

An Analysis of Policy Solutions to Mitigate the Impact of Greenhouse Gas Emissions and Increase Public Awareness and Participation

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Abstract. *This research analyzes policy solutions aimed at mitigating greenhouse gas emissions and enhancing public awareness and participation in climate action. By examining diverse policy interventions, such as renewable energy incentives, carbon pricing mechanisms, energy efficiency standards, afforestation, reforestation, and sustainable agricultural practices, the study evaluates their effectiveness, cost-effectiveness, equity, flexibility, and political feasibility. The analysis draws on both primary data from interviews with policymakers, environmental advocates, and community leaders, and secondary data from literature reviews. The findings reveal that renewable energy incentives and carbon pricing mechanisms are among the most effective strategies for reducing emissions, although their feasibility varies due to financial, political, and social factors. Public education and community-based approaches emerge as the most successful methods for increasing public awareness and fostering participation, especially when tailored to local contexts and combined with digital platforms to reach wider audiences. However, gaps in current policy frameworks remain, including insufficient integration of international cooperation, underrepresentation of marginalized communities, and limited focus on behavioral change and engagement strategies. This study highlights the importance of adopting a combination of policy measures that leverage the strengths of each intervention while addressing their limitations. It calls for more inclusive and integrated approaches that align local, national, and global policies, actively involve underrepresented communities, and promote behavioral changes through targeted interventions. By identifying these gaps and opportunities, the research provides actionable recommendations for policymakers, stakeholders, and civil society organizations to create more comprehensive, equitable, and effective climate strategies.*

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INTRODUCTION

The increasing frequency of extreme weather events, the alarming rise in global temperatures, and the rapid depletion of natural resources have heightened the urgency to address greenhouse gas (GHG) emissions. Climate change is recognized as one of the most significant global challenges of the 21st century, necessitating immediate and comprehensive policy responses from governments, institutions, and individuals alike (Masson-Delmotte et al., 2021). The detrimental impacts of GHG emissions primarily carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are contributing to global warming, sea level rise, and severe disruptions in ecological systems (United Nations, 2020).

To mitigate these effects, it is critical to develop and implement effective policy frameworks that not only target emissions reduction but also promote public awareness and participation (Crippa et al., 2019). A holistic approach that integrates both mitigation and adaptation strategies is vital to build climate-resilient communities and ensure sustainable development (Obergassel et al., 2021). Policymakers must focus on promoting renewable energy, enhancing energy efficiency, and encouraging sustainable agricultural practices, all while fostering active public engagement.

However, current policy frameworks often fall short in several areas, such as harmonization of international efforts, representation of marginalized communities, and adaptation to evolving climate conditions (Pihl et al., 2021; Sabato et al., 2020). These gaps highlight the need for continuous policy review and adjustment to enhance efficiency, equity, and effectiveness (van der Ven et al., 2020). Moreover, raising public awareness and fostering behavioral change remain crucial challenges, as many existing policies primarily rely on information dissemination rather than actively engaging citizens in climate action (Roberts et al., 2021).

This research aims to explore and evaluate diverse policy solutions to mitigate GHG emissions and increase public engagement in climate action. It focuses on identifying the most effective strategies and interventions for reducing emissions across key sectors, such as energy, transportation, industry, and agriculture (Aldy & Stavins, 2019). Additionally, it seeks to examine innovative methods to promote behavioral change, enhance public awareness, and foster greater participation in climate-related initiatives (van der Gaast et al., 2021).

By analyzing current policies and identifying areas for improvement, this study contributes to the ongoing discourse on climate policy and provides actionable insights for decision-makers at local, national, and international levels (Bodansky et al., 2021). Ultimately, it aims to offer a comprehensive framework for climate action that integrates both top-down and bottom-up approaches, ensuring a just and equitable transition to a low-carbon future (Sovacool et al., 2020).

Significance of the Study

Climate change poses an existential threat to both natural ecosystems and human societies, demanding an urgent and comprehensive response. This research is significant because it addresses the critical need for effective policy interventions that reduce greenhouse gas emissions while enhancing public awareness and participation. Understanding the effectiveness of these policy interventions is crucial for developing integrated and equitable solutions that can be implemented at various governance levels (van der Ven et al., 2020).

This study contributes to the existing body of knowledge by identifying gaps in current policy frameworks and offering new insights into innovative approaches that combine mitigation and adaptation strategies. It also emphasizes the role of public engagement as a key factor in achieving climate resilience, ensuring that policies are not only technically effective but also socially inclusive and widely supported. This research provides valuable guidance to policymakers, academics, and civil society organizations in crafting policies that align with global climate goals and meet local community needs (Pihl et al., 2021; O'Neill & Nicholson-Cole, 2021).

By examining diverse policy responses across multiple sectors such as energy, agriculture, transportation, and industry this study helps prioritize the most effective strategies and underscores the importance of continuous policy review and adjustment. The findings aim to bridge the gap between policy formulation and implementation, encouraging a more holistic and collaborative approach to climate action (Obergassel et al., 2021).

METHODS

This study employs a qualitative research approach to explore the effectiveness of various policy solutions for mitigating greenhouse gas emissions and enhancing public awareness and participation in climate action. The methodology integrates both primary and secondary data

sources, ensuring a comprehensive analysis of current policy frameworks and identifying areas for improvement. Research Design: A qualitative research design was chosen for its capacity to provide in-depth insights into complex social phenomena, such as climate policy and public engagement. The study uses a combination of document analysis and semi-structured interviews to capture a wide range of perspectives from key stakeholders, including policymakers, environmental advocates, and community leaders.

Data Collection

Primary Data: Semi-structured interviews were conducted with 20 experts in climate policy, including government officials, policy analysts, environmental NGOs, and representatives from affected communities. Interviewees were selected using purposive sampling to ensure diverse perspectives and relevant expertise. The interviews were designed to elicit detailed responses regarding the effectiveness of existing policies, the challenges faced in implementation, and suggestions for improvement. **Secondary Data:** A comprehensive review of existing literature was undertaken, including peer-reviewed journal articles, policy reports, government documents, and international agreements published between 2012 and 2021. This literature review provided a foundation for understanding the current policy landscape and identifying gaps that need to be addressed.

Data Analysis

Thematic Analysis was selected as the primary method for data analysis due to its ability to provide a rich and detailed account of qualitative data, making it particularly suitable for exploring complex issues like climate policy and public engagement. This method allows for a systematic examination of patterns or themes within the data, facilitating the identification of key insights and recurring concepts that are essential for addressing the research questions.

The first phase involved immersing in the data to gain an in-depth understanding of its content. All interview transcripts were carefully read and re-read, and relevant documents were reviewed multiple times. This process allowed the researcher to become familiar with the data and begin to identify potential patterns and notable points of interest. Memos and notes were taken during this stage to capture initial impressions and ideas.

In this phase, the data was systematically coded by assigning labels or "codes" to specific segments of the text that were deemed significant to the research questions. For instance, segments discussing the success or failure of certain policy interventions were coded with labels like "policy success," "policy failure," "public engagement," or "behavioral change." This coding process was both inductive, allowing new themes to emerge from the data, and deductive, based on predefined themes related to policy effectiveness and public participation.

RESULT AND DISCUSSION

Renewable Energy Incentives

"Interviewees noted that in countries like Germany and Denmark, renewable energy incentives have led to a reduction in carbon dioxide emissions by approximately 35% from the energy sector over the past two decades."

This goes to show that structured incentives lead to great improvements in emissions. These countries demonstrate the need for current as well as long term policy commitment, political will and public support. Such policies are actually good since the 35% cut represents a lot of progress in the effort to reduce emissions and sucking up as it shows that when there is synchronization of ambitious financial instruments, legal agreements, and awareness campaigns, then there can be improved chances for the proper implementation of even such strict policies. It also brings some queries on how this initiative will be expressive and translatable to the countries that have comparatively receptive financial and institutional power.

"However, the cost of implementing these incentives remains high, particularly in countries with limited financial resources."

This underscores a critical challenge: problems such as cost of funding the renewable energy incentives. Though good for emission reduction, some of these policies may not be implementable in LIFDCs, which probably lacks the financial basis. This questions the effectiveness of emission reductions on one side and such initiatives' feasibility on the other side. This also hints that the international support, whether in form of funding or technology transfer, might be imperative if the solution is to be adopted in the other countries across the world.

"Despite these challenges, public acceptance of renewable energy incentives remains high as the public increasingly favors clean energy over fossil fuels."

Regarding the trends, the increase in the price of clean energy and the change of pattern as more people embrace the use of clean energy are other trends which indicate the shift of the society's attitude towards sustainability. This support and acceptance is however imperative for most renewable energy policies to continue receiving support in the longer run. However this also means there is a potential disconnect between the desires of the public and those of their governments most notably in areas where fossil fuel industries remain prominent. Indeed, it creates more awareness related to ways of how the public opinion can be translated into policy interventions in such circumstances.

"The feasibility of scaling these incentives varies across different regions due to varying levels of political support and economic stability."

Such difference in feasibility shows that politics, economics and environmental policy form an intricate relation. Such policies are feasible in areas that have political backing and relatively stable economic base; they go a long way to improving the environment. However, these policies do not take root in politically unstable or economically weaker region thus global emission reductions are not progressing at equal rate. This means that strategies which are being implemented should be understood within the context of a specific country and its political and/or economic environment.

It has been found that provision of incentives on renewable energy is one of the most effective ways to decrease carbon emissions, especially in the developed countries that have strong capital and political base. It illustrates that the deployment of such incentives has been effective in countries such as Germany and Denmark; they have reduced carbon dioxide emissions in the energy sector by one-third in the last twenty years, according to Chanmony (2021). This is in line with the global focus in renewable energy as the focus of climate change policies and a growing importance of clean energy technologies in national policies.

The current literature also supports the idea that renewable energy incentives work but also identifies the prospects of their application, particularly in developing countries. The promotion of incentives in renewables has led to impressive enhanced in Hi income countries, the same cannot be said on for low income nations due to limited financial resources as well as infrastructural developments. This has led to inequality in the provision and effectiveness of these incentives, which confirms the importance of the need to develop a more complex approach that would address the characteristics of economic and political development of the regions.

Furthermore, the high cost of these incentives as has been pointed out in the literature. In another study conducted by Khan et al (2021), they pointed out the fact that even though fortification of renewable energy policies is useful in realizing long-term emission reduction targets, they attract huge costs most of which are beyond the reach of some countries. This has provoked more calls for enhanced global partnership and financing including the Green Climate Fund so that the lowincome countries can undertake deployment of renewable energy technologies.

The support for renewable energy incentives is still strong among the public mainly due to increased consciousness of the threat of climate change and the advantages rendered by the utilization of clean energy. This change of society is crucial, since the popular support helps build the political will that make it possible for political institutions to set in place more comprehensive

climate politics. However, it is pertinent to observe that Sovacool et al. (2020) in their recent work have argued that such support requires mobilisation into policy action especially in areas where fossil fuel industries dominate. The problem of making public coincide with policy choices that take place in a sphere filled with vested economic interests and achieve a wider political consensus.

Carbon Pricing Mechanisms

“Carbon pricing has proven effective in some contexts, particularly in countries like Sweden where a carbon tax has resulted in a 25% reduction in GHG emissions since its implementation in the early 1990s.”

This goes to show the benefits that can accrue from carbon pricing when it is rolled out in the right conditions. The experience of carbon taxes in Sweden proves that the use of such methods can produce excellent results and substantially reduce emissions. However, these successes can only be seen as more context specific and, therefore, such measures can only be seen as potentially less useful in different contexts. It means that the success of Sweden can be explained by other advantages, for instance, political stability, economic development as well as a supportive public, possibly, absent in other countries.

“Several stakeholders highlighted that carbon pricing often encounters significant legislative resistance, especially in countries with strong fossil fuel interests.”

Such resistance has been building the political barriers that carbon pricing has been facing. Interests in fossil fuel, which are well rooted in many countries of today's world, present a significant challenge towards the adoption of such policies. This implies that carbon pricing may need intense political support and encouragements to offset these challenges that can markedly differ from one country to another.

“There are concerns about the regressive impact of carbon taxes on low-income households as these groups may disproportionately bear the financial burden of such policies.”

This points to a fundamental equity issue that relates to carbon pricing. Analysing carbon taxes implications, the potential regressive effects sever that without accompanying rebates or targeted subsidy, carbon taxation aggravates social equity. This calls for policy consideration on how best to implement carbon price instruments in a way that would allow for the reduction of emissions while at the same time, not impacting the economy in a wrong way.

“Despite these challenges, carbon pricing is generally seen as a feasible approach that, when designed equitably, can effectively reduce emissions and encourage sustainable practices.”

This statement provides further support to attesting the usefulness of carbon pricing in case it is used as policy instrument. But it also suggest extend the concept of design thinking toward fairness in order to avoid negative impact on the less privilege group. The possibility of using carbon pricing is thus dependent on its efficiency in producing the desired economic and environmental outcomes as well as its affordability or acceptability in societies.

Carbon pricing is defined as carbon taxes and emissions trading schemes, which are considered by the researchers as efficient for the reduction of GHG emissions by introducing the price for carbon. The results of the study are in line with the other research, which identifies carbon pricing as an essential tool of climate policy (Chanmony, 2021). For example, an introduction of the carbon tax in Sweden has contributed to a 25 per cent reduction of emission in the country since early 1990s, a scenario that depicts the effectiveness of such measures when implemented within good environment.

Later on, other work extends this inquiry into the further dimensions of carbon pricing, especially regarding its political viability and social acceptability. Political realities are a matter of concern due to the well-entrenched fossil fuel interests there are also inhibitions about the effect of such measures on the economy. This resistance is even more notable in the areas that have a large amount of deposits of fossil fuels, meaning that the implementation of the carbon

price is phased by industrial and public protests. Another important issue is equity aspects of carbon pricing. According to the paper by Manzo & Padfield (2016), carbon taxes may impose a higher burden on low-income communities hereby worsening social disparities if not well implemented. This has led to the formulation of different mitigation measures or what can be referred to as compensatory measures for carbon pricing, for instance, rebates and targeted subsidies to counterbalance the regressiveness of carbon pricing. But all these measures have the effectiveness which depends on their design and enactment, and some researchers claim that inadequately designed compensatory measures do not protect vulnerable groups effectively.

However, based on the study, it is clear that carbon pricing is still valid and efficient strategy that may be utilized in reducing emissions, particularly if it is going to be done fairly and politically. As pointed out by Haites (2018), carbon pricing should be considered as an important albeit partial part of efforts to tackle climate change. They stress on the coherence of other policies, like investment in the renewable energy generation and energy efficiency that would enhance the impact of carbon pricing and support for the just transition.

Public Education and Outreach

"Public education and outreach programs have been successful in raising awareness in regions with high literacy rates and strong governmental support."

This success is telling about the basics of course like literacy and government support as some of the most critical signs of effectiveness of public educative programs. This implies that when those programs are executed in those environments, then they can achieve massive impacts in the society. However, it also has some issues related to their applicability for areas with low literacy levels and inadequate governmental support, which is why the need for regional approaches that would fit the existing issues has been mentioned.

"Programs often struggle to engage marginalized groups such as low-income communities due to limited access to information or resources."

I believe this quote refer to one of the biggest challenges when it comes to conducting public education and public outreach. They observed that it is impossible to reach the targeted groups and this indicate the weakness of the current measures as they may not consider the barriers that the communities encounter. This shows that there is still a long way to go in order to make climate change solutions more inclusive that would adequately encourage all communities to participate.

"Countries like Sweden and Japan have seen significant increases in public understanding of climate issues correlating with targeted educational campaigns."

Educational campaigns that are tailored to specific issues tend to be effective in changing the perception of the public hence the role of conducting research in identifying and targeting such campaigns. This implies that by developing culturally-tailored and context relevant education interventions, systematic and improved climate literacy could be achieved in the community. It also suggests that such campaigns should be actually properly designed according to the peculiarities of culture and societies of each zone for enhancing the outcomes greatly.

"There is a need for more inclusive approaches that tailor messaging to different demographics."

This proves the stand of the institution for Diversity and Inclusiveness in Public Education. Adaptation of messages makes it easier to pass the information since it would have been presented in a manner that is understandable across the different demographical brackets. It may also assist in reducing the perceived distance between climate awareness and the call to action by designing climate related issues in a manner that can be easily understood by different stakeholders.

More specifically, the study points to the need for more awareness campaigns, as well as outreach programmes to get the public involved in combating the effects of climate change. These

programs have proven most successful in the areas of high literacy levels and good government support like in Sweden & Japan (Chanmony, 2021). This argument is well captured in the recent literature as numerous studies argue that education plays a decisive role in people's perception of climate change and willingness to act in a socially responsible manner. In the opinion of Moser (2016), public education is not just the process of conveying information but rather a process through which citizenship is invited and mobilised to do something effectively. This calls for a change from the top-down approach to communicating to the organization's stakeholders to a bottom-up approach that can elicit the interest of the stakeholders. For instance, culturally tailored interventions such as the use of educational programs that respects indigenous knowledge and beliefs will enhance the reach out to the populace especially the marginalized groups in the society.

The results regarding the difficulties of working with the target population coincide with concerns regarding the representativeness of climate change education initiatives. Low-income population or ethnic groups have limited access to information and therefore restricted participation in the climate process. This points to the fact that there is a need for the politics that would overcome these barriers in order to engage all layers of the society in the process of transitioning towards low-carbon society. Furthermore Haider et al. (2019) postulates that public education programs should also incorporate the physical, social, mental and emotional states of climate change in order to enable individuals and communities within learn how to cope with the situation and adjust to the physical climate reality. This ranges from awareness creation to empowering citizens to take action and this is very important for anyone who wants to promote long-term climate change.

Community-Based Approaches

"Community-based approaches such as local climate action plans have been highly effective in increasing public awareness and participation at the local level."

The ability of community based approaches speaks volume of the fact that localized actions can play an important role in fighting climate change. These approaches rely on the efficacy of the community networks and local knowledge and ensure that everyone takes ownership of the project. This implies that any broader climate goals may be achieved by empowering local communities most especially in those regions where more centralized approaches may not work.

"These initiatives empower communities by providing direct control over local climate actions, leading to greater engagement and sustained participation."

This quote shows how empowerment is central to the effort of achieving long-term climate change action. These approaches make people involved in the management of the local programs hence enhancing commitment to climate change goals. This implies that community-based interventions could therefore be more sustainable and resilient than the centralized interventions, in terms of, for example, bringing about desirable, long term behaviour change.

"Community energy cooperatives in Germany have succeeded in involving local residents by offering financial incentives and decision-making power."

German experiments with the community energy cooperatives can be understood as evidence of the effectiveness of the financial measures and engagement of the community in decision-making processes. This means that similar models could be devised in other settings to enhance participation of locals in renewable energy projects. However it also comes with concerns on generalisability of such models and their procurement in different cultural and economical environments.

"These approaches work best when they align with local values and priorities."

This goes a long way in pointing to the fact that culture and context are very important when it comes to community based interventions. This means that the campaigns that are being

carried out should be in harmony with the local culture hence, enhancing acceptance in the community. This implies that it will not be efficient to apply single complex solution and that interventions need to be designed depending on the context of each community.

Such approaches are thought in the study to be very effective in engaging the community and enable its participation in climate change initiatives. These approaches also strengthen communities as they offer them direct control over local programmes so resulting in high participation and enhanced networks (Chanmony, 2021). This, as could be seen from the practice, especially in countries like Germany where the energy cooperatives helped drive the energy transition.

New scholarship discusses the possibility of fine-grained autonomous climate initiatives to engage communities and increase their adaptive capacity. For instance, Aklin & Urpelainen (2018) have shown that programs in the community level do not only cause the reduction of emissions but also enhance social capital and instill a sense of public obligation. These projects are usually more effective when they are in harmony with the culture and mission of the communities in which they are located, thus making community members own projects (Devine-Wright, 2021).

However, despite the ability of referring techniques that are founded on community structures to unleash the potential economies of scale, concerning the ability of such approaches to easily scale up, the issue remains an open one. Although these measures may be quite successful in targeted settings, their potential is often hampered by an insufficient number of resources and inadequate institutional base. Ref. Power to Change (Cmnty-based initv's don't just scale up if they want to need supportive policy envrnmt and funds/technical assistance...). But by failing to provide these two, the future role of the community based approaches in achieving national and global climate targets may not be fully realized. The study also focuses on how community practice can be better integrated with other policies and plans so as to improve on its impact. This is supported by recent literature that demands that local and national climate policies be integrated so that the community-based oriented efforts are not local innovations but an elaborate climate change strategy. This integration is very important because it helps in up-scaling successful local programmes or projects to the national and global level and can meaningfully contribute to national and global climate change goals.

Addressing the Current Policy Frameworks

Some of the major challenges the study notes are as follows; further research is required in order to fill the recognition gaps of current climate policy frameworks. Another is that most of the current policies don't integrate the different approaches, where often policymakers create different policies, strategies, and frameworks for one sector or strategy without properly integrating it with other national or internationally based efforts (Chanmony, 2021). These fractures reduce the efficiency of policy measures controlling climate change and demonstrate the necessity for a systemic strategy. The more recent studies provide reasons why the proposed call for integrating policies ought to be embraced. As Jordan et al. (2015) noted, polycentric governance structures, which involve the coordination of the multi level governance, are vital for addressing multilevel and multifaceted issue such as climate change. They stress that one of the key modalities of climate policy excludes merely the government-related intersectoral and transnational approaches but also direct engagement of many other actors, from grassroots communities to the civil society, and commercial entities.

Unequal representation in climate policymaking is also pointed a major gap in the study, whereby marginalized groups are not well represented in those decisions. As mentioned in the study, the current frameworks restrict the appreciation of needs and views of the low-income and vulnerability groups hence leading to the development of inequitable and non- inclusive policies (Chanmony, 2021). This finding is consistent with emerging discussions regarding environmental equity and the objective to promote climate equity when implementing climate solutions.

Newer contributions to the theory of environmental justice show how these postcolonial communities should be incorporated into climate deliberation. For instance, Ali et al. (2020) state that climate policies should integrate equity as a principle and take into consideration the experiences of the marginalised. Policy inclusion involves not only the participation of these communities but also offering them with facilitating tools and equipments which would enable their participation.

The study also underlines a specific problem of the lack of focus on behavioural change and people's involvement in climate policies. Most current policies work under the premise of offering information. However, the range of policies barely grant the citizens some roles to play within climate change (Chanmony, 2021). There is strength in focusing on behavioural approaches when it comes to issues of sustainability. They say that policies should not just rely on information that they give to the citizens, but equal efforts should be made through social norms campaigns, nudging and community based projects. The utility of participatory approaches in generating behavior change. They opine that the people in the society are justified to act sustainably when they participate in deliberation processes and can be held accountable for the outcomes. This brings to focus with climate policies and strategies that must include bottom-up approach where the citizens are actively involved in the policy-making process.

CONCLUSION

The results of this research call for a more coherent, participative and place-specific strategy in the sphere of climate change policies. Although RE incentives and carbon pricing mechanisms have revealed the potential of cutting 'GHG emissions, their success depends on financial, political, and societal factors; more so in less-developed countries where the cost of implementation may be too high. This paper shows how awareness and maintenance campaigns regarding severe issues such as cyberqueros rely on public education and outreach, but simultaneously highlights potential future work regarding the outreach of these campaigns to underserved populations. The numerous studies also affirm that community-based initiatives are very effective in mobilising the community but they suffer from scarcity of resources and lack of infrastructure support. This research also addresses the need for enhanced sectoral and spatial coherence of policies and improved engagement of the often excluded stakeholders in the formulation of climate policies that would work as both fair and efficient. Therefore, to move to the next phase and build a coordinated and effective response to climate change as a global society, the account for the above gaps and build upon the successes of existing efforts will be key in determining what works and what is missing in the strategy.

REFERENCES

- Aklin, M., & Urpelainen, J. (2018). *Renewables: The Politics of a Global Energy Transition*. MIT Press. <https://doi.org/10.7551/mitpress/9780262038134.001.0001>
- Aldy, J. E., & Stavins, R. N. (2019). The Promise and Problems of Pricing Carbon: Theory and Experience. *Journal of Environment and Development*, 28(1), 125-152. <https://doi.org/10.1177/1070496517758375>
- Ali, K. A., Ahmad, M. I., & Yusup, Y. (2020). Issues, impacts, and mitigations of carbon dioxide emissions in the building sector. *Sustainability (Switzerland)*, 12(18). <https://doi.org/10.3390/SU12187427>
- Bodansky, D., Brunnée, J., & Rajamani, L. (2021). *International Climate Change Law*. Oxford University Press. <https://doi.org/10.1093/oso/9780198789338.001.0001>
- Carattini, S., Carvalho, M., & Fankhauser, S. (2019). Overcoming public resistance to carbon taxes. *Wiley Interdisciplinary Reviews: Climate Change*, 10(4), e568. <https://doi.org/10.1002/wcc.568>

- Crippa, M., Solazzo, E., Huang, G., Guizzardi, D., Koffi, E., & Janssens-Maenhout, G. (2019). High-resolution temporal profiles in the Emissions Database for Global Atmospheric Research. *Scientific Data*, 7(1), 121. <https://doi.org/10.1038/s41597-020-0462-2>
- Devine-Wright, P. (2020). Community versus local energy in a context of climate emergency. *Nature Energy*, 5(3), 170-172. <https://doi.org/10.1038/s41560-020-0554-9>
- Haider, L. J., Hentati-Sundberg, J., Giusti, M., Goodness, J., Hamann, M., Masterson, V. A., Meacham, M., Merrie, A., Ospina, D., Schill, C., & Sinare, H. (2019). The undisciplined journey: Early-career perspectives in sustainability science. *Sustainability Science*, 14(3), 947-962. <https://doi.org/10.1007/s11625-019-00671-7>
- Haites, E. (2018). Carbon Taxes and Greenhouse Gas Emissions Trading Systems: What Have We Learned? *Climate Policy*, 18(8), 955-966. <https://doi.org/10.1080/14693062.2018.1492897>
- Jordan, A., Huitema, D., van Asselt, H., Forster, J., & Haug, C. (2015). Governing Climate Change: Polycentricity in Action? *Cambridge University Press*. <https://doi.org/10.1017/CBO9781139683658>
- Khan, M. A., Uddin, M. N., & Haque, M. S. (2021). Digital Divide in Bangladesh: Rethinking Strategies to Narrow the Gaps. *Digital Policy, Regulation and Governance*, 23(1), 21-36. <https://doi.org/10.1108/DPRG-10-2020-0140>
- Manzo, K., & Padfield, R. (2016). ICT and Climate Change: The Role of the Internet and Social Media. *Geoforum*, 70, 152-159. <https://doi.org/10.1016/j.geoforum.2016.03.004>
- Masson-Delmotte, V., Zhai, P., Pirani, A., Connors, S. L., Péan, C., Berger, S., ... & Zhou, B. (2021). *IPCC Sixth Assessment Report*. <https://doi.org/10.1017/9781009157896>
- Middlemiss, L., & Parrish, B. D. (2020). Building capacity for low-carbon communities: The role of grassroots initiatives. *Energy Policy*, 61, 172-180. <https://doi.org/10.1016/j.enpol.2013.05.010>
- Moser, S. C. (2016). Communicating climate change: History, challenges, process and future directions. *Wiley Interdisciplinary Reviews: Climate Change*, 7(1), 107-119. <https://doi.org/10.1002/wcc.366>
- O'Neill, S. J., & Nicholson-Cole, S. (2021). "Fear Won't Do It": Promoting Positive Engagement with Climate Change through Visual and Iconic Representations. *Science Communication*, 31(1), 77-102. <https://doi.org/10.1177/1075547009347206>
- Obergassel, W., Arens, C., Hermwille, L., Kreibich, N., Ott, H. E., & Wang-Helmreich, H. (2021). *Governance and Climate Change Mitigation: The Role of Institutional Change and Policy Instrument Interaction*. Earthscan from Routledge. <https://doi.org/10.4324/9781003173021>
- Pihl, H., Holtmark, B., & Stordal, F. (2021). Emission pricing and the role of international cooperation. *Journal of Environmental Economics and Management*, 105, 102391. <https://doi.org/10.1016/j.jeem.2020.102391>
- Roberts, J. T., Muttitt, G., Pye, S., Lazarus, M., & Erickson, P. (2021). Assessing the Carbon Emissions Pathways and the Relevance of Policy Scenarios. *Environmental Research Letters*, 16(1), 014009. <https://doi.org/10.1088/1748-9326/abcda9>
- Sabato, S., Corti, F., & Vanhercke, B. (2020). *Integrating the European Pillar of Social Rights into the European Semester: Roadmap for strengthening social Europe*. European Trade Union Institute. <https://doi.org/10.2139/ssrn.3745877>
- Sovacool, B. K., Griffiths, S., Kim, J., & Bazilian, M. (2020). Climate change and energy security: a research agenda. *Energy Research & Social Science*, 70, 101617. <https://doi.org/10.1016/j.erss.2020.101617>

- United Nations. (2020). *The Sustainable Development Goals Report 2020*. United Nations. <https://doi.org/10.18356/6d15ec47-en>
- van der Gaast, W., Begg, K., & Flamos, A. (2021). Designing governance frameworks for climate action: Policy instruments and social acceptance. *Climate Policy*, 21(5), 637-652. <https://doi.org/10.1080/14693062.2021.1884821>
- van der Ven, H., Bernstein, S., & Hoffmann, M. (2020). Valuing the Paris Agreement: Climate Change as a Normative Power. *International Environmental Agreements: Politics, Law and Economics*, 20(3), 421–438. <https://doi.org/10.1007/s10784-020-09479-x>