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Abstract

In the transition toward more sustainable energy use, heat pumps play a crucial role. However, large-scale installation of heat pumps has not yet occurred in many countries, often due to locked-in energy technologies and low levels of public acceptance. Given that the diffusion of heat pumps will strongly depend on end-user acceptance, it is important to understand how heat pump technologies are perceived by the public. In this paper, we study the sentiment of news articles about heat pumps to reveal changes in public attitudes toward these technologies over time. We develop a unique dataset encompassing more than 30,000 German news articles about heat pumps, published between 2018 and 2023, building on CommonCrawl data. We identify news articles about heat pumps using a large language model, and then analyze the sentiment of each article using a pretrained sentiment analysis algorithm. This data is used to identify coherent topics within the corpus of heat pump-related articles, with some topics receiving very positive sentiment scores and others negative. From a longitudinal perspective, our findings reveal a sharp decrease in the mean sentiment of heat pump articles in early 2023, related to the debate about a new heating law during that time in Germany. Our results also show that the sentiment score gradually recovers from this shock.

Keywords

Energy transition, Heat Pumps, News Data, Natural Language Processing

JEL Codes

Q42, Q58, O33

Tracking the public perception of heat pumps: A sentiment analysis of German news articles

It is evident that heat pumps will play a key role in reducing greenhouse gas emissions in the building and energy sectors.[1–6] A heat pump is a thermodynamic technological device that transfers heat from a lower temperature source to a higher temperature sink, utilizing electrical energy. It can extract heat from ambient air, the ground, or water bodies and deliver it for space heating, water heating, or cooling purposes by reversing the heat flow. Heat pumps are characterized by their high energy efficiency, as they can deliver several units of heat for each unit of electricity consumed. In the context of the energy transition, heat pumps play a pivotal role in reducing dependence on fossil fuels for thermal energy. By utilizing renewable electricity, they offer a pathway for decarbonizing the building sector and contributing to the broader goal of sustainable energy systems.

While technological progress has led to increased efficiency of heat pumps and, in many countries, they offer price advantages over alternative (fossil) heating solutions,[5,7,8] their adoption rates remain relatively low on an international scale. In some countries, adoption rates are well above 40 heat pumps per 100 households, including Norway, Sweden, and Finland, while other industrialized countries have much lower adoption rates.[9] This is striking, given the importance of heat pumps in decarbonizing the energy system. To limit global warming as much as possible, for instance, to stay in line with the Paris climate goals, the energy transition must accelerate, and heat pumps are a key building block for this. A particularly relevant case in this regard is the energy transition in Germany. While the German energy transition is often referred to as a success story,[10,11] the diffusion of heat pump technologies has remained well below expectations.

Previous research has highlighted a number of reasons hindering the adoption of heat pumps (in Germany).[12] These include high upfront costs, as the initial investment for heat pump systems is substantial, making them less accessible for many homeowners. Additionally, older buildings often require modifications to accommodate heat pump systems, such as upgrading radiators or improving insulation. Many consumers lack knowledge about the benefits and availability of heat pump technologies, which leads to misconceptions and hesitancy in adopting new heating solutions.[12–17] There has also been considerable regulatory uncertainty, with frequent changes in government policies and support schemes creating an unpredictable environment for potential adopters.[18,19] Furthermore, a shortage of qualified installers and technicians hampers the widespread deployment of heat pumps.

In light of these issues, heat pump technologies struggle to gain legitimacy in many parts of the German public, and their adoption rates remain relatively low compared to other countries. The lack of legitimacy for heat pumps in Germany has been heavily influenced by public debate surrounding the so-called heating law (Gebäudeenergiegesetz, GEG), which attracted widespread attention in early 2023. The law was designed to support heat pump installations while simultaneously phasing out heating systems based on fossil resources. However, it faced significant resistance from the public and eventually might have led to an increase in the installation of fossil-fuel-based heating systems.[19,20]

Against the background of these developments, it is important to better understand the discourse surrounding heat pumps in Germany. In particular, it is crucial to shed light on the public acceptance and legitimacy of heat pump technologies at a general level, as higher acceptance levels are typically associated with higher adoption rates, and vice versa.[21] The aim of this study is, therefore, to provide a comprehensive overview of the discourse surrounding heat pump technologies in Germany, helping to uncover their legitimacy in the public.

In order to achieve this aim, we use natural language processing techniques to establish and analyze a dataset of 33,131 German news articles on heat pumps, published between 2018 and 2023. News articles, and media more broadly, reflect societal discourse while also fulfilling

an agenda-setting function and influencing public opinion. [22–24] As such, news articles provide valid indicators of public discourse, and in this study, we use them as a proxy to examine the public perception of heat pump technologies.

Results

We present the results of our analysis of German news articles on heat pumps in four steps. First, we briefly describe how the discourse evolved in terms of the news volume about heat pumps. Second, we dive deeper into the discourse, analyzing the sentiment of news articles on heat pumps and how it changed over time, shedding light on the public perception of heat pumps. Third, we explore the heat pump discourse thematically, using a topic modeling approach to reveal the content of the news articles. Fourth, we combine both analyses, mapping the sentiment by topic and explaining the descriptive patterns using regression analysis.

Heat pump news coverage

Figure 1 shows the temporal trends in the number and share of heat pump-related news articles between 2018 and 2023, based on a 10-week moving average. Panel A illustrates the total number of heat pump-related articles, which remained relatively stable and low until a sharp increase around mid-2023, suggesting a growing media interest in heat pumps during that time. The total number of articles per week remained relatively low and stable from 2018 to mid-2022, typically ranging between 5 and 100. From mid-2022 onward, article counts increased sharply, peaking in spring 2023 with over 1,500 articles per week before gradually declining to a higher baseline of 200–500 articles per week. Panel B presents the share of heat pump-related articles as a proportion of all news articles, revealing a similar upward trend. The share remained low at the beginning of the period but experienced a marked rise starting in 2023, indicating that, alongside the growth in the number of articles, the relative prominence of heat pump topics within the broader news landscape also increased. The analysis highlights the significant increase in both the volume and visibility of heat pump-related content in the German news media, particularly in 2023. This rise can primarily be attributed to the large number of articles covering the heating law, a topic we explore in more detail in the remainder of the paper.

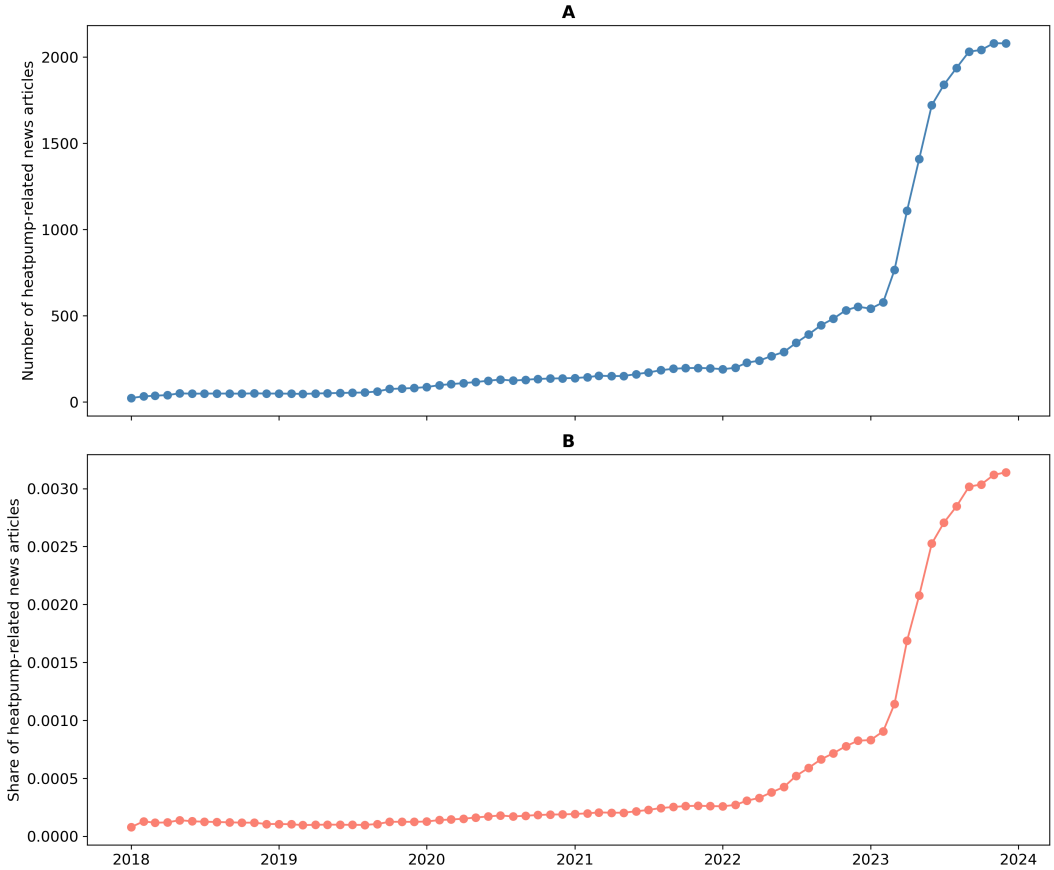

Figure 1: Number and share of heat pump-related news articles, 2018-2023

Sentiment analysis

In order to track the public perception of heat pump technologies in the news media discourse, we map the sentiment of the articles, essentially providing a metric for the emotional tone of each news article.

Figure 2 illustrates the sentiment distribution for both all news articles and heat pump-related (HP) articles using a kernel density estimation. The sentiment score for all articles is based on a random sample of 5000 articles per week due to computational constraints in processing the full news dataset, which consists of approximately 50 million articles. The sentiment is measured on a scale from -1 (negative) to +1 (positive), with density on the y-axis. For all articles (blue), the sentiment distribution is relatively balanced between positive and negative sentiments, with a pronounced peak at neutral sentiment (0). While the distribution shows a moderate number of articles with both negative and positive sentiments, the density is fairly even across these sentiment ranges, indicating a balanced mix of positive and negative tones within the general news coverage. In contrast, the distribution for heat pump-related articles (green) also peaks around neutral sentiment but shows a stronger tendency towards positive sentiment values, with a higher concentration of positive sentiment articles compared to the broader set of articles. This indicates that heat pump-related content tends to have a more positive tone overall. However, it is also evident that articles on heat pumps do not receive exceptionally high sentiment scores close to the maximum of 1. While the distribution leans toward positive sentiments, there is also a peak close to the minimum (-1), indicating that several articles contain a very negative emotional tone. In Table 9 in the Appendix, we provide exemplary news articles with very negative, neutral, and very positive sentiments.

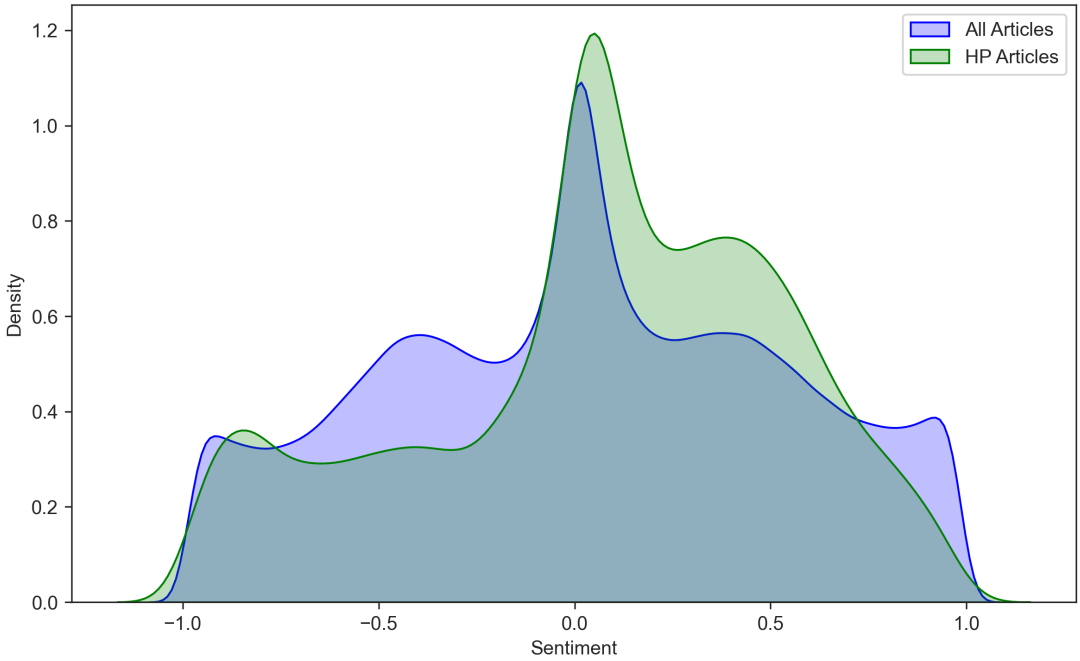

Figure 2: Kernel density estimation for sentiment scores, comparing heat pump-related articles and all news articles

Figure 3 presents the 10-week moving average of sentiment scores over time, comparing the sentiment of all articles with that of heat pump-related articles, using the same sample as for Figure 2. The moving average was used to smooth out outliers. The sentiment for all articles (blue) remains relatively stable around neutral sentiment (0) throughout the entire period, with no significant upward or downward trends. This stability suggests that the overall sentiment in the media has been consistent over time, with little fluctuation in either a positive or negative direction (e.g., during the COVID outbreak in early 2020). In contrast, the sentiment for heat pump-related articles (green) shows more variability. While the sentiment for HP articles stays mostly positive, there are noticeable peaks and troughs, particularly in 2022 and 2023. To further investigate the relationship between the sentiment of HP articles and general media sentiment, we calculated the net sentiment (red), which represents the difference between the mean sentiment of heat pump-related articles and the mean sentiment of all articles. The net sentiment remains relatively stable over time, suggesting that the fluctuations in the sentiment of HP articles are not strongly influenced by broader trends in the overall media sentiment. This stability in net sentiment indicates that the tone of heat pump-related articles is largely independent of the general sentiment shifts in the media.

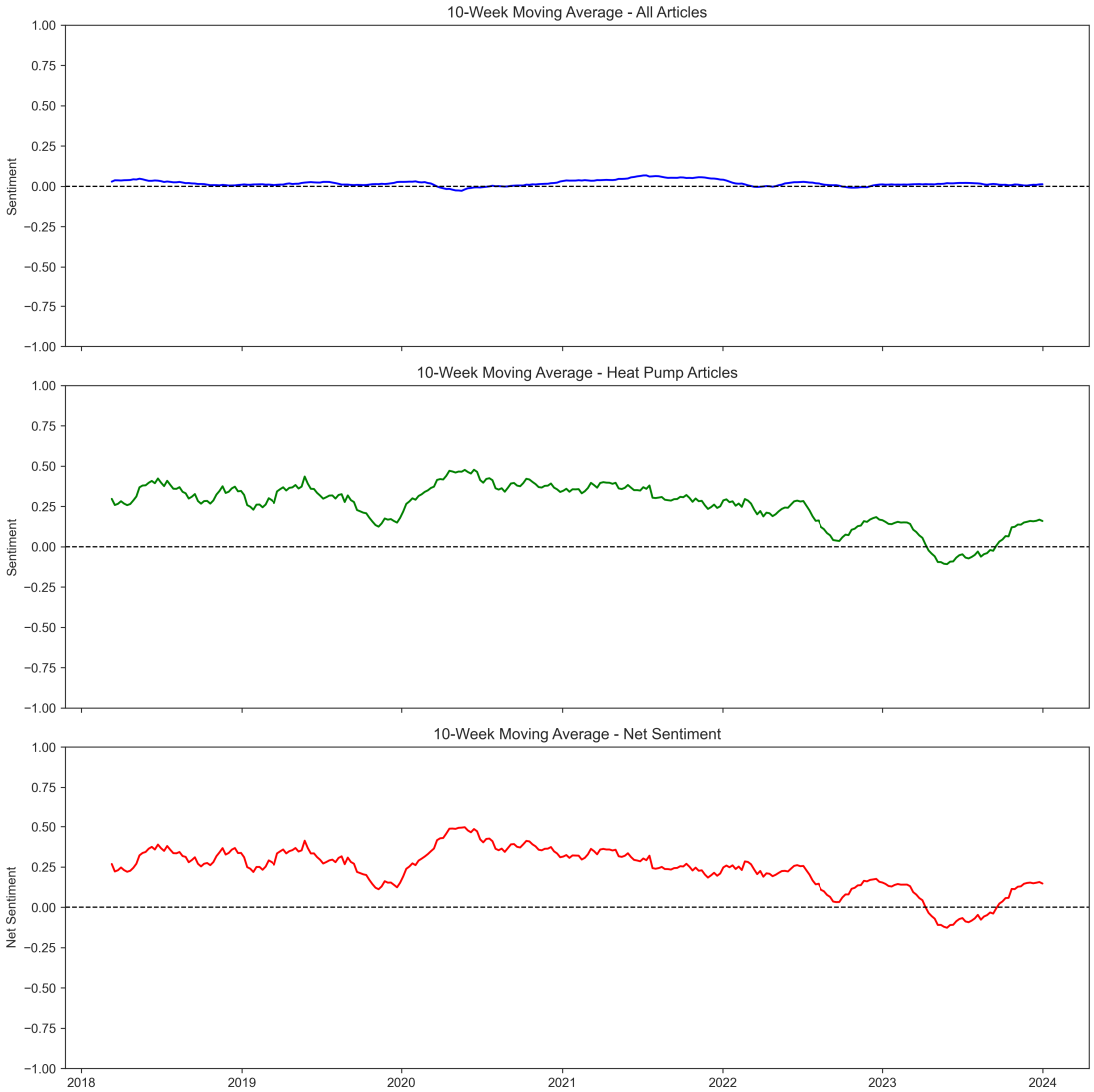

Figure 3: Mean sentiment over time

The changes in the (net) sentiment of heat pump articles temporally align with key events that are likely to have shaped and influenced the news discourse. For example, at the beginning of 2020, the German government passed a law to phase out coal-fired power generation, which led to discussions about energy prices. In the summer of 2020, the European Council approved the European Union Recovery Instrument, identifying renewable energy solutions as a strategic pillar for advancing climate goals and supporting economic recovery. The decrease in the mean sentiment in the summer of 2022 can be attributed to the discourse surrounding fears of energy shortages in Germany after Russia cut gas supplies following its invasion of Ukraine. During this period, the mean sentiment dropped from around 0.25 to roughly neutral (0). Afterward, the sentiment showed a recovery and upward trend, but it decreased sharply again in early 2023. This decline can be linked to the policy debate surrounding the German heating law, which also led to a significant increase in media coverage (see Figure 1). During this time, the mean sentiment of heat pump articles became negative, a situation that had not occurred previously. Following the heating law debate, the mean sentiment slowly recovered, reaching a positive mean sentiment by the end of 2023. During this time, the US company Carrier announced its merger with the German company Viessmann Climate Solutions, which designs and produces heat pumps. In sum, these findings demonstrate how major events, such as the war and policy changes, shape the tone of news articles about heat pumps, highlighting their susceptibility to external factors.

Topic modeling

To explore the content of news articles on heat pumps in more detail, we use a topic modeling approach. The topic model clusters news articles based on their semantic similarity, and we used an automated approach to label each topic according to the content of the articles within it. The resulting topic map in Figure 4 visualizes the semantic space of all heat pump articles, revealing the sizes and similarities of the topic clusters (see also Table 2 in the Appendix).

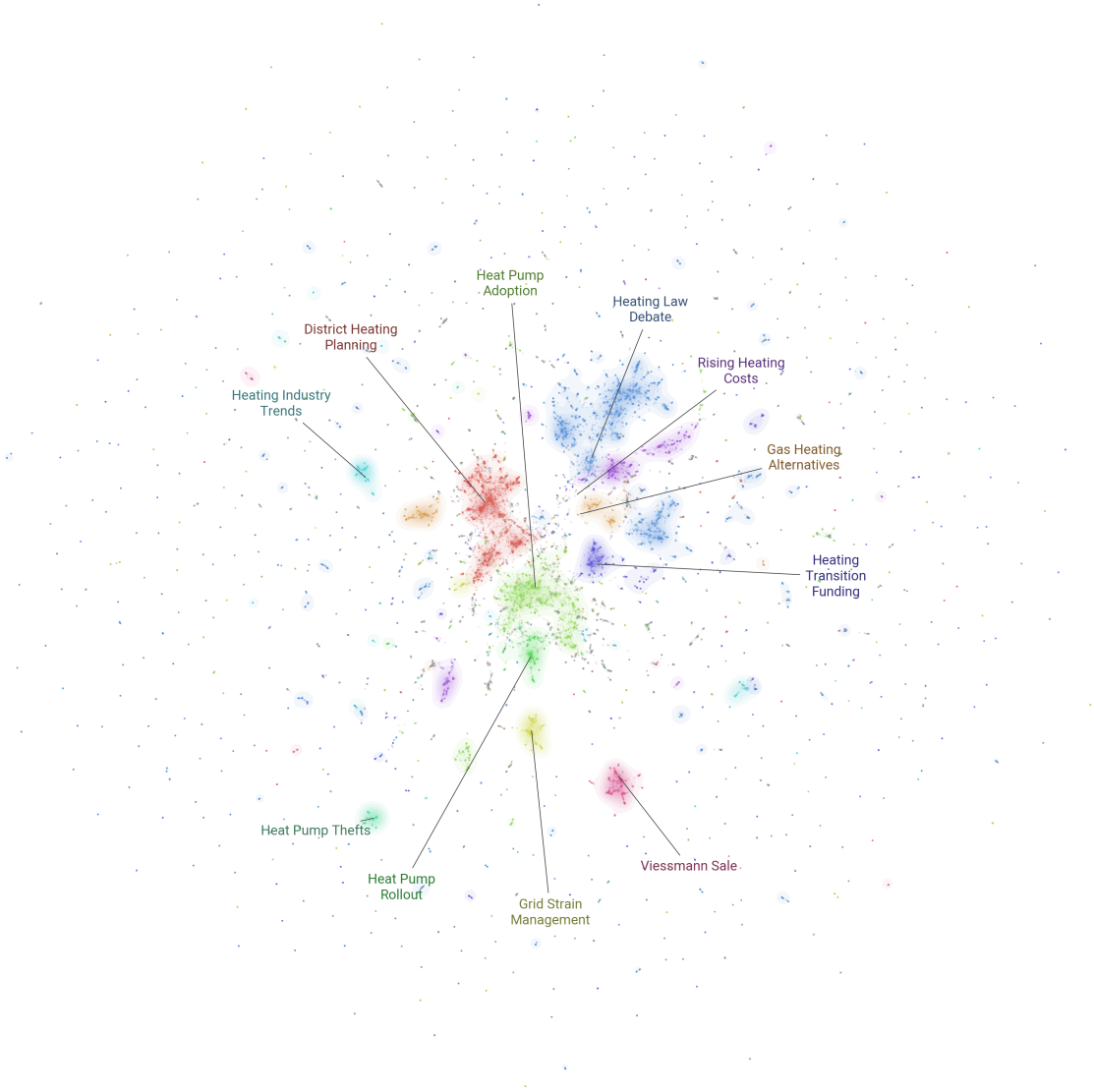

Figure 4: Topic map of all heat pump-related articles

It is evident that the media discourse on heat pumps primarily revolves around general topics such as heat pump adoption and heat pump rollout. A significant number of articles also relate to district heating planning, indicating that heat pumps play a key role in regional and urban planning, in addition to their role in household adoption. The topic map also reveals a large cluster of articles on the heating law debate, highlighting the substantial media attention this topic received. There are also smaller, more peripheral clusters, such as articles on heat pump thefts, which cover crime-related news, and another small cluster focused on the Viessmann Sale, where news reports discuss the merger of the US company Carrier with Viessmann Climate Solutions.

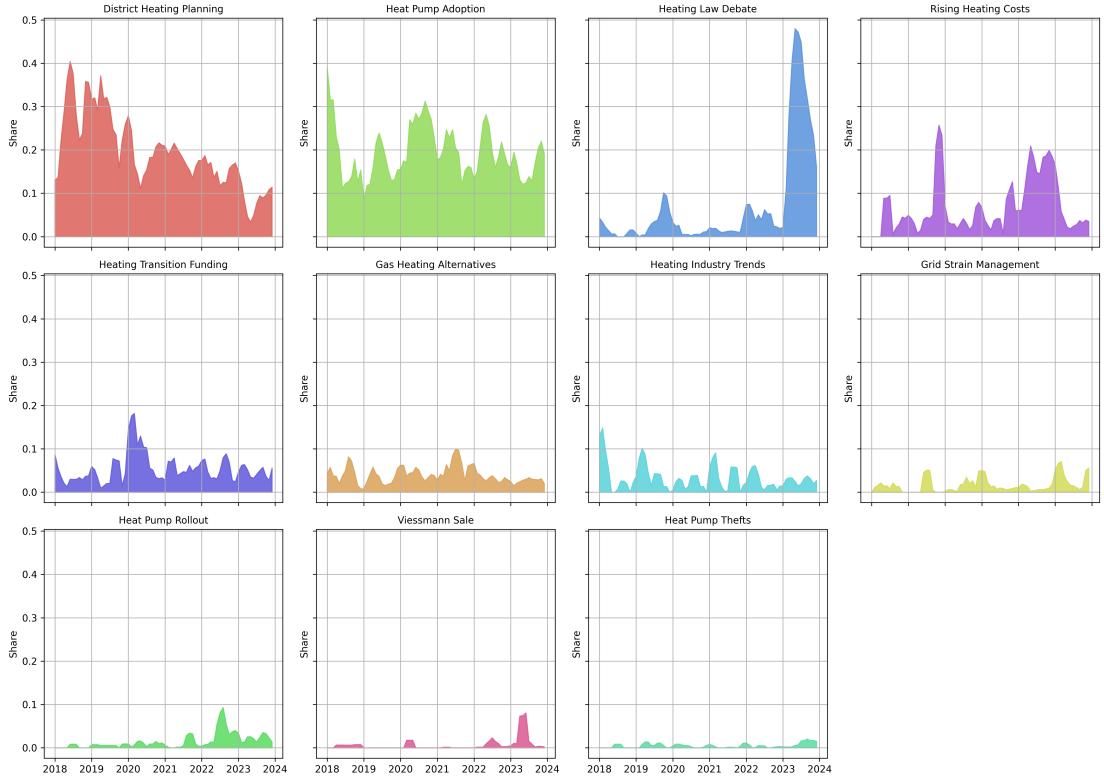

Figure 5: Share of topics over time, 2018-2023

As shown in Figure 5, the prevalence of each topic varies over time and our analysis reveals which theme dominates during a particular period. For each topic, we show how its share of all heat pump articles changes over time. It is evident that at the beginning of our study period, particularly in 2018 and 2019, the media discourse on heat pumps was dominated by articles on district heating planning. However, this topic lost importance in the media landscape over time. Some topics remained prevalent throughout the entire period, with only minor changes in their importance, such as heat pump adoption, heating industry trends, and heat pump thefts. On the other hand, other topics are contingent on events and show more variability over time. For example, in relation to the situation when Russia cut gas supplies to Germany, we observe that in the summer of 2022, the share of articles on heat pump rollout increased considerably, as did the share of articles on rising heating costs. Most notably, we observe that a significant share of heat pump-related articles in 2023 falls into the topic of the heating law debate, peaking at around 45 percent of all articles related to this topic in early 2023. In summary, our analysis reveals the evolving and changing media discourse on heat pumps in terms of its content and topics.

Topic-specific Sentiment analysis

In the final step, we bring the topic model and sentiment analysis together, analyzing the topic-specific sentiment. The results showcase how different topics in the media landscape are discussed with varying emotional tones, with some topics being predominantly discussed positively and others predominantly discussed negatively. The analysis uncovers the public perception of heat pumps in greater detail, highlighting both thematic focus and emotional tone within the discourse. The sentiment distribution across topics shows clear trends in the media discourse surrounding heat pumps, as visualized in Figure 6. Topics are organized by their mean sentiment, with those at the top reflecting more positive sentiment and those at the bottom reflecting more negative sentiment.

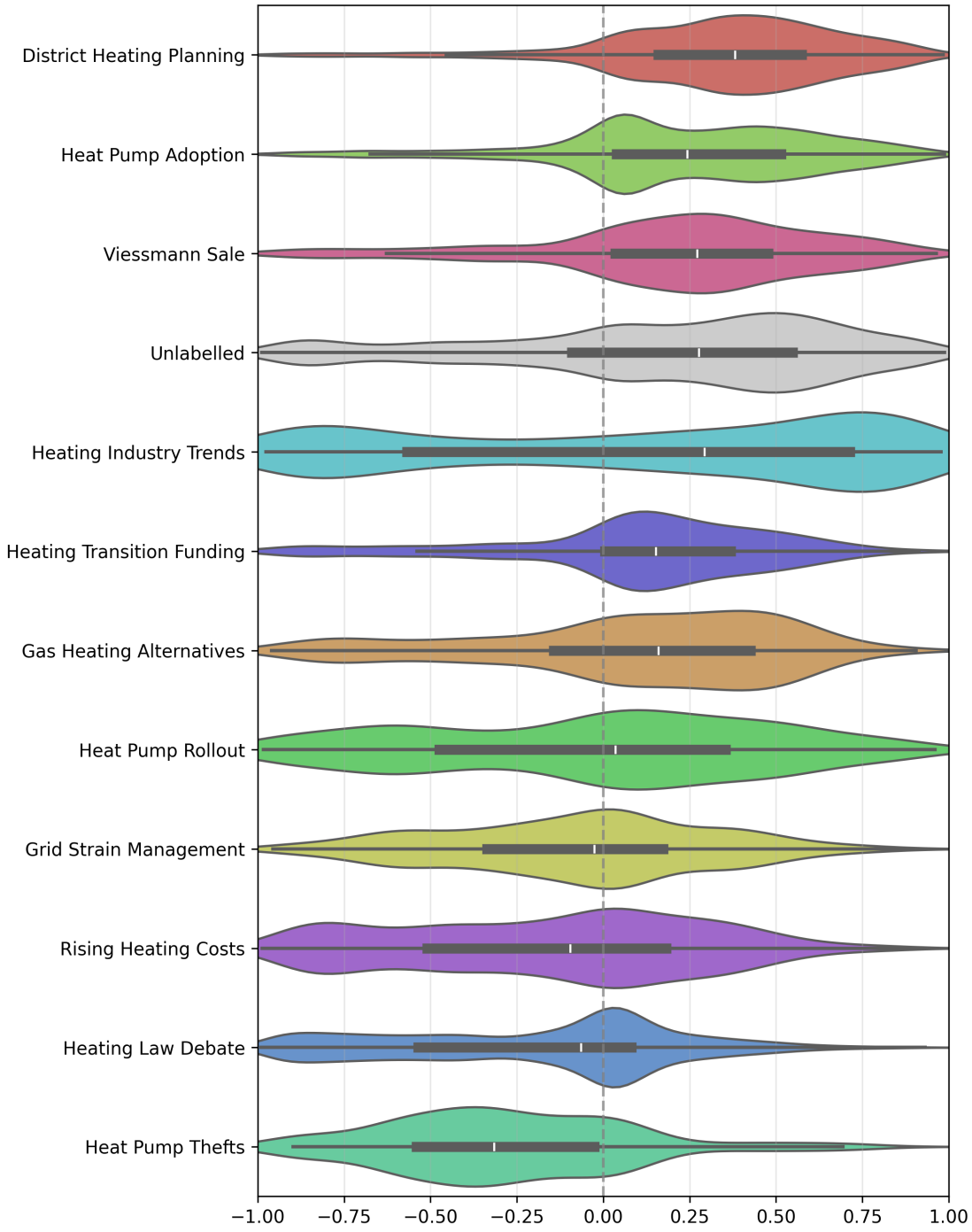

Figure 6: Distribution of sentiment scores by topic

District heating planning and heat pump adoption are associated with the most positive sentiment, indicating strong general support and optimism in the media regarding the expansion and adoption of heat pump technologies. These topics show a consistent positive trend, reflecting favourable views on their role in the energy transition. News on the Viessmann sale also display a positive sentiment, suggesting that the media coverage on the topic has been viewed favourably. Some topics, including grid strain management and heating industry trends show relatively neutral average sentiment, indicating balanced media coverage with both positive and negative leanings. Obviously, as previously indicated, news articles on the heating law debate and rising heating costs generally score negatively in terms of sentiment, with only a few articles expressing a positive emotional tone. At the bottom of the spectrum, the heat pump thefts topic stands out with the most negative sentiment. In

summary, the analysis reveals that topics directly related to the growth and adoption of heat pumps are viewed positively, while issues related to costs, policy debates, and challenges like theft are more contentious, with varying degrees of negative sentiment.

To further substantiate the descriptive findings discussed thus far (see also Tables 3-6 in the Appendix), we ran regression models with the weighted sentiment of each news article as the dependent variable. The results are shown in Table 1. In the first baseline model (model 0), we use the article length as well as a measure of the reading ease of an article as independent variables, along with fixed effects for the news provider (Hostname), time fixed effects for the publication date (quarterly period), and topic fixed effects based on the topic modeling results displayed above. On a general level, and robust across all specifications, the findings show that a higher article length is associated with a higher sentiment score. In other words, the longer an article, the more positive its emotional tone, and the shorter an article, the more negative its emotional tone. Moreover, the results indicate that reading ease has a negative effect on the sentiment score. This means that the easier a text is to understand, the more negative the sentiment of the article. On the other hand, articles that are more difficult to understand are statistically more likely to score positive sentiments. This observation aligns with the expectations around tabloid journalism, a popular style of largely sensationalist journalism where short and easy-to-understand texts cover important events, most often negative ones.

In the subsequent set of regressions, models 1 to 11, we extend the baseline model by replacing the topic fixed effects with a topic dummy variable that takes a value of 1 if an article falls within the topic and 0 otherwise. We run one model per topic, controlling for the variables mentioned before. In sum, the findings support the descriptive results presented in Figure 6. That is, controlling for time and host fixed effects, as well as for reading ease and article length, we find that articles in the topics of heat pump adoption, district heating planning, heating transition funding, heating industry trends, and Viessmann sale are associated with a more positive sentiment compared to articles not being in those topics. The highest effects can be found for district heating planning and Viessmann sale articles, as also evident from Figure 6. On the other hand, we find that articles in the topics of rising heating costs, heating law debate, heat pump rollout, heat pump thefts, and grid strain management are associated with a more negative sentiment when compared to articles not in these topics, holding all other variables constant. The effect sizes are in line with Figure 6, with heat pump thefts and heating law debate articles scoring the worst. Articles in the gas heating alternatives topic do not differ statistically in their sentiment when compared to articles not in that topic.

	Dependent variable: weighted_sentiment											
	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
District Heating Planning			0.548***									
			(0.025)									
Gas Heating Alternatives						-0.013						
						(0.056)						
Grid Strain Management											-0.349***	
											(0.037)	
Heat Pump Adoption		0.365***										
		(0.030)										
Heat Pump Rollout									-0.109***			
									(0.034)			
Heat Pump Thefts										-0.601***		
										(0.069)		
Heating Industry Trends								0.153***				
								(0.054)				
Heating Law Debate					-0.525***							
					(0.021)							

Heating Transition Funding							0.126*** (0.039)					
Rising Heating Costs				-0.511*** (0.052)								
Viessmann Sale												0.574*** (0.039)
Article length	0.042*** (0.012)	0.022* (0.013)	0.031** (0.012)	0.028** (0.013)	0.043*** (0.012)	0.028** (0.013)	0.028** (0.013)	0.028** (0.013)	0.028** (0.013)	0.026** (0.013)	0.029** (0.013)	0.033** (0.013)
Flesch reading ease	-0.0087*** (0.014)	-0.142*** (0.020)	-0.110*** (0.018)	-0.110*** (0.019)	-0.115*** (0.018)	-0.123*** (0.020)	-0.125*** (0.020)	-0.125*** (0.020)	-0.122*** (0.020)	-0.122*** (0.020)	-0.131*** (0.021)	-0.113*** (0.020)
Observations	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131
N. of groups	127	127	127	127	127	127	127	127	127	127	127	127
R^2	0.125	0.033	0.042	0.029	0.066	0.013	0.014	0.014	0.013	0.016	0.016	0.024
Res. Std. Error	0.322	0.165	0.185	0.155	0.232	0.103	0.106	0.106	0.104	0.115	0.114	0.141
FE Hostname	X	X	X	X	X	X	X	X	X	X	X	X
FE Quarter	X	X	X	X	X	X	X	X	X	X	X	X
FE Topic	X											

Note: *p<0.1; **p<0.05; ***p<0.01. Cells contain standardized beta coefficients, and standard errors in parentheses.

Table 1: Regression results for sentiment scores by topic

Discussion

The results of our analysis have important implications, which we will discuss in this section. First, we address potential limitations of the research and present robustness checks. Next, we elaborate on how the paper contributes to social science energy research. The discussion concludes with an exploration of the implications for policy and practice.

To check the robustness of our results, we conducted several tests, all of which supported the main findings presented in the previous section. For example, we made various changes to our core dataset and reran the analyses with the augmented data. These changes included adjustments to the temporal analysis, where we used a moving window of ten weeks for sentiment analysis. We altered the window lengths and found that the key temporal variations, as shown in the longitudinal analyses, largely reflect those presented in the results section. Additionally, for the presented analyses, we removed all heat pump articles from news providers that published fewer than 50 heat pump articles during the entire observation period, in order to exclude outliers and articles not part of the main discourse. As a robustness check, we reran the analysis with these outliers included, and the results remained similar to those presented in the previous section. We also used alternative versions of the topic modeling analysis. For example, we applied stricter thresholds for topic clustering, which resulted in smaller but thematically more coherent topics. An alternative topic map is provided in Figure 7 in the Appendix. Furthermore, we tested the robustness of our regression models by using a different readability metric (the Wiener Sachtextformel). We also interacted the article length variable with the topic dummies, showing that the effect of article length on sentiment varies by topic. For example, we found that articles on heat pump thefts have a more positive sentiment the longer they are, while for heating industry trends, we observed the opposite, with a negative interaction effect between the topic dummy and article length. Therefore, the sentiment of an article is not only contingent on article length and topic, but the effect of article length differs across topics (see Table 8 in the Appendix).

While our results are robust to these and other changes, there are several limitations in our research that we need to acknowledge. First and foremost, we use news data as a reflection of the public discourse around heat pumps. While news data is certainly a good indicator of public discourse and can approximate public perceptions, it is not a perfect one. In order to

assess the extent to which news articles actually serve as a proxy for public discourse, we compare them to the public interest in heat pumps as reflected in Google searches. Figure 8 in the Appendix illustrates the comparison between the volume of heat pump articles in our news database and Google Trends data from 2018 to 2024. The two datasets show a strong correlation, with peaks in media coverage closely mirroring peaks in Google search interest. The Pearson correlation coefficient between the monthly news article count and Google Trends data is 0.84, demonstrating a strong linear relationship. However, with news data, we cannot directly capture the opinions and perceptions of civil society; we can only approximate them indirectly. In other words, we do not know how people actually perceive heat pumps or how they accept and legitimize them. This limitation is important to keep in mind, as personal opinions and beliefs are likely more rigid and stable than changes in news sentiment, with some beliefs and opinions being deeply held and difficult to change.[25,26] While news likely affects people's perceptions, it is unclear how these effects manifest in the long run. Additionally, we do not have information on readership, meaning we do not know how often an article is read. This is an important limitation if we consider news data as reflecting public perceptions. Nonetheless, we argue that news data provide an important window into public discourse and public perceptions, with the aforementioned limitations in mind.

Our results are certainly relevant to different academic disciplines, but most importantly, they speak to the scholarly research on energy and energy transitions in the social sciences.[27–31] Specifically, our paper contributes to a stream of research focused on the societal dynamics in the development and adoption of (sustainable) energy technologies. This stream of research has a strong interest in public acceptance and legitimacy of (niche) energy technologies, exploring both the drivers and outcomes of public perception, as well as how these perceptions change over time.[14,32–34] In this regard, our results provide insights into the public acceptance, legitimacy, and valuation of heat pump technologies. The analyses reveal the fragility and susceptibility of public perception of heat pumps to change, showing how volatile acceptance of energy technologies can be. This volatility is likely to influence the adoption of heat pumps and the broader progress of the energy transition, making the fluctuation of public perceptions a crucial factor to consider in social science research. Against this backdrop, our results also highlight that drastic changes in public perception—i.e., in sentiment—over time indicate that positive views should not be taken for granted, as major exogenous events can trigger significant shifts in the social dynamics around the energy transition. As shown in the results, it may take time to recover from such disruptions.

On another note, our results show that the sentiment of heat pump news differs significantly by topic. They highlight the variegated nature of technology legitimacy, where some aspects of a technology may be viewed positively, while others are perceived in a negative light. We therefore call for social science research to avoid black-boxing legitimacy or perceptions and viewing them as solely positive or negative.[32,35] In many cases, perceptions will be a mix of both, depending on the nuances of the topic. Simply stating that the general perception or sentiment about a technology, in this case, heat pumps, is either positive or negative, offers an oversimplified view. Instead, some topics are perceived positively while others are not. Moreover, our analysis shows that the prominence of specific topics varies over time, and so does the overall sentiment. It is thus crucial, when analyzing the public perception of new (energy) technologies, to consider not only variations over time but also topical variations and how these influence changes in the discourse. Further research should aim to disentangle how some topics are presented both positively and negatively, and seek to explain these differences within the general discourse, isolated from negative effects such as the heating law debate. With regard to implications for policy and practice, our study highlights that, given the volatility in public perception (of heat pumps), supporting the energy transition requires careful consideration of policy changes and how they are communicated. As seen in the case of the heating law debate, such events directly influence the public discourse, in this case leading to a drastic drop in the sentiment of heat pump news. Even though tabloid journalism

was responsible for spreading (fake) news,[19,20] the public discourse was strongly dominated by the heating law debate for months, ultimately resulting in a prolonged period of negatively framed heat pump articles. Policymakers who aim to support the energy transition should thus be cautious about how others (sensationalists, populists, etc.) can affect and manipulate the public discourse. As a general takeaway, we urge practitioners (industry, intermediaries, policymakers) to take the social side of the energy transition seriously. While heat pumps are promising technologies for decarbonizing the building and heating sectors, their widespread adoption and diffusion ultimately depend on societal dynamics and individual adoption decisions.

Conclusion

The aim of this article was to provide a comprehensive overview of the discourse surrounding heat pump technologies in Germany, with a focus on uncovering their legitimacy in the public sphere. To achieve this, we employed natural language processing techniques to establish and analyze a dataset of 33,131 German news articles on heat pumps, published between 2018 and 2023. Our findings show that the number of news articles on heat pumps increased drastically in 2023, largely due to the debate surrounding the heating law (Gebäudeenergiegesetz). We found that news articles on heat pumps generally have a more positive sentiment than the broader news landscape, indicating that, overall, heat pumps are framed positively in the media. However, sentiment varies over time, with two significant decreases in the mean sentiment: one following the cut in Russian gas supply during the summer of 2022, and a more drastic drop in early 2023 related to the debate on the heating law. During the latter period, heat pump articles received the lowest sentiment scores of the entire observation period, even falling within the negative spectrum. In addition, we explored the content of heat pump-related news articles using a topic model. The results reveal a variety of topics covered in the media discourse, with our algorithm identifying 11 coherent topics. The most prominent topics include the heating law debate, heat pump adoption, district heating planning, and rising heating costs, along with smaller topics such as the Viessmann-Carrier merger. The focus of the media landscape shifts over time, with articles on the heating law dominating the discourse in 2023. Regression results show that sentiment varies significantly across topics, with articles on the heating law debate, rising heating costs, and heat pump thefts showing more negative sentiment, while articles on district heating planning, heat pump adoption, and the Viessmann sale have a more positive tone.

Methods

Data processing

For the empirical analyses of news articles on heat pumps, we use the German CommonCrawl news dataset developed by Kriesch and Losacker (2025).[36] Using a vector database and pre-computed embeddings, we conduct a semantic search that captures relevant articles beyond exact keyword matches. This approach ensures the retrieval of articles even when alternative phrasing or technical jargon is used. Our filtering process comprises two stages:
First, we queried the vector database to filter articles with a similarity score greater than 0.7 to the search term „heatpumps“. After this first filter step the dataset comprised 628,485 news articles. To further refine our results, we applied a cross-encoder reranker, which provides more precise semantic similarity evaluations by jointly encoding query-article pairs. This model performs a deeper contextual comparison, improving the ranking of relevant documents. In this step, we retained only articles with a similarity score above 0.1. We determined this threshold through in-depth manual investigation to optimize recall and

precision. As the coverage of articles related to heat pumps is limited before 2018, we removed all articles published before this year to ensure consistency and relevance in the temporal distribution of our data. We also removed articles from news providers with less than 50 articles related to heat pumps. After these steps, the final dataset consists of 33,131 relevant articles.

Sentiment analysis

To calculate the sentiment of the news articles, we employed a Natural Language Inference (NLI)-based classification framework. NLI, traditionally used to assess whether a hypothesis is entailed, contradicted, or neutral with respect to a given premise. This approach enables the application of a single, pre-trained model to a wide variety of classification problems without requiring task-specific fine-tuning. For sentiment analysis, this framework offers a flexible, zeroshot solution that verbalizes sentiment categories (e.g., "positive," "negative," "neutral") as hypotheses and evaluates their consistency with the input text. We used the pre-trained „MoritzLaurer/bge-m3-zeroshot-v2.0“ model to assess the sentiment of the heatpump related news articles.[37] This model was trained on over 2.6 million premise–hypothesis pairs, drawn from more than 500 diverse classification tasks across various professional contexts. The training data was refined through multiple curation cycles, enabling the model to generalize effectively across a wide range of classification scenarios, including sentiment analysis. We computed the entailment scores for all three hypotheses and calculated a weighted sentiment score by taking the dot product of the probability scores and their assigned weights, where positive sentiment was weighted as 1, neutral as 0, and negative as -1. A score near 1 indicates strong positive sentiment, a score near -1 suggests strong negative sentiment, and a score close to 0 reflects neutrality or balanced entailment across sentiments.

Topic modeling

To explore the key themes and arguments in the German heat pump debate, we applied BERTopic, a transformer-based topic modeling framework well-suited for capturing semantic relationships in complex textual data.[38] The process comprises five main steps: embedding, dimensionality reduction, clustering, topic representation, and outlier reassignment.

First, we converted the content of each news article into numerical vector representations using the sentence transformer model “nomic-ai/nomic-embed-text-v2-moe.” This model encodes the semantic meaning of texts into dense embeddings, allowing for the grouping of thematically similar documents even when they differ lexically. Next, we applied Uniform Manifold Approximation and Projection (UMAP) to reduce the dimensionality of the 768-dimensional embeddings.[39] Dimensionality reduction is crucial because, in high-dimensional spaces, data points tend to become equidistant, making it difficult for clustering algorithms to detect meaningful groupings. UMAP also helps filter out noise and preserves the local structure of the data, thereby enhancing the interpretability and quality of subsequent clusters. We then used Hierarchical Density-Based Spatial Clustering of Applications with Noise (HDBSCAN) to identify topic clusters.[40] HDBSCAN is a density-based method that adapts well to the varying density and structure typical of text data. It also provides a hierarchical structure of clusters and handles outliers naturally. We set the minimum cluster size to ~0.5% of the document corpus. This value balances granularity and interpretability—smaller sizes yield more topics with fewer outliers, while larger sizes consolidate topics but leave more documents uncategorized. After clustering, we extracted representative keywords for each topic using KeyBERT, which highlights informative terms while suppressing overly common ones.[41]

To enhance interpretability, we used the "Mistral-Small-24B-Instruct-2501" language model to generate human-readable labels for each cluster. These labels improve readability but do not affect the underlying clustering results. To reduce the number of outliers, we calculated the cosine similarity between the embedding of each outlier document and the topic centroids. If the similarity exceeded 0.7, the outlier was reassigned to the closest topic. This step further improved topic coverage without compromising thematic coherence.

Regression analysis

To examine the relationship between different topics and sentiment in the context of the German heat pump debate, we conducted a series of fixed-effects regressions estimated via Ordinary Least Squares. The dependent variable in the analysis is the weighted sentiment score of news articles, which quantifies the overall sentiment polarity of each text. Independent variables include categorical indicators for different topics within the debate, as well as article characteristics such as reading ease and article length. Reading ease was assessed using the German version of Flesch Reading Ease.[42] Flesch Reading Ease measures ease of comprehension, with higher values indicating greater readability.[43] Readability indices such as these provide an approximation of how accessible an article is to different audience groups and are widely used in linguistic and media analysis.[44] Article length represents the number of words in each article. We provide robustness checks using alternative measures (Wiener Sachtextformel[45]) in Table 7 in the Appendix.

We estimated a series of fixed-effects regressions. Our primary specification includes the standardized article characteristics as explanatory variables, with fixed effects for hostname, topic and quarter. This approach accounts for systematic differences in sentiment that may be attributable to specific media outlets or temporal trends.

To further investigate the impact of individual topics, we ran separate regressions for each topic, where the presence of a given topic served as an additional independent variable with fixed effects for hostname and quarter. This allowed us to evaluate the specific influence of different aspects of the debate on sentiment scores.

Data availability

The complete German news dataset, comprising approximately 50 million articles, can be accessed using the data processing pipeline provided via http://dx.doi.org/10.13140/RG.2.2.20651.76324.

Code availability

All Python code used to create the heat pump news dataset and conduct the analyses is available from the authors upon request.

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Author contributions

S.L. and L.K. designed the study, wrote and reviewed the paper. L.K. managed the data, conducted the analysis, and produced the final dataset.

Competing interests

No potential competing interest was reported by the authors.

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Appendix

Count	Representation	Label	Share
9158	heizungstausch, heizungsgesetz, gasheizung, gebäudeenergiegesetz, gas ölheizung, gas ölheizungen, wärmewende, ölheizung, heizungen, gasheizungen	Heating Law Debate	27,64 %
5324	gasheizung, wärmepumpen, wasser wärmepumpen, wasser wärmepumpe, wärmepumpe, luft wasser wärmepumpe, wärmepumpe altbau, wärme, ölheizung, fußbodenheizung	Heat Pump Adoption	16,06 %
3361	kommunale wärmeplanung, wärmepläne, wärmeplanung, wärme, wärmeversorgung, wärmepumpen, wärmepumpe, nahwärme, nahwärmenetz, fernwärme	District Heating Planning	10,14 %
2000	heizen 2022, heizkosten, ölheizung, heizspiegel, heizöl, heizung, gasheizung, heizt, 2022, gaspreise	Rising Heating Costs	6,03 %
1585	neue heizung, ölheizung, heizungs, heizung, heizungen, wärmepumpen, heizungs tausch bonus, förderungen, wärmepumpe, heizungs tausch	Heating Transition Funding	4,78 %
1070	gasheizung, biogas, gasheizungen, zukunft gas, gas, biomethan, wärme, heizungsgesetz, heizung, wärmeversorgung	Gas Heating Alternatives	3,22 %
1044	wärmepumpen us konkurrenten, wärmepumpen us, wärmepumpen, viessmann klimasparte, heizungsbauer viessmann, einschließlich lukrativen wärmepumpen, lukrativen wärmepumpen, viessmann verkauft, viessmann verkauf, verkauf viessmann	Viessmann Sale	3,15 %
841	deutschen heizungsindustrie, bundesverband deutschen heizungsindustrie, deutschen heizungsindustrie bdh, heizungsindustrie, heizungsmarkt, heizungsindustrie bdh, gasheizungen, wärmeerzeuger, nachfrage wärmepumpen, gas	Heating Industry Trends	2,53 %
829	millionen wärmepumpen, wärmepumpen, 500 000 wärmepumpen, 000 wärmepumpen, wärmepumpe, sechs millionen wärmepumpen, sanitär heizung klima, wärmepumpengipfel, sanitär heizung, heizungen	Heat Pump Rollout	2,50 %
666	netzüberlastung, netzbetreiber dürfen, stromnetzbetreiber, netzbetreibern, netzbetreibers, niederspannungsnetze, netzbetreiber, stromnetze, stromnetzes, netz	Grid Strain Management	2,01 %
252	diebstähle wärmepumpen, diebstahl wärmepumpen, wärmepumpe diebstahl, wärmepumpen diebstahl, wärmepumpe, wärmepumpen, wärmepumpen diebe, pumpe, außerhalb gebäudes installiert, wohngebäudeversicherung eingeschlossen	Heat Pump Thefts	0,76 %

Table 2: Topic overview

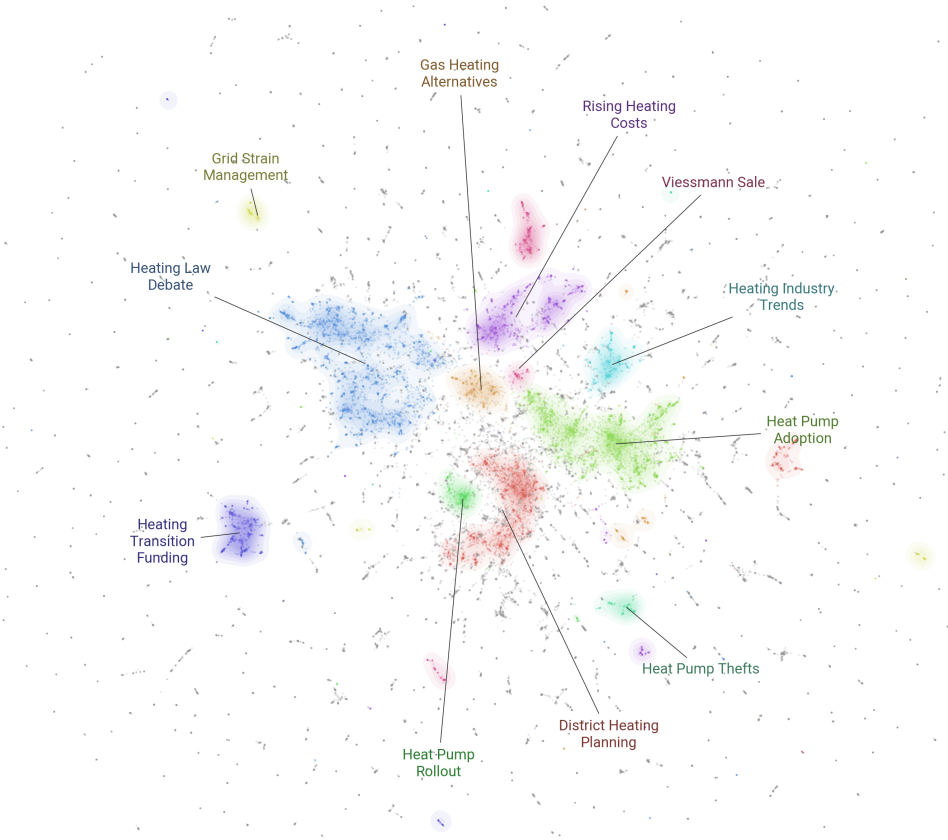

Figure 7: Topic map of all heat pump-related articles before outlier reduction

Hostname	HP articles	Share HP articles	Most common topic	Share most common topic	Mean sentiment	Mean reading ease
finanznachrichten.de	2,018	0.06	Heating Law Debate	0.186	0.152	35.446
shk-journal.de	1,697	0.051	Heat Pump Adoption	0.348	0.532	30.12
merkur.de	1,076	0.032	Heating Law Debate	0.340	-0.082	44.979
handelsblatt.com	889	0.026	Heat Law Debate	0.230	0.104	44.048
aktiencheck.de	852	0.025	Heating Law Debate	0.140	0.171	35.293

633 Table 3: Largest news providers for articles on heat pumps

634

Hostname	HP articles	Share HP articles	Most common topic	Share most common topic	Mean sentiment	Mean reading ease
wo-was.de	143	0.00431	Heat Pump Adoption	0.245	0.573	23.068
inar.de	90	0.00271	Heat Pump Adoption	0.33	0.566	29.170
bsozd.com	133	0.00401	Heat Pump Adoption	0.293	0.565	27.901
go-with-us.de	118	0.00356	Heat Pump Adoption	0.381	0.542	29.492
pressnetwork.de	140	0.004225	Heat Pump Adoption	0.336	0.538	28.806

635 Table 4: News providers with best sentiment for articles on heat pumps

636

Hostname	HP articles	Share HP articles	Most common topic	Share most common topic	Mean sentiment	Mean reading ease
bild.de	156	0.0047	Heating Law Debate	0.57	-0.42	52.575
fnp.de	54	0.0016	Heating Law Debate	0.426	-0.327	48.71
extremnews.com	249	0.0075	Heating Law Debate	0.313	-0.258	40.86
neopresse.com	145	0.0043	Heating Law Debate	0.552	-0.255	42.04
presse-augsburg.de	244	0.0073	Heating Law Debate	0.36	-0.242	39.886

637 Table 5: News providers with worst sentiment for articles on heat pumps

638

Topic label	HP articles	Share	Mean sentiment	Mean reading ease
District Heating Planning	3,361	0.101	0.347	40.87
Heat Pump Adoption	5,324	0.160	0.241	41.429
Viessmann Sale	1,044	0.031	0.221	39.285
Unlabelled	7,001	0.211	0.179	37.733
Heating Industry Trends	841	0.025	0.117	42.16
Heating Transition Funding	1,585	0.047	0.114	39.967
Gas Heating Alternatives	1,070	0.032	0.084	38.87
Heat Pump Rollout	829	0.025	-0.025	42.268
Grid Strain Management	666	0.02	-0.074	38.973
Rising Heating Costs	2,000	0.06	-0.157	45.497
Heating Law Debate	9,158	0.276	-0.19	43.579
Heat Pump Thefts	252	0.007	-0.28	41.781

639 Table 6: Descriptives by Topic

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641

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	Dependent variable: weighted_sentiment											
	(0)	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
District Heating Planning			0.561*** (0.025)									
Gas Heating Alternatives						-0.026 (0.058)						
Grid Strain Management											-0.319*** (0.034)	
Heat Pump Adoption		0.334*** (0.026)										
Heat Pump Rollout									-0.129*** (0.034)			
Heat Pump Thefts										-0.631*** (0.067)		
Heating Industry Trends								0.119** (0.052)				
Heating Law Debate					-0.518*** (0.022)							
Heating Transition Funding							0.090** (0.038)					
Rising Heating Costs				-0.519*** (0.052)								
Viessmann Sale												0.565*** (0.038)
Article length	0.0454*** (0.0123)	0.026* (0.014)	0.035** (0.013)	0.031** (0.014)	0.046*** (0.013)	0.032** (0.014)	0.032** (0.017)	0.032** (0.017)	0.032** (0.017)	0.030** (0.017)	0.033** (0.018)	0.037** (0.016)
Wiener Sachtextformel	0.0900*** (0.0136)	0.111*** (0.016)	0.111*** (0.016)	0.106*** (0.017)	0.101*** (0.016)	0.117*** (0.017)	0.116*** (0.017)	0.116*** (0.017)	0.116*** (0.017)	0.117*** (0.017)	0.121*** (0.018)	0.105*** (0.016)
Observations	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131
N. of groups	127	127	127	127	127	127	127	127	127	127	127	127
R^2	0.125	0.043	0.030	0.064	0.013	0.013	0.013	0.013	0.017	0.015	0.024	0.043
Res. Std. Error	0.322	0.157	0.188	0.156	0.229	0.103	0.104	0.104	0.105	0.116	0.112	0.140
FE Hostname	X	X	X	X	X	X	X	X	X	X	X	X
FE Quarter	X	X	X	X	X	X	X	X	X	X	X	X
FE Topic	X											

Note: *p<0.1; **p<0.05; ***p<0.01

Table 7: Regression results with an alternative readability metric

	Dependent variable: weighted_sentiment										
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Reading ease	-0.142*** (0.020)	-0.110*** (0.018)	-0.110*** (0.019)	-0.114*** (0.018)	-0.123*** (0.020)	-0.125** (0.020)*	-0.127*** (0.021)	-0.123*** (0.020)	-0.122*** (0.020)	-0.131*** (0.021)	-0.113*** (0.020)
Article length	0.016 (0.013)	0.030** (0.012)	0.026** (0.013)	0.026 (0.020)	0.026* (0.013)	0.025* (0.014)	0.033** (0.013)	0.031** (0.013)	0.025* (0.013)	0.029** (0.013)	0.034***(0.013)
Article length x District Heating Planning		0.018 (0.028)									
Article length x Gas Heating Alternatives					0.064** (0.032)						
Article length x Grid Strain Management										0.012 (0.054)	
Article length x Heat Pump Adoption	0.044*** (0.016)										
Article length x Heat Pump Rollout								-0.219*** (0.048)			
Article length x Heat Pump Thefts									0.302*** (0.044)		
Article length x Heating Industry Trends							-0.410*** (0.093)				
Article length x Heating Law Debate				0.036* (0.019)							
Article length x Heating Transition Funding						0.061*** (0.022)					
Article length x Rising Heating Costs			0.031 (0.040)								
Article length x Viessmann Sale											-0.040 (0.049)
District Heating Planning		0.551*** (0.023)									
Gas Heating Alternatives					-0.013 (0.055)						
Grid Strain Management										-0.349*** (0.038)	
Heat Pump Adoption	0.359*** (0.029)										
Heat Pump Rollout								-0.148*** (0.034)			
Heat Pump Thefts									-0.533*** (0.061)		
Heating Industry Trends							0.054 (0.062)				
Heating Law Debate				-0.530*** (0.021)							
Heating Transition Funding						0.120*** (0.036)					
Rising Heating Costs			-0.510*** (0.052)								
Viessmann Sale											0.562*** (0.041)
Observations	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131	33,131
N. of groups	127	127	127	127	127	127	127	127	127	127	127
R^2	0.033	0.042	0.029	0.066	0.013	0.014	0.016	0.014	0.017	0.016	0.024
Residual Std. Error	0.157	0.188	0.156	0.229	0.103	0.104	0.104	0.105	0.116	0.112	0.140
FE Quarter	X	X	X	X	X	X	X	X	X	X	X
FE Hostname	X	X	X	X	X	X	X	X	X	X	X

Note: *p<0.1; **p<0.05; ***p<0.01

Table 8: Regression results with article length–topic dummy interaction effects

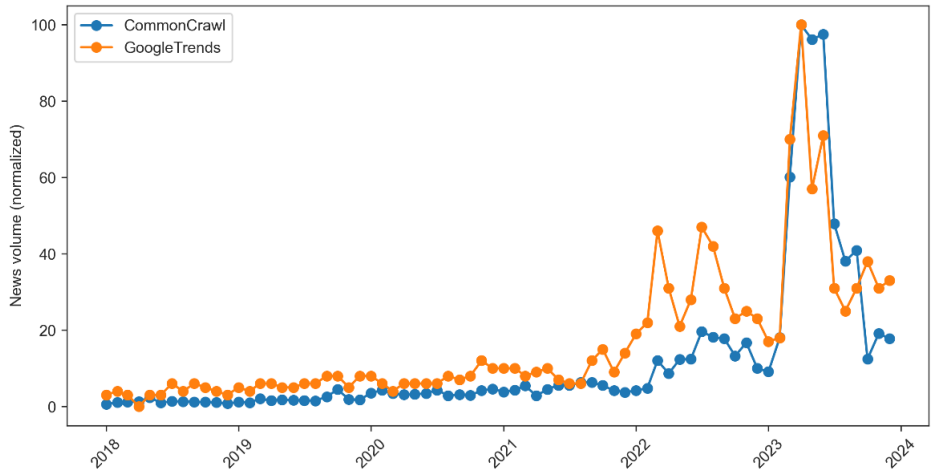

Figure 8: Article volume related to heat pumps vs. Google News Trends Index related to heat pumps

Article text	Translation	Sentiment score	Publication date	Hostname
Es ist ein an Peinlichkeit kaum noch zu überbietender Gesetzgebungsprozess, den die Bundesregierung nun schon seit Monaten rund um das geplante Heizungsgesetz abliefert. Zum dritten Mal haben die Ampelparteien inzwischen eine angebliche Einigung im Streit um das Gebäudeenergiegesetz verkündet – nur um im Anschluss weiter zu streiten. Damit gehen sie ein erhebliches Risiko ein. Meinung Peinlicher Gesetzgebungsprozess Das unwürdige Heizungs-Chaos ist ein Einfallstor für Populisten Seit Monaten streiten die Ampelparteien über das Heizungsgesetz. Auch nach der dritten angeblichen Einigung geht der Streit weiter. Wichtige Fragen bleiben offen. Auch informierte Bürger haben keine Chance, die geplanten Regeln zu verstehen. Die Folgen können drastisch ausfallen.	The legislative process that the German government has been delivering for months now in relation to the planned Heating Act is almost unbeatable in terms of embarrassment. For the third time, the coalition parties have now announced an alleged agreement in the dispute over the Building Energy Act - only to continue arguing afterwards. In doing so, they are taking a considerable risk. Opinion Embarrassing legislative process The disgraceful heating chaos is a gateway for populists The coalition parties have been arguing about the Heating Act for months. Even after the third alleged agreement, the dispute continues. Important questions remain unanswered. Even informed citizens have no chance of understanding the planned rules. The consequences could be drastic.	-0.988	2023-06-28	welt.de
Holzminden (ots) - Ein Standpunkt von Holger Thamm, Leiter der Abteilung Public Affairs bei STIEBEL ELTRON:Jahrelang hat die Politik den Automobilverkehr mit Milliarde unterstützt: Dienstwagenprivileg, Steuererleichterungen, Abwrackprämie etc. Jetzt kollabiert das System, bei der EU steht Deutschland vor einer Bankrotterklärung. Bundesumweltministerin Barbara Hendricks wurde nach Brüssel zitiert und musste innerhalb einer Woche eine politische Lösung für die zu hohe Luftverschmutzung präsentieren. Natürlich ist jetzt kurzfristig nichts zu retten. Und so fiel dann auch der politische Vorschlag aus: Kostenloser ÖPNV für alle! Das wäre ein Infrastrukturprojekt von mehreren Jahrzenten und finanziell nur machbar, wenn man die Kosten beim Steuerzahler gleich wieder reinholt. Von wegen kostenlos - im Gegenteil! Das Problem der Luftverschmutzung ist eskaliert, jetzt werden die Transaktionskosten zu dessen Bewältigung voraussichtlich besonders hoch. Das Bundesverwaltungsgericht verhandelt am 22. Februar zudem über mögliche Fahrverbote.Bei der Energiewende im Wärmebereich geht es	Holzminden (ots) – A viewpoint by Holger Thamm, Head of the Public Affairs Department at STIEBEL ELTRON: For years, politics has supported the automotive industry with billions: company car privileges, tax breaks, scrappage premiums, etc. Now the system is collapsing, and Germany faces a declaration of bankruptcy at the EU level. Federal Environment Minister Barbara Hendricks was summoned to Brussels and had to present a political solution to the excessive air pollution within a week. Of course, nothing can be saved in the short term. And so the political proposal was just as unrealistic: free public transport for everyone! That would be an infrastructure project spanning several decades and financially feasible only if the costs were immediately recouped from taxpayers. So much for “free” – quite the opposite! The problem of air pollution has escalated, and now the transaction costs to address it	-0.754	2018-02-21	finanznachrichten.de

aktuell in eine ähnliche Richtung. Über Jahre hinweg werden fossile Energieträger subventioniert und noch heute der Einbau von "fossilen" Heizungen mit Steuergeldern gefördert. Spätestens im Jahr 2030 wird die Bundesregierung wieder in Brüssel stehen und den klimapolitischen Bankrott erklären. In dem Antwortbrief an die Kommission wird dann der Vorschlag stehen: Kostenlose Wärmepumpen für alle!Aber: Könnte die Geschichte nicht auch anders laufen? Wenn bereits heute begonnen wird, umzusteuern? Wenn die Politik jetzt die direkte und indirekte Subventionierung der "fossilen" Heizungen einstellt, die Förderung erneuerbarer Wärmetechnologien ausbaut und die Belastung von Strom durch Steuern und Abgaben endlich reduziert - der einzigen Energieform, mit der die Energiewende erfolgreich sein kann? So könnte Deutschland eine weitere Vorladung nach Brüssel erspart bleiben - und den Bürgerinnen und Bürgern viele unnötige Kosten.	will likely be especially high. On February 22, the Federal Administrative Court will also be negotiating potential driving bans. The energy transition in the heating sector is currently heading in a similar direction. For years, fossil fuels have been subsidized, and even today, the installation of “fossil” heating systems is supported with taxpayers’ money. By 2030 at the latest, the German government will again be standing in Brussels, declaring a climate policy bankruptcy. The response letter to the Commission will then include the proposal: free heat pumps for everyone! But: couldn’t the story unfold differently? What if we start changing course today? What if policymakers were to immediately end the direct and indirect subsidies for fossil heating systems, expand the support for renewable heating technologies, and finally reduce the tax burden on electricity – the only form of energy with which the energy transition can truly succeed? This could spare Germany another summons to Brussels – and save citizens many unnecessary costs.			
Ampel prügelt Heizgesetz durch: Ihr schadet unserem Land! Ein Zwischenruf von BILD-Chefreporter Peter Tiede Um es gleich klarzumachen: Das Super-Eil-Verfahren, in dem das Heiz-Gesetz jetzt von der Ampel durchs Parlament geprügelt werden soll, ist ein Skandal! Nicht irgendeiner von der üblichen Sorte der hingeschluderten Politik-Fehler. Diesmal: einer, der unserer Demokratie schadet. Die Art und Weise, wie in diesem Hektik-Verfahren auf Biegen und Brechen noch vor der Sommerpause ein so wichtiges, den Bürgern so tief in die Tasche und ins Eigentumsrecht greifende Heizhammer-Gesetz behandelt werden soll, schadet dem Ansehen des Deutschen Bundestag und dem Ruf der freigewählten Ampel-Abgeordneten, die – auf dem Papier – nur sich und ihrem Gewissen verpflichtet sind. Schaden für die Demokratie Wir Bürger haben ein Recht auf transparente, ausgeruhte Gesetzgebungsverfahren und Debatten. Sieben Tage vom Gesetzentwurf über Expertenanhörung und die nötigen Lesungen (meist drei) im Bundestag – plus Beschluss im Bundesrat? Das ist das Gegenteil und genügt den Mindeststandards der Demokratie nicht. Eilgesetze, die jede Diskussion unterdrücken, die die Anhörung von Experten, das Abwägen durch die einzelnen Abgeordneten auf ein Minimum, ja bis zur Unmöglichkeit, verknappen, nähren nur eines: Den Verdacht, der Bürger soll ausgesperrt und übergangen werden. Motto: Diskussion nicht erwünscht, Gesetz zu heikel, – also vom Tisch damit! Lass Sommer sein und Sonne scheinen. Klappe zu, Affe mundtot … Nein, Parlamentarismus ist kein Schweinsgalopp! Warum ist das Verfahren so schlimm? Darum: ► Die Abgeordneten bekamen die Änderungen für Habecks Heizhammer (Vorfahrt für Wärmepumpe) an diesem Freitag. Und müssen	Traffic Light Coalition Forces Heating Law Through: You're Harming Our Country! An interjection by BILD Chief Reporter Peter Tiede Let’s get one thing straight right away: the super-fast-track procedure in which the heating law is now being rammed through parliament by the traffic light coalition (SPD, Greens, FDP) is a scandal! Not just your usual political blunder — this time it’s one that harms our democracy. The way this hectic process is being forced through, just before the summer recess, for a law that so deeply affects citizens' wallets and property rights, damages the reputation of the German Bundestag and the credibility of the freely elected members of the coalition, who — on paper — are only bound by their conscience. Damage to Democracy We citizens have a right to transparent, thoughtful legislative procedures and debates. Seven days from draft law to expert hearings and the required readings (usually three) in the Bundestag — plus approval in the Bundesrat? That’s the opposite of democratic standards. It doesn’t even meet the minimum requirements. Fast-tracked laws that stifle discussion, that reduce expert hearings and careful consideration by individual MPs to the bare minimum — or even make them impossible — only serve to fuel one suspicion: that the public is being shut out. The motto: Discussion not welcome, law too controversial — so let’s sweep it under the rug! Summer’s here, the sun is shining, shut the lid and silence the monkey... No! Parliamentarianism is not a sprint! Why is this process so terrible? Here’s why: ► Members of parliament only received the changes to Habeck’s "heating hammer" (which prioritizes heat pumps) this Friday.	-0.991	2023-06-30	bild.de

sich den vollständigen neuen Gesetzestext mühsam zusammenpuzzeln. Was die Experten am Montag sagen, kann kaum noch ins Gesetz aufgenommen werden. Änderungen? Schade: leider, leider keine Zeit … Die Abgeordneten sollen am Dienstag, wenige Stunden nach den Experten-Anhörungen, entscheiden, ob das Gesetz in den nächsten drei Tagen noch komplett durch Bundestag und Bundesrat gepresst werden soll – Hauptsache vor der Sommerpause. Den Abgeordneten bleibt schlicht nicht genügend Zeit, sich mit dem Gesetz intensiv zu befassen, Gründe dafür und dagegen abzuwägen, Fallstricke und Fehler im Gesetz zu finden und zu analysieren. Sprich: Die Abgeordneten können ihren Job nicht machen. Da kann die Bundesregierung Gelder für den Kampf gegen Extremisten raushauen, dass die Schwarte kracht, da können die Abgeordneten Demokratiefördergesetze (wozu in einer Demokratie!?) beschließen, bis die Heide wackelt: Den Schaden solcher Pseudo-Verfahren können sie mit keinem Fördergeld der Welt und keiner Sonntagsrede gerade biegen! Vertrauen verdient man sich – oder man verspielt es. Die Ampel zockt damit – und verliert. Wer so Politik macht, treibt Menschen den extremistischen Rattenfängern in die Arme. Denn die werfen „den Politikern", „denen da oben" genau das vor: Einen Dreck darauf zu geben, was sich gehört und was nicht. Die Ampel liefert die Argumente: Augen, Mund und Ohren zu – und durch! Worin, bitte schön, liegt die Eilbedürftigkeit? Wie wollen Kanzler Olaf Scholz (65, SPD), SPD-Fraktionschef Mützenich, Bauministerin Geywitz (SPD), FDP-Boss Lindner, sein Fraktionschef Dürr sowie Heizungsminister Habeck (Grüne) und die Grünen-Fraktionschefinnen Haßelmann und Dröge das, bitteschön, verantworten? Was treibt sie – außer selbst gemachter Panik? Rast ein Asteroid auf die Erde zu, dass keine Zeit bleibt, ihn abzulenken? Drohen Millionen Heime in Deutschland im Winter eiskalt zu bleiben, nur weil Berlin ein Wärmepumpen-Gesetz nach und nicht vor der Sommerpause beschlossen hat? Explodiert wegen dieser acht Wochen Sommerferien das Weltklima? Die Antwort auf alles: Nein! Wer mit frei gewählten Abgeordneten so umgeht, der geht mit uns so um: den Wählern, für die diese Abgeordneten stellvertretend im Parlament sitzen. Und Abgeordnete, die das mit sich machen lassen, verraten ihre Wähler und das Haus, in dem sie sitzen. Am Reichstagsgebäude prangt der Leitspruch: DEM DEUTSCHEN VOLKE. Vom Koalitions-Frieden und des Kanzlers Urlaubsruhe steht da: nichts.	They now have to piece together the full new text themselves. What the experts say on Monday will hardly be included in the law. Changes? Sorry, no time... MPs are supposed to decide on Tuesday — just a few hours after the expert hearings — whether the law should be rammed through Bundestag and Bundesrat in just three days, all before summer break. They simply don't have enough time to properly engage with the law, weigh arguments for and against, detect pitfalls and analyze errors. In short: MPs can't do their job. The government can throw money at fighting extremism until the walls shake, and pass "democracy promotion" laws (which we oddly need in a democracy?!) until the hills dance — but the damage of such pseudo-procedures can't be repaired by any amount of funding or Sunday speeches! Trust is earned — or squandered. The coalition is gambling it away — and losing. This kind of politics pushes people into the arms of extremist demagogues. Because that's exactly what they accuse "the politicians" of: not caring about what's right or wrong. And the coalition is providing the perfect argument: eyes shut, ears closed, mouth shut — and full speed ahead! What exactly is the urgency here? How do Chancellor Olaf Scholz (SPD), SPD parliamentary leader Mützenich, Housing Minister Geywitz (SPD), FDP leader Lindner, his faction leader Dürr, Heating Minister Habeck (Greens), and the Greens' co-leaders Haßelmann and Dröge justify this? What's driving them — other than panic of their own making? Is an asteroid hurtling toward Earth so that we have no time to act? Are millions of homes in Germany going to freeze this winter just because Berlin passed a heat pump law after instead of before the summer break? Is the global climate going to explode because of these eight weeks of summer vacation? The answer to all of this is: No! Anyone who treats freely elected MPs like this is treating us — the voters they represent — the same way. And MPs who allow this to happen betray their voters and the house they sit in. The inscription on the Reichstag reads: TO THE GERMAN PEOPLE. There's nothing there about coalition harmony or the Chancellor's holiday peace.			
Remscheid (dpa/lnw) - Dank florierender Geschäfte mit Wärmepumpen und digitalen Lösungen hat der Heizungs- und Klimatechnikspezialist Vaillant auch 2017 ein kräftiges Wachstum erzielt. Die Umsätze des Remscheider Familienunternehmens stiegen im vergangenen Jahr um rund vier Prozent auf knapp 2,4 Milliarden Euro. Bereinigt um Währungeffekte lag das Umsatzplus sogar bei 8 Prozent, wie das Unternehmen am Montag mitteilte. Das Betriebsergebnis vor Zinsen und Steuern (Ebit) erhöhte sich um rund 8 Prozent auf 232 Millionen Euro.	Remscheid (dpa/lnw) – Thanks to booming business in heat pumps and digital solutions, heating and air-conditioning specialist Vaillant achieved strong growth again in 2017. The Remscheid-based family-owned company increased its revenues by around 4 percent last year to just under 2.4 billion euros. Adjusted for currency effects, revenue growth even reached 8 percent, the company announced on Monday. One of the key growth drivers was the heat pump business. Vaillant CEO Norbert	0.977	2018-05-07	aktiencheck.de

Einer der wichtigsten Wachstumstreiber war dabei das Wärmepumpengeschäft. Vaillant-Chef Norbert Schiedeck berichtete: «Im Jahresverlauf haben wir im Wärmepumpengeschäft zusätzliche Marktanteile gewonnen, unsere Produktionskapazität verdoppelt und unsere Vertriebsaktivitäten gestärkt». Ziel von Vaillant sei es, bei Wärmepumpen langfristig eine ebenso starke Marktposition einzunehmen wie heute schon im Geschäft mit effizienten Gas-Technologien. Immer wichtiger werden für Vaillant auch digitale Produkte - etwa intelligente Regler-Technologien. Bezahlt macht sich für das Unternehmen Schiedeck zufolge auch die Expansion in außereuropäische Märkte. So erzielte Vaillant im Wachstumsmarkt China zweistellige Umsatzzuwächse. Auch in der Türkei verzeichnete das Unternehmen ein deutliches Umsatzplus.	Schiedeck reported: "Over the course of the year, we gained additional market share in the heat pump segment, doubled our production capacity, and strengthened our sales activities." Vaillant's goal is to achieve a similarly strong market position in heat pumps as it already holds in the business of efficient gas technologies. Digital products are also becoming increasingly important for Vaillant — such as smart controller technologies. According to Schiedeck, the company also benefited from its expansion into non-European markets. For instance, Vaillant recorded double-digit revenue growth in China, a high-growth market. The company also achieved significant sales increases in Turkey.			
Jubilarfeier von Stiebel Eltron – Greentech-Unternehmen expandiert wie nie zuvor – 2500 Mitarbeiter allein am Stammsitz Rekord: Stiebel stellt allein in Holzminden 500 neue Mitarbeiter ein Holzminden/Höxter Das Jahrzehnt der Wärmepumpe hat begonnen: Stiebel Eltron peilt zeitnah Umsatzmilliarde an. Während der Pandemie schafften sich viele Haushalte eine neue Wärmepumpe an. Im Kampf gegen den Klimawandel dürfte der Trend anhalten. Stiebel Eltron in Holzminden investiert, weitete die Produktion aus und schafft Hunderte neue Arbeitsplätze. 2022 war für Stiebel Eltron ein äußerst erfolgreiches Jahr: Das Wachstum zog sich durch nahezu alle Bereiche. Allein in Holzminden wurden über 500 neue Mitarbeiterinnen und Mitarbeiter eingestellt, so dass mittlerweile rund 2.500 Menschen am Stammsitz des Greentech-Unternehmens beschäftigt sind, darunter viele aus dem Kreis Höxter.	Jubilee celebration at Stiebel Eltron – Greentech company expands like never before – 2,500 employees at headquarters alone Record: Stiebel hires 500 new employees in Holzminden alone Holzminden/Höxter The decade of the heat pump has begun: Stiebel Eltron is aiming to reach one billion euros in revenue in the near future. During the pandemic, many households installed a new heat pump. In the fight against climate change, the trend is expected to continue. Stiebel Eltron in Holzminden is investing heavily, expanding production, and creating hundreds of new jobs. 2022 was an extremely successful year for Stiebel Eltron: growth extended across nearly all areas. In Holzminden alone, over 500 new employees were hired, bringing the total workforce at the Greentech company's headquarters to around 2,500 people, including many from the Höxter region.	0.978	2023-01-26	westfalen-blatt.de
Heizungstechnik Gehört Wärmepumpen die Zukunft? Viele Hausbesitzer wollen von einer Gas- oder Ölheizung auf Wärmepumpen umsteigen - und das Geschäft damit boomt. Das hessische Familienunternehmen Viessmann kündigt nun eine Milliardeninvestition an. Die massiv gestiegene Nachfrage nach Wärmepumpen für den Ersatz älterer Gas- oder Ölheizungen lässt Unternehmen der Branche dieses Geschäft stark ausbauen. So kündigte der Heiz- und Klimatechnik-Hersteller Viessmann heute an, in den kommenden drei Jahren eine Milliarde Euro zu investieren - vor allem in die Entwicklung der Technologie. Das Familienunternehmen aus dem nordhessischen Allendorf an der Eder will dazu seine Forschungs- und Produktionskapazitäten erweitern. Wärmepumpen sollen eine wesentliche Rolle dabei spielen, im Gebäudebereich den CO2-Ausstoß zu vermindern und beim Heizen unabhängiger von fossilen Brennstoffen zu werden. Mit Russlands Krieg gegen die Ukraine ist das Ziel der Energieunabhängigkeit stark in den Fokus gerückt. Für das Erreichen der Klimaziele gilt der Ausbau von Wärmepumpen ebenfalls als bedeutsam. Regierung will Umstieg beschleunigen	Heating Technology: Is the Future in Heat Pumps? Many homeowners want to switch from gas or oil heating to heat pumps — and the business is booming. The family-owned company Viessmann, based in Hesse, has now announced a billion-euro investment. The surging demand for heat pumps to replace old gas or oil heating systems is driving companies in the sector to rapidly expand. Heating and climate technology manufacturer Viessmann announced today that it will invest one billion euros over the next three years, mainly in technology development. The family business from Allendorf an der Eder in northern Hesse plans to expand its research and production capacities. Heat pumps are expected to play a key role in reducing CO_2 emissions in the building sector and in making heating systems less dependent on fossil fuels. Since Russia's war on Ukraine, the goal of energy independence has become much more urgent. Expanding the use of heat pumps is also considered crucial for achieving climate goals. Government Wants to Accelerate the Transition	0.956	2022-05-02	tagesschau.de

Bereits im Januar hatte die Bundesregierung angekündigt, den Ausbau von Wärmepumpen massiv erhöhen zu wollen. Das Ziel der installierten Wärmepumpen in Deutschland bis zum Jahr 2030 wurde von Bundeswirtschaftsminister Robert Habeck von vier auf sechs Millionen erhöht. Nach Angaben des Bundesverbands Wärmepumpe sind derzeit in Deutschland mehr als eine Millionen Geräte im Einsatz. Viele Hausbesitzer hoffen, sich durch die Nutzung die Technologie gegen die kräftig steigenden Energiepreisen absichern zu können. Wärmepumpen entziehen der Umwelt zum Heizen Wärme, am effektivsten sind Erdreich und Grundwasser. Durch Kompression und den Einsatz eines Kühlmittels wird diese dann auf höhere Temperaturen gebracht. Starkes Wachstum Im vergangenen Jahr war die Nachfrage laut Daten des Bundesverbandes der Deutschen Heizungsindustrie um 28 Prozent auf 154.000 Geräte gestiegen. Für die Unternehmen sind Wärmepumpen deshalb auch aufgrund staatlicher Förderung ein attraktives Geschäftsfeld. Nach Angaben des Bundesverbands Wärmepumpe sind allein in den ersten drei Monaten dieses Jahres 35 Prozent mehr Geräte verkauft worden als im Vorjahreszeitraum. Bei Viessmann wuchs das Geschäft mit Wärmepumpen bereits im abgelaufenen Geschäftsjahr mit einem Plus von 41 Prozent stärker als der Gesamtumsatz, der um 21 Prozent zulegte. Das Unternehmen mit weltweit rund 13.000 Beschäftigten erlöste 2021 den Rekordwert von 3,4 Milliarden Euro. "Wir alle benötigen mehr Geschwindigkeit und Pragmatismus, um den Klimawandel zu bekämpfen und die Energiegewinnung und -nutzung der Zukunft neu zu denken und damit die geopolitische Unabhängigkeit Europas zu stärken", erklärte Vorstandschef Max Viessmann. Auch Vaillant und Stiebel Eltron profitieren Europas zweitgrößter Heiztechnik-Hersteller Vaillant hatte ebenfalls bereits 2021 von einer starken Nachfrage nach umweltfreundlichen Heizsystemen profitiert. Bei Wärmepumpen verbuchte das Unternehmen ein Umsatzplus von 55 Prozent Es gebe in dem Geschäft noch eine Menge Potenzial, sagte jüngst auch Michael Birke von Stiebel Eltron. Das Unternehmen ist nach eigenen Angaben der größte Hersteller von Wärmepumpen in Mitteleuropa.	As early as January, the German government announced plans to significantly increase the rollout of heat pumps. The target number of installed heat pumps in Germany by 2030 was raised by Economy Minister Robert Habeck from four to six million units. According to the German Heat Pump Association, more than one million units are currently in operation across the country. Many homeowners hope to protect themselves from soaring energy prices by adopting this technology. Heat pumps draw heat from the environment for heating purposes — with the most efficient sources being the ground and groundwater. Through compression and the use of a refrigerant, this heat is then increased to higher temperatures. Strong Growth Last year, demand for heat pumps rose by 28 percent to 154,000 units, according to the German Heating Industry Association. For companies, heat pumps represent an attractive business area, also thanks to government subsidies. In just the first three months of this year, 35 percent more units were sold than in the same period last year, according to the German Heat Pump Association. At Viessmann, the heat pump segment grew by 41 percent in the last financial year — more than the company's total revenue, which rose by 21 percent. The company, which employs around 13,000 people worldwide, achieved a record turnover of 3.4 billion euros in 2021. "We all need more speed and pragmatism to combat climate change, rethink the future of energy production and usage, and thereby strengthen Europe's geopolitical independence," said CEO Max Viessmann. Vaillant and Stiebel Eltron Also Benefit Vaillant, Europe's second-largest heating technology manufacturer, already benefited from strong demand for eco-friendly heating systems in 2021. The company reported a 55 percent increase in revenue from heat pumps. "There's still a lot of potential in this market," said Michael Birke of Stiebel Eltron. According to the company, it is the largest heat pump manufacturer in Central Europe.			
Wärmepumpe im Haus installieren: Diese Renovierungen sollten Sie vornehmen Klimafreundliches Heizen ist in den letzten Wochen und Monaten stark auf den Plan getreten. Wärmepumpen sind eine Möglichkeit dafür. Diese vier Dinge erleichtern den Betrieb. München – Das Gebäudeenergiegesetz von Wirtschaftsminister Robert Habeck sorgt seit einiger Zeit für Furore und Diskussionen im Bundestag. Nun wird mit Heiz-Strafen in Höhe von einer Million Euro gedroht. In diesem Gesetzentwurf haben Wärmepumpen, als klimafreundliche Heiz-Möglichkeit, einen sehr hohen Stellenwert. Doch hier herrscht oft Verwirrung. Was sind eigentlich die Voraussetzungen für den Einbau einer Wärmepumpe und welche Eigenschaften sollte	Installing a Heat Pump at Home: These Renovations Should Be Considered Climate-friendly heating has become a hot topic in recent weeks and months. Heat pumps are one way to achieve this — and these four renovations can make them more efficient. Munich – The Building Energy Act proposed by Economy Minister Robert Habeck has stirred considerable controversy in the German Bundestag. The draft law now includes the threat of heating fines of up to one million euros. Within this legislative proposal, heat pumps play a central role as a climate-friendly heating solution. But there's often confusion: What are the requirements for installing a heat pump, and what features	0.065	2023-06-02	merkur.de

ein Haus oder eine Wohnung besitzen, damit sich eine solche Energiequelle überhaupt lohnt? Teilweise zahlen sich Wärmepumpen ohne Renovierungen nicht aus Sollte Habecks Gebäudeenergiegesetz in diesem Maße durch den Bundestag kommen, dann werden Wärmepumpen wohl künftig der neue Standard beim Einbau einer neuen Heizung, auch wenn aktuell die altbewährten Heizmethoden ein Comeback erleben. Doch dabei ist einiges zu beachten. Denn unter manchen Umständen lohnt sich diese so gar nicht und es sind einige Renovierungsarbeiten nötig. Sind gewisse Voraussetzungen nicht geschaffen, benötigt die Heizung viel Strom. Dann zahlt sich diese weder für die eigenen Kosten, noch für das Klima in irgendeiner Weise aus. Aus diesem Grund müssen einige Gebäude, besonders ältere Bauten, vor dem Einbau einer Wärmepumpe, energetisch saniert werden. Darüber berichtet die Verbraucherzentrale. Einbau einer Wärmepumpe: Dann müssen die Heizkörper getauscht werden Die erste Maßnahme ist der Tausch der Heizkörper. Oft sind in älteren Gebäuden Rippenheizkörper verbaut. Diese sollten vor dem Einbau einer Wärmepumpe gegen eine Fußbodenheizung oder Wandheizung ausgetauscht werden. In diesem Fall reichen geringere Heizwasser-Temperaturen aus, um das Gebäude zu heizen. Dach, Fenster, Fassade: Diese Renovierungen können vor einer Wärmepumpe nötig sein Der Tausch von alten Fenstern, sowie Dämmung können weitere Schritte sein, um Wärme nicht so schnell entweichen zu lassen und die Wärmepumpe so effizienter zu machen. Zuletzt kann auch das Dach ein Ansatzpunkt für Sanierungen sein. Besonders wenn sich Wohnräume unter diesem befinden, ergibt es Sinn, auch das Dachgeschoss gut zu dämmen. Dann kann warme Luft, die nach oben steigt, weniger gut entweichen und bleibt länger im Raum vorhanden. Diese Renovierungsarbeiten könnten für den Einbau einer Wärmepumpe nötig sein 1. Heizkörper austauschen 2. Tausch von älteren Fenstern 3. Dämmung der Fassaden 4. Dachgeschoss dämmen Rund um die Wärmepumpe kursieren viele Mythen. Zum Beispiel, dass sich der Einbau der klimafreundlichen Alternative finanziell nicht rechnet. Diese Mythen werden aufgeklärt.	should a house or apartment have to make such a system worthwhile? Without Renovations, Heat Pumps May Not Be Worthwhile If Habeck's Building Energy Act passes in its current form, heat pumps will likely become the new standard for heating systems — even if traditional heating methods are currently experiencing a comeback. But several factors need to be considered. In some cases, heat pumps aren't cost-effective without prior renovations. If certain prerequisites aren't met, heat pumps will consume a lot of electricity, making them neither cost-effective nor environmentally beneficial. For this reason, older buildings in particular often need to be retrofitted for energy efficiency before a heat pump can be installed, according to the German Consumer Advice Center. Heat Pump Installation: When You Need to Replace Radiators The first step is often replacing existing radiators. Many older buildings still use traditional ribbed radiators, which are not suitable for heat pumps. These should be replaced with underfloor heating or wall heating systems, which can provide sufficient warmth using lower water temperatures. Roof, Windows, Facade: Other Possible Renovation Needs Other renovations may include replacing old windows and improving insulation. These steps help reduce heat loss and improve the efficiency of the heat pump. The roof may also need to be insulated — especially if living spaces are located under it. Proper roof insulation prevents rising warm air from escaping too quickly, helping retain heat inside the house. Summary: Renovations That May Be Necessary Before Installing a Heat Pump Replace radiators (e.g., with underfloor or wall heating) Replace old windows Insulate exterior walls Insulate the attic or roof space There are still many myths surrounding heat pumps — for example, that their installation is never financially viable. These myths are currently being clarified through public education efforts.			
Beim geplanten Viessmann-Deal erwartet die Monopolkommission grünes Licht. Die Klimatechnik-Sparte des deutschen Unternehmens soll an den US-Konzern Carrier Global verkauft werden. Die Monopolkommission erwartet, dass die Übernahme der Klimatechnik-Sparte des Heizungsherstellers Viessmann durch den US-Konzern Carrier Global genehmigt wird. "Die Prüfung dieser Fusion durch die Kartellbehörden wird zeigen, ob damit Wettbewerbsprobleme verbunden sind. Es spricht nicht viel dafür", sagte der Vorsitzende des unabhängigen Beratungsgremium, Jürgen Kühling, der "Rheinischen Post".	Viessmann Deal: Monopolies Commission Expects Green Light The climate technology division of the German company is to be sold to the U.S. corporation Carrier Global. The Monopolies Commission expects that the takeover of Viessmann's climate technology division by the U.S. corporation Carrier Global will be approved. "The review of this merger by the antitrust authorities will show whether it raises any competition concerns. There is little to suggest that it does," said Jürgen Kühling, chairman of the independent advisory body, to the Rheinische Post.	-0.066	2023-04-27	zdf.de

"Mit dem sprunghaften Anstieg der Wärmepumpen-Nachfrage in Deutschland aufgrund des geplanten Verbots von Gas- und Ölheizungen kommen auf die Hersteller offensichtlich rosige Zeiten zu", so Kühling. "Dies ruft natürlich auch ausländische Anbieter auf den Plan, was für die Verbraucherinnen und Verbraucher nur gut sein kann." Der hessische Heizungsbauer Viessmann verkauft seine Klimatechnik-Sparte für rund zwölf Milliarden Euro an den US-Konzern Carrier Global. Deutsche Hersteller eher klein? Die deutschen Hersteller seien im internationalen Vergleich "eher klein und bisher vergleichsweise abgeschottet, weil die deutschen Handwerker über Fachschulungen und Kundendienstbeziehungen eng an Hersteller wie Viessmann oder Bosch gebunden sind", sagte Kühling. Perspektivisch werde sich das ändern, wenn die großen Hersteller aus Japan, Südkorea oder China ihr Angebot in Europa ausweiten. Viessmann hatte am Dienstagabend mitgeteilt, seine Klimatechnik-Sparte, zu der auch das Wärmepumpen-Geschäft gehört, für zwölf Milliarden Euro an den Klimaanlagenhersteller Carrier Global zu verkaufen. Bundeswirtschaftsminister Robert Habeck (Grüne) kündigte eine Prüfung der Übernahme an. Er deutete aber an, dass er die Notwendigkeit eines staatlichen Eingreifens im Fall Viessmann für unwahrscheinlich halte. Der Wirtschaftsstandort Deutschland sei unattraktiver geworden, sagt Ökonom Professor Feld von der Uni Freiburg. Debatte über Heizungsgesetz der Ampel Die Übernahme der Klimatechnik-Sparte des hessischen Heizungsbauers durch den US-Konzern fachte die Debatte über das Heizungsgesetz der Ampel-Regierung weiter an. Unions- und auch FDP-Politiker warfen Habeck vor, mit den strengen Vorgaben für neue Heizungen die Hersteller zu überfordern. Das Unternehmen selbst bezeichnete den Schritt als notwendig, um weiter gegen weltweite Konkurrenten bestehen zu können.	"With the rapid increase in demand for heat pumps in Germany due to the planned ban on gas and oil heating systems, the industry is clearly facing rosy times," Kühling added. "Naturally, this is also attracting foreign providers, which can only be good for consumers." The heating manufacturer Viessmann, based in Hesse, is selling its climate technology division to U.S.-based Carrier Global for around twelve billion euros. German Manufacturers Relatively Small? According to Kühling, German manufacturers are "relatively small in international comparison and, up to now, relatively insulated, because German tradespeople are closely tied to manufacturers like Viessmann or Bosch through professional training and customer service relationships." He added that this is likely to change as large manufacturers from Japan, South Korea, or China expand their offerings in Europe. Viessmann announced on Tuesday evening that it would sell its climate technology division—which includes its heat pump business—for twelve billion euros to air conditioning manufacturer Carrier Global. Federal Minister for Economic Affairs Robert Habeck (Green Party) announced a review of the acquisition but indicated that he considered state intervention in the Viessmann case unlikely. Germany as a Business Location Less Attractive Economist Professor Feld from the University of Freiburg commented that Germany has become a less attractive business location. Debate Over the "Heating Law" of the Ampel Coalition The takeover of the Hesse-based heating manufacturer's climate technology division by the U.S. corporation has further fueled the debate over the heating legislation proposed by the Ampel coalition government. Politicians from the CDU/CSU and FDP accused Habeck of overburdening manufacturers with the strict regulations for new heating systems. The company itself described the sale as a necessary step to remain competitive on the global market.			
Wärmewende Heizungsgesetz beschlossen: Das gilt nun für Besitzer von Öl- und Gasheizungen Trier/Berlin · Ab nächstem Jahr dürfen keine neuen Öl- und Gasheizungen mehr eingebaut werden. Das gilt aber nicht für alle Häuser. Trotz der vorgesehenen staatlichen Förderung für den Heizungstausch gehen Hausbesitzer von hohen Kosten aus. Nach monatelangem Ringen und Streit hat der Bundestag am Freitag das sogenannte Heizungsgesetz verabschiedet. Damit steht fest: Ab 2024 dürfen in neu gebauten Häusern keine reinen Öl- und Gasheizungen mehr eingebaut werden. Sie müssen mit mindestens 65 Prozent erneuerbarer Energie betrieben werden. „Das kann neben einer Wärmepumpe auch eine Holzheizung oder eine moderne Gasheizung	Heating Turnaround Heating Act passed: This now applies to owners of oil and gas heating systems Trier/Berlin - From next year, new oil and gas heating systems may no longer be installed. However, this does not apply to all homes. Despite the planned state subsidy for replacing heating systems, homeowners are expecting high costs. After months of wrangling and disputes, the Bundestag passed the so-called Heating Act on Friday. This means that from 2024, oil and gas-only heating systems may no longer be installed in newly built homes. They must be operated with at least 65 per cent renewable energy. 'In addition to a heat pump, this can also be a wood heating system or a modern gas heating system,' says Hunsrück FDP member of parliament Carina Konrad.	-0.062	2023-09-08	volksfreund.de

sein“, sagt die Hunsrücker FDP-Bundestagsabgeordnete Carina Konrad.				

Table 9: Examples for news articles with positive, negative, and neutral sentiments