the whole speech

Opposition		‘	
SPD		‘	
CDU/CSU		‘	
FDP		‘	
AfD		‘	
B90/ Die Grünen (B90/The Greens)		‘	
Die Linke (The Left)		‘	
BVB/Freie Wähler		‘(only in state debates)	
Without affiliation (non-attached)		‘	

**Context**

Agriculture and environmental policy

One code for the whole speech according to the subject of the debate

Agriculture and environmental policy		‘	
Climate policy		‘	
Foreign policy		‘	
Budget policy		‘	
Civil protection policy		‘	
Forest policy		‘	
Research/education policy		‘	

## II: Speech list

The following two lists present all documents and speeches that were coded, first in the German federal parliament (Bundestag) and then in the Brandenburg state parliament (Landtag). For further information the overarching topic of the debate, party affiliation and page numbers, and the cited pages are listed. The speeches are sorted by year and date and name the speakers whose talks were coded. Furthermore, the list shows the total amount of overall codes given in each document and to how many they amount in the year. If a specific motion was discussed, the list indicates if it was adopted or rejected.

Speeches in German federal parliament						
Date	Drs.No.	Codes	Speaker	Party	Page No.	Cited pages
2021		153				
22 April 21	19224	145	<b>TOP 27 &amp; ZP 10 – 13: A vital, climate-stable forest benefits everyone—adequately reward ecosystem services. Drs. 19/28789 (Motion by Government coalition)</b>			
			Alois Gerig	CDU/CSU	28562B-D	180
			Peter Felser	AfD	28562D-28563C	180–181
			Isabel Mackensen	SPD	2863D-28565B	181–182
			Artur Auernhammer	CDU/CSU	28598B-28599A	216–217
			Karlheinz Busen	FDP	28599A-B	217
			Dr Kirsten Tackmann	Die Linke	28599C-28600A	217–218
			Oliver Krischer	B90/The Greens	28600A-C	218
2020		329				
06 March 20	19150	21	<b>Consultation on the draft bill submitted by the federal government for a second law amending the THW act</b>			
			Stephan Mayer, Parliamentary State Secretary BMI	CDU/CSU	18786D-18787C	78
			André Hahn	Die Linke	18790B-D	82
			Irene Mihalic	B90/The Greens	18791	83
13 March 20	19153	38	<b>Expanding precautionary structures—strengthening voluntary work in civil protection and disaster relief, Drs.19/8541 (FDP motion)</b>			
			Marian Wendt	CDU/CSU	19094D-1905C	72f
			Sebastian Hartmann	SPD	19096D-19098A	74–76
			Sandra Bubendorfer-Licht	FDP	19098B-D	76
			<i>Motion denied.</i>			
07 May 20	19158	61	<b>ZP 16&amp;17: Combat drought, make state and cities resilient, invest in climate protection, Drs. 19/18961 (Motion: B90/The Greens)</b>			
			Oliver Krischer	B90/The Greens	19658D-19659B	139–139
			Dr Anja Weisgerber	CDU/CSU	19659D-19661A	140–141
			Ralph Lenkert	Die Linke	19664A-C	144
			Karsten Möring	CDU/CSU	19690C-19692C	170–172
			<i>Motion referred to: Committee on the Environment, Nature Conservation and Nuclear Safety</i>			

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17 September 20	19176	105	Miscellaneous motions, TOP 8&9			
			Gitta Connemann	CDU/CSU	22049B-22050A	21–22
			Sylvia Kötting-Uhl	B90/The Greens	22053	25
			Julia Klöckner, Federal Minister BMEL	CDU/CSU	22058	30
			Marco Bulow	Non-attached	22059	31
			Dr Matthias Heider	CDU/CSU	22064B-22065A	36–37
			Katharina Dröge	B90/The Greens	22074B-22075A	46–47
			Petra Sitte	Die Linke	22099B	71
			Christoph Hoffmann	FDP	22115D-22116C	87–88
			Rudolf Henke	CDU/CSU	22130D	102
			Alois Gerig	CDU/CSU	22138D	110
<i>Motion of the governing coalition ‘Sustainable protection of climate and environment,’ Drs. 19/22506 adopted.</i>						
29 September 20	19178	80	Budget: Portfolio of the Federal Ministry for the environment, nature conservation and nuclear safety, section 16			
			Karsten Hilde	AfD	22476B-22477B	55–56
			Heide Bluhm Förster	Die Linke	22479D-22480	58
			Steffi Lemke	B90/The Greens	22481A-D	59
			Lorenz Gösta-Beutin	Die Linke	22487A-D	65
			Lisa Badum	B90/The Greens	22488A-D	66
<b>Portfolio of the BMEL, section 10</b>						
			Julia Klöckner, Federal Minister BMEL	CDU/CSU	22495B-22497C	74–75
			Ulla Ihnen	FDP	22499B-22500B	78
			Heide Bluhm Förster	Die Linke	22500B-22502	79
			Christian Haase	CDU/CSU	22511 C-22512D	90
04 November 20	19188	14				
			Dr Anja Weisgerber	CDU/CSU	23702D	52
			Lisa Badum	B90/The Greens	23706A-B	56
10 December 20	19199	10	Budget			
			Martin Gerster	SPD	225033B-225034D	10
2019		801				
18 January 19	19075	16	TOP 27: A research framework program to combat the climate crisis, Drs. 19/5816 (B90/The Greens’ motion)			
			René Röspel	SPD	8845B-8846C	91
			Dr Wolfgang Stefinger	CDU/CSU	8848C-8849C	94
<i>Referral to the committees listed in the agenda</i>						
28 June 19	19108	19	Shaping the future of fire departments in a modern and attractive way, Drs. 19/11108 (FDP motion)			
			Marian Wendt	CDU/CSU	13496B-D	112

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10 September 19	19110	144	Budget: Portfolio of the BMEL, section 10	
Katharina Dröge	B90/The Greens	13566B-13567C	45	
Svenja Schulze, Federal Minister of the Ministry for the Environment (BMU)	SPD	13573C-13574C	51	
Heidrun Bluhm-Förster	Die Linke	13579	57	
Julia Klöckner, Federal Minister BMEL	CDU/CSU	13592C-13595A	70–72	
Wilhelm von Gottberg	AfD	13595B-13596B	73	
Ulla Ihnen	FDP	13597A-D	75	
Heidrun Bluhm-Förster	Die Linke	13597D-13598D	76	
Dr Birgit Malsack-Winkemann	AfD	13601	79	
Dirk Wiese	SPD	13602A-13603A	80	
Dr Gero Clemens Hocker	FDP	13603B-13604C	83	
Harald Ebner	B90/The Greens	13605C-13606B	83–84	
Artur Auernhammer	CDU/CSU	13608A-13609A	86–87	
Christian Haase	CDU/CSU	13609D-13610D	87–88	
<hr/>				
11 September 19	19111	74	Budget	
German Chancellor Dr Angela Merkel	CDU/CSU	13618B-13624C (cod.: 13621D)	6–12 (coded: 9)	
Christian Lindner	FDP	13624D-13628D	12–14	
Dr Dietmar Bartsch	Die Linke	13623C & 13634D	20&22	
Karin Göring-Eckardt	B90/The Greens	13636A-13639C	24–26	
Michael Georg Link	FDP	13702	90	
Volkmar Klein	CDU/CSU	13705	93	
Dr Christoph Hoffmann	FDP	13708	96	
Carsten Körber	CDU/CSU	13715	103	
<hr/>				
26 September 19	19115	192	Supporting forest owners—converting forests sustainably, Drs. 19/13528 (AfD motion); emergency aid measures for the German forestry sector, Drs. 19/10287 (Die Linke motion), more forests worldwide for climate protection, 19/11301 (FDP motion)	
Lisa Badum	B90/The Greens	14009C-14010B	71–72	
Dr Anja Weisgerber	CDU/CSU	14010C	72	
Peter Felser	AfD	14011D-14012B	73–74	
Dr Christoph Hoffmann	FDP	14013D-14014C	75	
Lorenz Gösta Beutin	Die Linke	14014D-14015D	76–77	
Hans-Georg von der Marwitz	CDU/CSU	14016A-14017A	78–79	
Michael Schrodi	SPD	14018A-D	80	
Harald Ebner	B90/The Greens	14019C-14020C	81–82	
Karsten Möring	CDU/CSU	14020C-14021C	82–83	
Alois Gerig	CDU/CSU	14024A-14025A	86–87	
<hr/>				
<i>Resolution adopted.</i>				

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26 November 19	19129	80	TOP I.5: BMEL portfolio, section 10, Drs. 19/13924			
			Christian Haase	CDU/CSU	16179B-16180C	29–30
			Ulla Ihnen	FDP	16180D-16181C	30–31
			Heidrun Bluhm-Förster	Die Linke	16182B-16184B	32–34
			Julia Klöckner, Federal Minister BMEL	CDU/CSU	16187A-16189D	37–39
			Artur Auernhammer	CDU/CSU	16196C-16197D	46–47
			Ulla Ihnen	FDP	16202B-16203A	52–53
			Sven-Christian Kindler	B90/The Greens	16205D-16207A	55–57
			Ralph Lenkert	Die Linke	16212D-16213D	62–63
			Rüdiger Kruse	CDU/CSU	16223C-16224D	73–74
19 December 19	19137	276	TOP 8a&b: Our forest needs help (coalition motion), and follow-up motions			
			Julia Klöckner, Federal Minister BMEL	CDU/CSU	17044C-17045D	12f
			Peter Felser	AfD	17046A-D	14
			Dirk Wiese	SPD	17046D-17048B	14–16
			Frank Sitta	FDP	17048C-17049A	16–17
			Dr Kirsten Tackmann	Die Linke	17049B-17050B	17–18
			Harald Ebner	B90/The Greens	17050B-17051B	18–19
			Alois Gerig	CDU/CSU	17051B-17052C	19–20
			Wilhelm von Gottberg	AfD	17052D-17053B	20–21
			Rainer Spiering	SPD	17053B-17054C	21–22
			Karlheinz Busen	FDP	17054C-17055D	22–23
			Artur Auernhammer	CDU/CSU	17 056A-D	24
			Steffi Lemke	B90/The Greens	17056D-17057D	24–25
			Gitta Connemann	CDU/CSU	17058A-D	26
<i>Coalition motion adopted; AfD; FDP; Die Linke and B90/The Greens' motion rejected following recommendation for resolution.</i>						

Speeches in Brandenburg state parliament						
Date	Drs.No.	Codes	Speaker	Party	Page No.	Cited page
2021		122				
26 August 21	7/50	75	<b>TOP 10: For the Brandenburg forest: setting up a future-oriented state forestry (Motion: Die Linke)</b>			
			Thomas Domres	Die Linke	72D-74A	72–74
			Wolfgang Roick	SPD	74A-C	74
			Kathleen Muxel	AfD	74D-75B	74–75
			Danny Eichelbaum	CDU	75C-76A	75–76
			Christine Wernicke	BVB/FW	76A-C	76
			Isabell Hiekel	B90/The Greens	76C-77B	76–77
			Axel Vogel, Minister of Agriculture, Environment and Climate Protection (MLUK)	B90/The Greens	77C-78B	77–78
<i>Motion rejected</i>						
29 April 21	7/22	32	<b>TOP 10: Protect Brandenburg's wildlife populations: thinking forest conversion sustainably and preserving ecosystems in their diversity (Motion: AfD)</b>			
			Christine Wernicke	BVB/FW	6–7	6–7
			Isabell Hiekel	B90/The Greens	7–8	7–8
			Axel Vogel, Minister (MLUK)	B90/The Greens	8–10	8–10
<i>Motion rejected</i>						
27 January 21	7/33	15	<b>Question—are old and new forestry employees also made aware of finding fire-prone areas in their work area?</b>			
			Kathleen Muxel	AfD	28C	28
			Axel Vogel, Minister (MLUK)	B90/The Greens	28D-29B	28
2020		172				
26 February 20	7/9	63	<b>TOP 3: Relieve the burden on our volunteers—standardize the recording of active volunteer service time! (Motion: Government coalition)</b>			
			Minister Axel Vogel	B90/The Greens	28A-B	28
			Uwe Adler	SPD	28D-29C	28
			Wilko Möller	AfD	29D-30C	29
			Heiner Klemp	B90/The Greens	32B-33A	32–33
			Christine Wernicke	BVB/FW	33B-D	33
			Michael Stübgen, Minister of the Interior and Local Government (MIK)	CDU	34A-C	34
<i>Motion adopted unanimously</i>						

(Continued.)

(Continued.)

18 June 20	7/18	109	<b>TOP 5: Adapt fire protection and disaster prevention in the state of Brandenburg to the present challenges! (Motion: Government coalition)</b>			
			Björn Lakenmacher	CDU	41A-42C	41f
			Lars Schieske	AfD	42D-43B	42–43
			Uwe Adler	SPD	43C-44B	43–44
			Andreas Büttner	Die Linke	44C-45B	44–45
			Heiner Klemp	B90/The Greens	45C-46A	45–46
			Christine Wernicke	BVB/FW	46C-47B&D	46–47
			Andreas Noack	SPD	47C	47
			Uwe Schüler, State Secretary at MIK	CDU	48A-49B	48–49
<i>Coalition motion adopted</i>						
2019		399				
14 March 19	6/74	29	<b>Question 1618 - Timber industry in Brandenburg -</b>			
			Benjamin Raschke	B90/The Greens	8167B	101
			Jörg Vogelsänger, Minister for Rural Development, Environment and Consumer Protection	SPD	8167C	101
10 April 19	6/75	18	<b>Question 1627— Does Brandenburg need an aid program for its forest?</b>			
			Sven Schröter	AfD	8191A	21
			Jörg Vogelsänger, Minister for Rural Development, Environment and Consumer Protection	SPD	8191B-C	21
13 June 19	6/81	238	<b>TOP 1: Current hour. Topic: Forest fire danger level 5: how well prepared is Brandenburg? (Motion: CDU; printed matter 6/11502)</b>			
			Ingo Senftleben	CDU	6792B-6795A	8–11
			Minister President Dr Dietmar Woidke	SPD	6795B	11
			Inka Gossmann-Reetz	SPD	6795C—6797B	11–13
			Birgit Bessin	AfD	6797A-6798A	13–14
			Inka Gossmann-Reetz	SPD	6798A	14
			Björn Lakenmacher	CDU	6798B-C	14
			Thomas Jung	AfD	6798C-6799A	14–15
			Dr Hans-Jürgen Scharfenberg	Die Linke	6799A-6800C	15
			Benjamin Raschke	B90/The Greens	6801A-6802C	17–18
			Péter Vida	Non-attached	6802A-6802B	18
			Steffen Königer	Non-attached	6802B-D	18
			Karl-Heinz Schröter, Minister of the Interior and Local Government (MIK)	SPD	6804A-6807	19

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Birgit Bessin	AfD	6808B-D	24
Karl-Heinz Schröter, Minister of the MIK	SPD	6808D-6809	24
Wolfgang Pohl	SPD	6809B-D	25
Anke Schwarzenberg	Die Linke	6810A-B	26
Benjamin Raschke	B90/The Greens	6810C-D	26
Thomas Jung	AfD	6810D	26
Ingo Senftleben	CDU	6811B-D	27
Minister President Dr Dietmar Woidke	SPD	6811D	28

**11 December 19 7/4 114 TOP 9: For the forest of the future: convene Brandenburg forest summit (Motion: Die Linke)**

Thomas Domres	Die Linke	82A-83B	82
Wolfgang Roick	SPD	83A-D	83
Kathleen Muxel	AfD	84A-C	84
Ingo Senftleben	CDU	84D-85C	84–85
Christine Wernicke	BVB/FW	85D-86A	85–86
Isabell Hiekel	B90/The Greens	86B-D	86
Axel Vogel, Minister for Agriculture, Environment and Climate Protection	B90/The Greens	87A-D	87

*Motion defeated; coalition resolution adopted.*

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