Department of Digital Business
Journal of Artificial Intelligence and Digital Business (RIGGS)
Homepage: https://journal.ilmudata.co.id/index.php/RIGGS
Vol. 5 No. 2 (2026) pp: 9202- 9209
P-ISSN: 2963-9298, e-ISSN: 2963-914X

Media Framing of Environmental Risk in the Batangtoru HEPP Controversy

Eriga Wahyuwiranti[1], Soeseno Hendro Saputro[2]
[1,2] LSPR Institute of Communication and Business
[1]24072210020@lspr.edu, [2]24072210005@lspr.edu

Abstract

Renewable energy infrastructure projects are increasingly promoted as solutions to climate change and sustainable development, yet they often generate environmental controversies that extend beyond their technical characteristics. This study examines how media framing contributes to the social amplification of environmental risk by using the Batangtoru Hydroelectric Power Plant (HEPP) controversy in Indonesia as a longitudinal case study. Drawing upon Environmental Communication, Media Framing Theory, and the Social Amplification of Risk Framework (SARF), the study explores how localized ecological concerns are transformed into broader narratives of environmental threat through media discourse. A qualitative research design was employed using longitudinal media framing analysis of online news coverage published between 2017 and 2025. Relevant news articles were selected through purposive sampling, systematically coded, and analyzed using NVivo 15 to identify the evolution of dominant environmental frames, changes in media sentiment, and patterns of stakeholder visibility. The findings indicate that media narratives evolved progressively from an initial emphasis on biodiversity conservation toward broader concerns related to environmental risk, potential disasters, governance issues, and scientific controversy. This transformation was accompanied by increasingly negative media sentiment and the growing prominence of media institutions and environmental advocacy groups as key amplification actors. Consistent with SARF, the results suggest that media do not merely represent environmental issues but actively contribute to the amplification and discursive escalation of environmental risk over time. The study contributes to environmental communication scholarship by integrating media framing and risk amplification perspectives to explain how sustainability controversies evolve in the context of renewable energy infrastructure projects.

Keywords: *Enviromental Communication, Media Framing, Enviromental Risk, Social Amplification of Risk, Batangtoru HEPP.*

1. Introduction

Renewable energy infrastructure has become an essential component of global sustainability and climate transition agendas. Hydropower, wind farms, and other low-carbon energy projects are widely promoted as solutions for reducing greenhouse gas emissions while supporting long-term sustainable development. However, despite their environmental objectives, these projects frequently generate public controversy because of their potential impacts on biodiversity, ecosystem integrity, and local communities. Rather than functioning solely as technical responses to climate change, renewable energy developments often become contested spaces where competing narratives of economic development and environmental protection are negotiated (Cox & Pezzullo, 2021; Menga & Swyngedouw, 2018). In many cases, the social and political consequences of these projects are shaped not only by their environmental impacts but also by the ways those impacts are represented and communicated within the public sphere (Hansen, 2018).

Environmental controversies are therefore shaped not only by ecological conditions but also by communication processes through which environmental issues are interpreted and debated. Most members of the public do not directly experience the environmental consequences of large-scale infrastructure projects. Instead, perceptions of environmental risk are largely formed through media coverage and public communication. Environmental communication scholars argue that communication is a constitutive process through which societies construct shared meanings about environmental threats and sustainability (Cox & Pezzullo, 2021). Likewise, Beck's (1992) concept of the “risk society” suggests that modern environmental risks are increasingly understood and negotiated through social and communicative processes. As Beck (2006) further argues, contemporary societies are

characterized by the anticipation and public communication of risk, where media play a central role in shaping how future threats are imagined and understood.

Media institutions occupy a strategic position in this process by selecting and emphasizing particular aspects of reality. According to Entman (1993), framing shapes how issues are defined, interpreted, and morally evaluated through processes of selection and salience. Framing has also been conceptualized as a mechanism through which media influence public understanding by highlighting some aspects of reality while obscuring others (Scheufele, 1999). Furthermore, Reese (2007) argues that framing serves as a bridging model connecting media production, textual construction, and audience interpretation. In environmental conflicts, media narratives frequently emphasize uncertainty, responsibility, and crisis, contributing to polarized interpretations of sustainability issues (Nisbet & Fahy, 2015; Schäfer & Painter, 2021). However, existing studies have largely examined environmental communication, media framing, and risk communication as separate strands of scholarship, while paying limited attention to how media framing progressively amplifies environmental risk over time.

To address this limitation, this study adopts the Social Amplification of Risk Framework (SARF), which conceptualizes risk as a socially mediated phenomenon shaped through communication processes (Kasperson et al., 1988). SARF argues that media organizations and other social institutions function as amplification stations that intensify or attenuate risk signals through framing, narrative selection, and stakeholder visibility. Through repeated communication and symbolic reinforcement, localized environmental concerns may gradually evolve into broader narratives of public threat and catastrophe (Pidgeon et al., 2003). Subsequent developments of SARF further emphasize that interactions among media institutions, public responses, and stakeholder communication contribute to the amplification and diffusion of environmental risk perceptions across society (Renn et al., 1992). The controversy surrounding the Batangtoru Hydroelectric Power Plant (HEPP) in Indonesia provides an appropriate case for examining this process. Initially associated with the discovery of the critically endangered Tapanuli orangutan in 2017, the controversy gradually expanded from biodiversity conservation to broader debates about environmental risk, disaster, governance, and scientific disagreement.

Therefore, this study aims to examine how media framing practices contribute to the social amplification of environmental risk in contested sustainability projects over time. Using the Batangtoru HEPP controversy as a longitudinal case study covering the period from 2017 to 2025, this research integrates Environmental Communication, Media Framing Theory, and the Social Amplification of Risk Framework to explain how localized ecological concerns are transformed into broader narratives of environmental catastrophe. This study contributes to the literature by demonstrating that environmental risk in contested sustainability projects is not merely framed by the media but progressively escalated through identifiable mechanisms of social amplification that unfold across time. In doing so, the study extends the application of media framing and risk communication theories to the context of contested renewable energy infrastructure in developing countries, where longitudinal analyses of environmental risk escalation remain relatively limited.

2. Literature Review

2.1 Environmental Communication and Contested Sustainability Projects

Environmental communication has emerged as an important area of scholarship for understanding how societies interpret and negotiate environmental issues. Rather than viewing communication merely as a channel for transmitting information, environmental communication scholars conceptualize it as a constitutive process through which meanings about nature, environmental responsibility, and sustainability are socially constructed (Cox & Pezzullo, 2021). Public understanding of environmental problems is therefore shaped not only by ecological realities but also by the ways those realities are communicated, interpreted, and debated within the public sphere. Hansen (2018) further argues that media play a central role in transforming environmental issues into matters of public concern by providing symbolic frameworks through which environmental change is understood and discussed.

In the context of sustainable development, communication plays a particularly important role because many environmental conflicts involve competing interpretations of risks and benefits. Renewable energy infrastructure projects are often promoted as essential instruments for reducing carbon emissions and supporting climate transitions. At the same time, these projects may generate concerns related to biodiversity loss, ecosystem fragmentation, and community displacement. As Menga and Swyngedouw (2018) argue, hydropower

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)

development frequently becomes a site of narrative conflict where discourses of economic development and ecological protection compete for legitimacy. Similarly, Carvalho (2007) suggests that environmental issues are never communicated in a politically neutral way, but are embedded within broader ideological and institutional contexts that shape public interpretations.

Recent studies further suggest that environmental controversies increasingly unfold as communicative struggles among multiple actors, including governments, corporations, scientists, environmental organizations, and media institutions (Hansen & Cox, 2015; Schäfer & Painter, 2021). These actors do not simply communicate objective information but actively construct and contest the meanings attached to environmental risks and sustainability initiatives. Boykoff (2011) also notes that environmental journalism often involves the negotiation of competing scientific claims, political interests, and public expectations. Consequently, environmental disputes should be understood not only as ecological or technological problems but also as communication processes through which environmental realities are socially negotiated.

2.2 Media Framing Theory

Media framing theory explains how communication influences public understanding by emphasizing particular aspects of reality while downplaying others (West & Turner, 2018). According to Entman (1993), framing involves selecting certain elements of perceived reality and making them more salient in order to define problems, diagnose causes, make moral judgments, and suggest possible remedies. Through these processes, media narratives shape how audiences interpret complex social and environmental issues. Scheufele (1999) further conceptualizes framing as a theory of media effects, arguing that the way issues are presented influences how audiences process and evaluate public affairs.

Within environmental communication, framing has become a key mechanism through which sustainability projects and ecological controversies are publicly understood. Previous studies have shown that environmental news coverage often relies on narratives of uncertainty, conflict, crisis, and responsibility, encouraging audiences to interpret environmental issues through particular moral and emotional lenses (Nisbet & Fahy, 2015). Contemporary environmental journalism is also increasingly characterized by polarization and conflict-oriented storytelling, particularly when environmental issues intersect with politics, infrastructure development, and public policy debates (Judge et al., 2023; Schäfer & Painter, 2021). Reese (2007) argues that framing should be viewed as a bridging model connecting media production, textual construction, and audience interpretation, highlighting its importance for understanding the social consequences of mediated communication.

Importantly, framing is not a static process. Environmental narratives may evolve over time as new actors enter the debate, new events occur, and different aspects of an issue receive greater media attention. O'Neill and Smith (2014) argue that environmental meanings are continuously reconstructed through communicative interactions involving journalists, scientists, activists, and policymakers. Moreover, McQuail (2010) emphasizes that media institutions actively construct and circulate social reality rather than simply reflecting external events. Consequently, understanding how media frames change over time is essential for explaining the development and escalation of environmental controversies.

2.3 Social Amplification of Risk Framework (SARF)

The Social Amplification of Risk Framework (SARF) provides a useful perspective for understanding how environmental risks become socially significant through communication processes. Developed by Kasperson et al. (1988), SARF argues that the consequences of a risk are not determined solely by its physical or technical characteristics. Instead, the perceived importance of a risk is shaped by social and institutional mechanisms that amplify or attenuate information as it moves through society. Closely related to this perspective, Slovic (2000) argues that public responses to environmental hazards are strongly influenced by subjective perceptions and social values rather than by technical assessments alone.

According to SARF, communication actors such as media organizations, government agencies, scientific institutions, and civil society groups function as amplification stations. These actors selectively transmit, interpret, and reinforce information about potential hazards, influencing how risks are perceived by broader audiences. Through repeated communication, symbolic associations, and the prominence given to particular narratives, localized environmental issues may evolve into broader concerns about public safety, governance, and societal

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)

wellbeing (Pidgeon et al., 2003). Renn et al. (1992) further explain that interactions among institutions, media systems, and public responses create dynamic processes through which risk information is amplified and socially reproduced.

Three concepts from SARF are particularly relevant to the present study. First, *signal intensification* refers to the process by which certain environmental threats receive increasing attention and are portrayed as more severe through repeated communication. Second, *amplification stations* highlight the role of media institutions and influential stakeholders in selecting and disseminating risk narratives. Third, *ripple effects* describe how an initially localized issue expands into wider social, political, and ethical debates. These mechanisms suggest that media do not simply report environmental risks but actively participate in the social amplification of those risks. As Renn (2008) notes, effective risk governance depends not only on scientific evidence but also on how risks are communicated, interpreted, and negotiated within society.

Drawing upon SARF, this study conceptualizes media framing as an amplification mechanism through which environmental controversies evolve over time. Rather than treating media discourse as a passive reflection of environmental conditions, the present study views it as a dynamic process that progressively transforms localized ecological concerns into broader narratives of environmental risk and catastrophe.

2.4 Research Gap and Conceptual Positioning

Previous studies have examined environmental communication, media framing, and risk communication from different theoretical perspectives. However, these strands of scholarship have often developed independently, resulting in limited understanding of how media framing functions as a mechanism for the social amplification of environmental risk over time. Existing research has largely focused on identifying dominant environmental frames or analyzing short-term controversies, while longitudinal studies examining the escalation of environmental risk narratives remain relatively limited, particularly in the context of renewable energy infrastructure projects in developing countries. By integrating Environmental Communication, Media Framing Theory, and the Social Amplification of Risk Framework, the present study seeks to explain how environmental risk is progressively amplified through media discourse, using the Batangtoru HEPP controversy as a longitudinal case study.

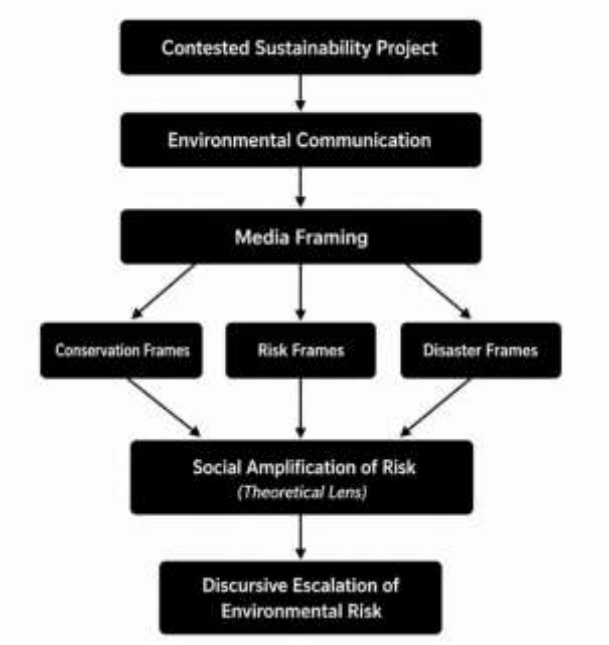


Figure 1. Conceptual Framework of Media Framing and the Social Amplification of Environmental Risk.

3. Research Method

This study employs a qualitative research design using a longitudinal media framing analysis approach informed by the Social Amplification of Risk Framework (SARF). A qualitative approach was considered appropriate

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)

because the objective of the study is not to measure the frequency of media coverage alone, but to examine how environmental risk narratives are constructed, amplified, and transformed over time through media discourse. Qualitative research enables scholars to explore how social meanings are produced and interpreted within specific contexts (Creswell & Creswell, 2018). Drawing upon the principles of environmental communication and media framing, this study investigates the communicative mechanisms through which localized ecological concerns evolve into broader narratives of environmental risk and catastrophe.

The empirical case examined in this study is the Batangtoru Hydroelectric Power Plant (HEPP) controversy in Indonesia. The study focuses on media coverage published between 2017 and 2025, a period that captures the emergence and development of the controversy from the discovery of the critically endangered Tapanuli orangutan to broader debates surrounding environmental risk, governance, and sustainability. The unit of analysis consists of online news articles and media reports discussing the Batangtoru HEPP project, selected through purposive sampling based on their relevance to the research objectives and their contribution to the public discourse surrounding the issue.

Data were collected from major Indonesian online news portals and digital media platforms that consistently covered the Batangtoru controversy during the observation period. The selected articles were archived, organized, and imported into NVivo 15 software to facilitate systematic coding and thematic categorization. Computer-assisted qualitative data analysis software (CAQDAS) such as NVivo supports the organization, retrieval, and transparent management of qualitative data throughout the research process (Paulus et al., 2014). Similar to previous qualitative media studies, the use of NVivo enhances coding consistency and analytical transparency (Castleberry & Nolen, 2018).

The analysis was conducted through three stages. First, the study identified the evolution of dominant environmental frames appearing across media coverage, including conservation frames, environmental risk frames, and disaster frames. Second, media sentiment was examined to understand how positive, neutral, and negative narratives contributed to conditions that facilitated the amplification of environmental risk. Third, stakeholder visibility was analyzed to identify the role of media institutions, government actors, environmental organizations, and other stakeholders as amplification actors within the public discourse. Rather than treating these dimensions as separate findings, this study conceptualizes them as interconnected mechanisms that contribute to the social amplification and discursive escalation of environmental risk.

To enhance the credibility and trustworthiness of the findings, coding categories were developed deductively from the theoretical framework while remaining open to emerging themes identified during the analysis. The coding process followed an iterative procedure in which categories were refined and reorganized throughout the analysis to ensure conceptual consistency (Saldaña, 2021). The interpretation of media narratives was guided by the integration of Environmental Communication, Media Framing Theory, and the Social Amplification of Risk Framework, enabling a comprehensive understanding of how environmental risks are amplified and transformed through longitudinal media discourse.

Table 1. Analytical Dimensions of the Study

Analytical Dimension	Operational Focus	Theoretical Basis
Evolution of Environmental Risk Frames	Identification of dominant environmental narratives over time	Media Framing Theory
Media Sentiment as Risk Amplification Condition	Identification of discursive conditions supporting risk amplification	Enviromental Communication
Stakeholder Visibility as Risk Amplification Actors	Identification of actors contributing to the amplification of risk narratives	Social Amplification of Risk Framework (SARF)

Source: Developed by the authors based on Entman (1993), Cox and Pezzullo (2021), and Kasperson et al. (1988).

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)

4. Results and Discussion

4.1 Evolution of Environmental Risk Narratives in the Batangtoru HEPP Controversy

The analysis of media coverage from 2017 to 2025 indicates that the Batangtoru HEPP controversy experienced a gradual transformation in the way environmental issues were framed. At the beginning of the controversy, media attention primarily focused on biodiversity conservation following the discovery of the critically endangered Tapanuli orangutan (*Pongo tapanuliensis*). News reports emphasized habitat preservation and the ecological significance of the Batangtoru ecosystem, positioning the issue primarily as a matter of wildlife conservation and ecological stewardship.

As the public debate developed, the dominant narrative shifted beyond species conservation toward broader concerns about environmental risk. Media reports increasingly highlighted issues such as habitat fragmentation, ecological degradation, and the potential long-term impacts of hydropower development. In subsequent years, these narratives expanded further to include discussions of environmental disasters, governance issues, and scientific disagreements, transforming the controversy into a broader public debate about environmental sustainability and safety. This finding supports the argument that media frames are dynamic and evolve in response to changing events, actors, and social contexts rather than remaining fixed throughout a controversy (O'Neill & Smith, 2014).

The findings also show that changes in media framing were accompanied by shifts in media sentiment and stakeholder visibility. Early reporting was relatively neutral and information-oriented, whereas later coverage increasingly adopted negative narratives associated with ecological threats and public risk. At the same time, media organizations and environmental advocacy groups became more visible in the discourse, while government institutions and scientific actors appeared less consistently. This pattern suggests that environmental controversies evolve not only through changes in issue framing but also through the interaction between media narratives, emotional tone, and stakeholder participation.

Table 2. Evolution of Environmental Risk Narratives in the Batangtoru HEPP Controversy (2017–2025)

Period	Dominant Frame	Dominant Sentiment	Key Actors
2017	Conservation	Neutral	Scientist, Media
2018-2019	Environmental Risk	Mixed	NGOs, Media
2020-2022	Disaster	Negative	NGOs, Media
2023-2024	Scientific Controversy	Negative	Media, Experts
2025	Intensified Disaster	Strongly Negative	Media, NGOs

Source: Developed by the authors based on NVivo coding results.

4.2 Media Framing and the Social Amplification of Environmental Risk

The findings demonstrate that media coverage does not merely reflect environmental conditions but actively shapes the way environmental risks are understood by the public. Consistent with Media Framing Theory, media organizations select and emphasize particular aspects of environmental issues, thereby influencing how problems are defined, interpreted, and morally evaluated (Entman, 1993). In addition, framing can be understood as a media effect that structures audience interpretations by making certain aspects of reality more salient than others (Scheufele, 1999). In the Batangtoru case, the transition from conservation-oriented reporting to narratives of environmental risk and potential disaster illustrates how framing can alter the public meaning of a sustainability project over time.

From the perspective of the Social Amplification of Risk Framework (Kasperson et al., 1988), media organizations function as amplification stations that increase the visibility and perceived significance of environmental threats. The increasing dominance of negative sentiment and the growing visibility of environmental advocacy groups contributed to the reinforcement of risk narratives throughout the controversy. Through repeated reporting and symbolic associations, localized ecological concerns gradually evolved into broader narratives of environmental danger and public vulnerability. This finding is consistent with Slovic's (2000) argument that public perceptions of risk are influenced not only by technical assessments but also by social values and communicative processes.

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)

Furthermore, the results indicate that media framing and stakeholder visibility operate together in amplifying environmental controversies. Reese (2007) argues that framing should be understood as a bridging process that links media production, textual narratives, and audience interpretation. Similarly, Renn (2008) emphasizes that risk governance is strongly influenced by communication processes through which risk information is interpreted, contested, and socially reproduced. In the Batangtoru controversy, the interaction between evolving media frames, increasingly negative sentiment, and the prominence of environmental advocacy actors contributed to the progressive escalation of environmental risk narratives.

These findings support the argument that environmental risk is not simply communicated through the media but is progressively amplified through framing practices and stakeholder interactions. The evolution of the Batangtoru controversy therefore reflects a process of discursive escalation in which media narratives transform a localized environmental issue into a broader sustainability conflict.

4.3 Discussion and Theoretical Implications

The Batangtoru HEPP controversy illustrates the close relationship between environmental communication, media framing, and the social amplification of risk. Environmental Communication provides a framework for understanding how meanings about sustainability and environmental responsibility are socially negotiated, while Media Framing Theory explains how particular aspects of the controversy become more salient within public discourse. The Social Amplification of Risk Framework complements these perspectives by demonstrating how repeated communication and stakeholder interactions intensify the perceived significance of environmental risks over time.

The findings suggest that environmental controversies are dynamic communication processes rather than static reflections of ecological conditions. The shift from conservation narratives toward broader discussions of environmental risk and catastrophe indicates that media framing can progressively escalate the social meaning of environmental issues. Rather than merely reflecting external reality, media institutions actively participate in the construction and circulation of environmental narratives, shaping the way environmental conflicts are interpreted by the public (McQuail, 2010).

In this regard, the Batangtoru case demonstrates that sustainability controversies are shaped not only by the physical impacts of development projects but also by the communication processes through which environmental risks are constructed, amplified, and circulated in the public sphere. By integrating Environmental Communication, Media Framing Theory, and the Social Amplification of Risk Framework, this study offers a communication-centered explanation of how localized ecological concerns can gradually evolve into broader narratives of environmental risk and public controversy.

5. Conclusion

This study examined how media framing contributes to the social amplification of environmental risk in contested sustainability projects by using the Batangtoru Hydroelectric Power Plant (HEPP) controversy as a longitudinal case study covering the period from 2017 to 2025. The findings reveal that media narratives surrounding the project evolved progressively from an initial emphasis on biodiversity conservation toward broader concerns related to environmental risk, potential disasters, governance issues, and scientific controversy. Rather than remaining static, environmental narratives developed over time as different actors, events, and competing interpretations became increasingly prominent within the public discourse. The study further demonstrates that media framing functions not only as a mechanism for representing environmental issues but also as a process that progressively amplifies the social significance of environmental risk. The trajectory identified in this study from conservation, to environmental risk, to disaster and scientific controversy indicates that localized ecological concerns can gradually develop into broader narratives of public threat through sustained communication processes. In this sense, media organizations and other communication actors do not merely transmit information but actively shape the social construction and escalation of environmental risk. From a theoretical perspective, this research contributes to the environmental communication literature by integrating Environmental Communication, Media Framing Theory, and the Social Amplification of Risk Framework within a single analytical model. While previous studies have frequently examined these perspectives separately, the present study demonstrates that media framing can operate as a mechanism of social risk amplification, helping to explain how environmental controversies emerge, develop, and intensify over time. The findings also extend the application of the Social Amplification of Risk Framework

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)

to the context of renewable energy infrastructure and environmental disputes in developing countries, where longitudinal analyses of environmental risk communication remain relatively limited. From a practical perspective, the findings highlight the importance of transparent, evidence-based, and participatory communication strategies in the management of sustainability projects. Policymakers, project developers, and environmental stakeholders should recognize that public controversies are shaped not only by the technical characteristics of a project but also by the ways environmental information is framed and circulated within the media environment. This study is limited to the analysis of online media discourse and does not directly examine audience reception or the dynamics of social media interactions. Future research may therefore extend this analysis by incorporating audience perspectives, cross-platform communication dynamics, or comparative case studies involving other contested renewable energy projects to further understand how environmental risk narratives evolve across different communication contexts.

Reference

1. Beck, U. (1992). *Risk society: Towards a new modernity*. SAGE Publications.
2. Beck, U. (2006). Living in the world risk society. *Economy and Society*, *35*(3), 329–345. https://doi.org/10.1080/03085140600844902
3. Boykoff, M. T. (2011). *Who speaks for the climate? Making sense of media reporting on climate change*. Cambridge University Press.
4. Carvalho, A. (2007). Ideological cultures and media discourses on scientific knowledge: Re-reading news on climate change. *Public Understanding of Science*, *16*(2), 223–243. https://doi.org/10.1177/0963662506066775
5. Castleberry, A., & Nolen, A. (2018). Thematic analysis of qualitative research data: Is it as easy as it sounds? *Currents in Pharmacy Teaching and Learning*, *10*(6), 807–815. https://doi.org/10.1016/j.cptl.2018.03.019
6. Cox, R., & Pezzullo, P. C. (2021). *Environmental communication and the public sphere* (6th ed.). SAGE Publications.
7. Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
8. Entman, R. M. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, *43*(4), 51–58. https://doi.org/10.1111/j.1460-2466.1993.tb01304.x
9. Hansen, A. (2018). *Environment, media and communication* (2nd ed.). Routledge.
10. Hansen, A., & Cox, R. (Eds.). (2015). *The Routledge handbook of environment and communication*. Routledge.
11. Judge, M., Kashima, Y., Steg, L., & Dietz, T. (2023). Environmental decision-making in times of polarization. *Annual Review of Environment and Resources*, *48*, 477–503. https://www.annualreviews.org/content/journals/10.1146/annurev-environ-112321-115339
12. Kasperson, R. E., Renn, O., Slovic, P., Brown, H. S., Emel, J., Goble, R., Kasperson, J. X., & Ratick, S. (1988). The social amplification of risk: A conceptual framework. *Risk Analysis*, *8*(2), 177–187. https://doi.org/10.1111/j.1539-6924.1988.tb01168.x
13. McQuail, D. (2010). *McQuail's mass communication theory* (6th ed.). SAGE Publications.
14. Menga, F., & Swyngedouw, E. (2018). Water, technology and the nation-state: The hydropolitics of hydroelectric development. *Political Geography*, *67*, 1–10.
15. Nisbet, M. C., & Fahy, D. (2015). The need for knowledge-based journalism in covering science and politics. *Journalism*, *16*(1), 3–12. https://www.jstor.org/stable/24541816
16. O'Neill, S., & Smith, N. (2014). Climate change and visual imagery. *WIREs Climate Change*, *5*(1), 73–87. https://doi.org/10.1002/wcc.249
17. Paulus, T. M., Lester, J. N., & Dempster, P. G. (2014). *Digital tools for qualitative research*. SAGE Publications.
18. Pidgeon, N., Kasperson, R. E., & Slovic, P. (Eds.). (2003). *The social amplification of risk*. Cambridge University Press.
19. Reese, S. D. (2007). The framing project: A bridging model for media research revisited. *Journal of Communication*, *57*(1), 148–154. https://doi.org/10.1111/j.1460-2466.2006.00334.x
20. Renn, O. (2008). *Risk governance: Coping with uncertainty in a complex world*. Earthscan.
21. Renn, O., Burns, W. J., Kasperson, J. X., Kasperson, R. E., & Slovic, P. (1992). The social amplification of risk: Theoretical foundations and empirical applications. *Journal of Social Issues*, *48*(4), 137–160. https://doi.org/10.1111/j.1540-4560.1992.tb01949.x
22. Saldaña, J. (2021). *The coding manual for qualitative researchers* (4th ed.). SAGE Publications.
23. Schäfer, M. S., & Painter, J. (2021). Climate journalism in a changing media ecosystem: Assessing the production of climate change-related news around the world. *WIREs Climate Change*, *12*(1), e675. https://doi.org/10.1002/wcc.675
24. Scheufele, D. A. (1999). Framing as a theory of media effects. *Journal of Communication*, *49*(1), 103–122. https://doi.org/10.1111/j.1460-2466.1999.tb02784.x
25. Slovic, P. (2000). *The perception of risk*. Earthscan Publications. 10.1017/CBO9781316422250.040
26. West, R., & Turner, L. H. (2018). *Introducing communication theory: Analysis and application* (6th ed.). McGraw-Hill Education. https://doi.org/10.4148/1051-0834.1223

DOI: https://doi.org/10.31004/riggs.v5i2.10283
Lisensi: Creative Commons Attribution 4.0 International (CC BY 4.0)