Journalist Fellowship Paper

Why Scandinavian media is failing in its coverage of climate technology

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Preface

This report was prepared by Magnus Bredsdorff, climate editor at Politiken, a JP Politikens Hus publication. It is the product of a three-month fellowship at the Reuters Institute for the Study of Journalism, funded by JP Politikens Hus.

The project draws from a questionnaire sent to 100 climate journalists in Denmark, Norway and Sweden, as well as a literature review and long-form interviews with experienced climate journalists and media researchers.

Introduction

In a decade-long career in climate and environmental journalism, I have covered the mounting evidence that global heating caused by man-made emissions has catastrophic impacts. At the same time, emissions have – except for the years of the pandemic – continued to rise, underlining the need for urgent action. Media coverage, however, struggles to develop formats and language to adequately describe the continued deterioration of climate projections.

One aspect of the media interest has remained remarkably high: the coverage of new and emerging climate technologies. Newsrooms provide a continuous flow of stories initiated by industry, government agencies, and academia about the promises of new inventions and investments to reduce emissions.

In this paper I investigate why stories of climate tech remain at the top of the media agenda, what the most common discourses are, and how experienced climate reporters and scholars in climate journalism assess the role of media coverage.

I focus on the three Scandinavian countries of Sweden, Norway, and Denmark. They all have an advanced climate debate and policies, making them an excellent showcase for climate journalism in particular in Northern Europe, but also elsewhere in the Global North.

Many of the policies and most of the public funding and private investment in climate mitigation are funnelled into new technologies. Most governments' climate targets rely heavily on them to succeed. Therefore, it is crucial for media to report accurately, with scrutiny, and with proper perspective on their potential. Unfortunately, this is far from today's reporting standard.

This paper will show that coverage has a significant industry bias and that the narrative about new climate technologies is unjustifiably positive. It will argue that journalism's failure to live up to its responsibility is part of the reason why other policies to lower emissions are not being debated. It will provide recommendations for better reporting practices. These may not change the climate tech discourse overnight, but my hope is to initiate a debate that journalism and academia alike have shied away from for too long.

The role of climate news

For years, climate reporting was plagued by discussions of scientific bias. Reporters felt compelled, or were directly required by editors, to cite fringe scientists or lobby groups who denied that climate change was caused by man-made emissions of greenhouse gases.

Climate scepticism has largely disappeared from mainstream media coverage, but for more than a decade, it influenced public opinion and contributed to delaying policies to lower greenhouse gases in the Global North, where the population is responsible for more than 90% of historic CO_2 emissions.[1]

Even today, news media play a significant role in shaping public opinion about climate related issues.

The *Digital News Report* published by the Reuters Institute for the Study of Journalism shows a steady rise in the use of social media and a decline in news media consumption.[2] However, news media remains the most important source of information about climate change for audiences in eight countries surveyed for another report by Reuters Institute for the Study of Journalism.[3]

The *Climate change and news audiences* report concludes that over half of respondents encounter climate change news on a weekly basis, and that in 2023 there had been a slight increase in climate news consumption, which was contrary to the general trend in news consumption. Nearly two-thirds of respondents said they believe that news media play a significant role in climate change decisions, shaping the actions of governments and corporations.

According to an analysis included in the 2020 edition of the *Digital News Report*, television was by far the most important source of climate-related news, while major and specialised news organisations ranked second and third, ahead of social media.[4]

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[1] Hickel, J. (2020). Quantifying national responsibility for climate breakdown: an equality-based attribution approach for carbon dioxide emissions in excess of the planetary boundary. The Lancet Planetary Health, 4(9), e399–e404.
[2] Newman, N., et al. (2025) Reuters Institute Digital News Report 2025.
[3] Reuters Institute for the Study of Journalism. (2023). Climate change and news audiences report 2023: Analysis of news use and attitudes in eight countries.
[4] Newman, N., et al. (2020) Reuters Institute Digital News Report 2020

A Roskilde University study in 2022 polled 2,028 Danes about their use and perception of climate news, finding the same distribution of media usage as the *Digital News Report*.[5] The study concluded that "the Danish public finds climate journalism to be of a lower quality than general journalism and that they trust climate news less than general news", though differences were small.

News fatigue has been a prominent topic in both newsrooms and scholarship in recent years, with many pointing to climate change as one of the main subjects avoided by audiences. However, academic evidence does not support the idea that climate change is more severely affected by news avoidance than other subjects covered by mainstream media. The 2023 Reuters Institute study found avoidance of climate change news (22%) across eight countries was almost identical to general news avoidance (23%).

A 2023 study by Roskilde University in Denmark concluded that the Danish audience was almost twice as likely (51%) to avoid news about the Ukraine war as they were to avoid climate change news (26%).[6] The year before, news about the COVID-19 pandemic had been the most avoided, suggesting that the most-reported subjects are often the most avoided.

A 2021 study of the climate journalism concluded that "news media are still crucially important for how individuals, organisations, and societies understand climate change and how they evaluate and act upon it", but that "no work has looked at how instantly available audience metrics affect the work of climate journalists".[7]

[5] Willig, I., Blach-Ørsten, M., & Burkal, R. (2022). What is 'Good' Climate Journalism? Public Perceptions of Climate Journalism in Denmark. Journalism Practice, 16(2–3), 520–539.
[6] Roskilde University. (2023). Danskernes brug af nyhedsmedier 2023.
[7] Schäfer, M. S., & Painter, J. (2021). Climate journalism in a changing media ecosystem: Assessing the production of climate change-related news around the world. Wiley Interdisciplinary Reviews: Climate Change, 12(1), e675.

The role of new climate technologies

The world is on course for more severe warming this century than the maximum of 2°C agreed in the Paris Climate Accord of 2015. The target was set to keep global warming within a limit where climate and weather patterns do not risk spiralling out of control.

Projections in the UN Environment Programme (UNEP) Emissions Gap Report by have worsened three years in a row. In the latest report, the central estimate reached 3.1°C.[8]

At the same time, global emissions continue to rise.[9] While they are projected to flatten within the coming decade, this is far from the steep drop required to stop glaciers melting, sea levels rising, heatwaves worsening, and torrential rain from becoming more extreme.

Climate science, including reports from the International Panel on Climate Change (IPCC), has calculated a budget for how much of the three most important greenhouse gasses – carbon dioxide (CO_2), methane, and nitrous oxide – the world can emit to stay within the Paris targets. These budgets have been vastly exceeded every year.

Even if emissions targets are met, the IPCC and other scientific bodies stress that technologies to remove carbon from the atmosphere will be necessary to achieve net zero, a point at which humanity no longer contributes to the warming of the planet.

Some sectors – particularly agriculture, food production, and some industrial processes – will continue to emit greenhouse gases even after 2050, when net zero should be reached according to the IPCC.[10] These emissions "would need to be counterbalanced by deployment of CDR [carbon dioxide removal] methods".

[8] United Nations Environment Programme. (2024). Emissions Gap Report 2024: No more hot air … please!
[9] Friedlingstein, P., et al. (2025). Global Carbon Budget 2024. Earth System Science Data, 17(3), 965–1039.
[10] IPCC. (2023). Summary for Policymakers. Climate Change 2023: Synthesis Report. Contribution of Working Groups I, II and III t the Sixth Assessment Report of the Intergovernmental Panel on Climate Change.

Carbon capture and storage

The most important of the new climate technologies is Carbon Capture and Storage (CCS). This involves removing CO_2 from exhaust emissions at large facilities such as cement, power, and waste incineration plants, where CO_2 concentrations are hundreds of times higher than in ambient air. The captured CO_2 is transported and stored underground. Currently, only depleted oil and gas fields are used for storage.

When deployed at facilities that biomass such as wood chips or straw, CCS can be counted as negative emissions: removing carbon from the atmosphere that was originally absorbed by plants through photosynthesis.

According to the IPCC, "Global rates of CCS deployment are far below those in modelled pathways limiting global warming to 1.5°C to 2°C. Enabling conditions such as policy instruments, greater public support and technological innovation could reduce these barriers."

CCS plays a central part in many government climate plans. For instance, Denmark allocated DKK 38 billion (EUR 5.1bn) to CCS and aims to achieve more than 15% of its 2030 reduction target using this technology alone.[11]

In Norway – the world's eighth largest oil exporter – CCS has been on the agenda for more than two decades. In a 2007 televised New Year's speech, then-Prime Minister Jes Stoltenberg called the Mongstad CCS project Norway's "moonshot". Although the phrase has been ridiculed by critics, successive governments have continued funding CCS.

Other new climate technologies

Governments and the EU are subsidising a range of technologies to lower greenhouse gas emissions. After CCS, green hydrogen has attracted most funding and attention. "Green hydrogen" refers to hydrogen produced using renewable electricity and water, to replace hydrogen currently extracted from fossil gas. Billions of euros have been distributed to corporations, often in cooperation with national academia. The most recent round of funding from the European Hydrogen Bank totalled EUR 992 million.[12]

[11] Danish Ministry of Climate, Energy and Utilities. (2023) Aftale om styrkede rammevilkår for CCS i Danmark.

[12] European Commission. (2025). Nearly €1 billion awarded to boost development of renewable hydrogen. Retrieved from https://ec.europa.eu/commission/presscorner/detail/en/ip_25_1264

Other funded technologies include so-called green fuels – primarily targeted at shipping and aviation – made with green hydrogen and sometimes CO_2 trapped from waste incinerators or powerplants burning fossil fuel.

In Denmark, large-scale funding has supported pyrolysis, a process that gasifies biomass residue (such as straw), thereby producing a burnable and storable biogas, as well as a biochar. Biochar stores carbon for hundreds of years and may also increase soil quality when spread on farmed land. A 2024 political deal earmarked funding of DKK 10 billion (EUR 1.3bn) for biochar production.[13]

Tech grants for academia

Alongside industry subsidies, many governments also fund academic research into climate technologies, often encouraging collaboration between universities and private enterprise. In Denmark, for example, the Energy Technology Development and Demonstration Programme (EUDP) has distributed DKK 4.9 billion (EUR 660m) over the past decade to support joint research on green energy technologies.

Moreover, academic grants are frequently aligned with government climate priorities, incentivising scholars to focus on improving the technologies central to national climate strategies.

[13] Danish Government. (2024). Aftale om Implementering af et Grønt Danmark. Retrieved from: https://regeringen.dk/media/raehl3jj/aftale-om-implementering-af-et-groent-danmark.pdf

The push for stories of hope

One of the main challenges of climate journalism is the repetitive nature of the conclusions of climate science: man-made emissions of greenhouse gases are causing global heating and extreme weather and will make it difficult to sustain human life in many parts of the planet.

While the evidence of news avoidance specific to climate journalism is not compelling, climate reporters often face a push to produce more hopeful stories. Daniel Värjö, a climate reporter with the national Swedish radio broadcaster, explained: "The first argument is that we can't always tell the pessimistic and depressive stories because there are so many of them. The editors always want a hopeful point or to report about solutions."

Constructive Journalism has fuelled this push for hopeful stories, often about new technologies, Värjö notes. He emphasises, however, that there is growing recognition that constructive stories do not require a positive narrative.

Kristian Elster, a climate reporter with the Norwegian state broadcaster, said the perception in newsrooms is that audience want "more hopeful stories". Technology stories can offer that hope. "They are a way to attract readers," Elster stated.

Tech stories: the easy solution

Both Elster and Värjö noted that climate technology stories are often popular with local branches of their outlets. According to Malene Emilie Rustad, a climate reporter at the Norwegian business outlet E24, technology stories may at first appear to be an easy solution to providing a hopeful climate narrative.

"When a new tech pops up in your inbox, and it sounds exciting, and when you feel that your editors and your readers want it, it seems easy to write about," she said.

Rusted stressed that covering climate technology in-depth and with perspective requires knowledge and extensive research, but reporters and editors without experience in climate journalism are more likely to adopt the positive framing of climate tech press releases.

In psychology, it is well established that feeling hopeless decreases people's sense of agency. Many newsrooms are afraid that too much reporting on the consequences of global warming may contribute to an audience with less agency, and therefore less motivation to take climate action.

User needs: A complex picture

In recent years, many newsrooms have categorised stories by "user needs" to better cater for audiences and diversify away from only publishing hard news, which is often associated with a negative narrative.

Politiken has categorised most articles by user needs since 2023. For this project, I compiled a list of all articles in *Politiken*'s climate section, excluding wire copy, and categorised by the six relevant user needs.

User needs analysis of Politiken's climate coverage

Between September 2023 and May 2025, Politiken published 359 climate-related articles. Each is coded below against user needs, with engagement and readership metrics tracked. The analysis reveals both performance patterns and editorial opportunities.

User need	Average page views	Average engagement score*	Number of articles
Update me	9,694	3	111
Explain it to me	9,804	3	95
Fascinate me	11,309	3	38
Show me the positions	9,087	3	36
Show me the human	8,600	3	27
Guide me	8,338	3	7
No user need assigned	9,376	3	45
Aggregated totals	9,685	3	359

*The engagement score is calculated based on a number of parameters, including conversion of non-paying users to subscribers, reading time, number of social media shares, and page views.

Source: Internal data, Politiken

Regular news stories reflecting climate science and the climate policy are categorised as "Update me", whereas constructive or positive stories (those providing agency to the audience) are categorised differently.

If a negative narrative were deterring the audience, "Update me" stories would perform below average while other categories would perform better. At *Politiken*, that is not the case. The metrics are relatively even across user needs, especially considering the large number of "Update me" articles. This points to a more complex audience behaviour than a simple preference for hopeful narratives.

Behavioural climate policy rejection

NGOs as well as some scholars have criticised governments for depending too heavily on potential technology improvements to meet their carbon reduction targets. Many argue for lowering consumption of climate-polluting goods, especially as the UN climate accounting rules do not attribute emissions from international transportation or imported goods to the country where those goods are consumed.

The introduction or substantial increase of climate taxes offers a way to lower emissions stemming from consumption. Goods like fuel for cars, ships, and airplanes, gas for heating, meat and dairy, cement, steel, and clothes have large carbon footprints and contribute significantly to global warming.

Introducing substantial direct climate taxation has proven controversial, not least because lower-income households will pay a higher percentage of their income to such climate taxation schemes than higher-income groups. This also applies to indirect schemes such as the European Union's Emissions Trade System (ETS), which, for the same reason, redistributes revenues through the Social Climate Fund.

Some polls have shown strong opposition to climate taxes, and politicians often cite two events to justify the absence of substantial new climate taxation measures:[14]

1. The French yellow vests (*gilets jaunes*) protests which began in 2018 following the introduction of increased diesel taxes. The movement was widely regarded as a social protest movement against inequality.

2. The Dutch Farmer-Citizen Movement (known as BBB, an abbreviation of the Dutch name BoerBurgerBeweging), a political party protesting cuts to the production of farmed animals. These cuts were introduced to reduce nitrogen pollution, and the BBB went on to win the popular vote in 2023 provincial elections.

Danish climate minister Lars Aagaard summed up the current coalition government's view on direct climate taxation in an op-ed: "If we look around Europe, we see burning straw bales and slurry in the streets, yellow vests, and political unrest. The protests reflect people's concerns that climate action will cause

[14] Politiken. (2020). Stik mod eksperternes råd, ønsker danskere ikke klimaafgifter på benzin, diesel, mælk og kød som led i den grønne omstilling. Retrieved from: https://politiken.dk/klima/art8012395/Stik-mod-eksperternes-r%C3%A5d-%C3%B8nsker-danskere-ikke-klimaafgifter-p%C3%A5-benzin-diesel-m%C3%A6lk-og-k%C3%B8d-som-led-i-den-gr%C3%B8nne-omstilling

them to lose their jobs and make everyday life too expensive and impossible, and that climate action will not lead to a better future. This concern is certainly also present among us Danes. We must take it seriously, listen to it, and address it in a fair and socially balanced way."[15]

Without climate taxes to curb consumption, governments keep issuing large subsidies for new climate technologies. But has enough attention been paid to how media are reporting these technologies?

[15] Politiken. (2024). Klimaministeren: Sådan sikrer vi, at Danmark forbliver et grønt foregangsland. (n.d.). Retrieved from https://politiken.dk/debat/kroniken/art10124937/S%C3%A5dan-sikrer-vi-at-Danmark-forbliver-et-gr%C3%B8nt-foregangsland

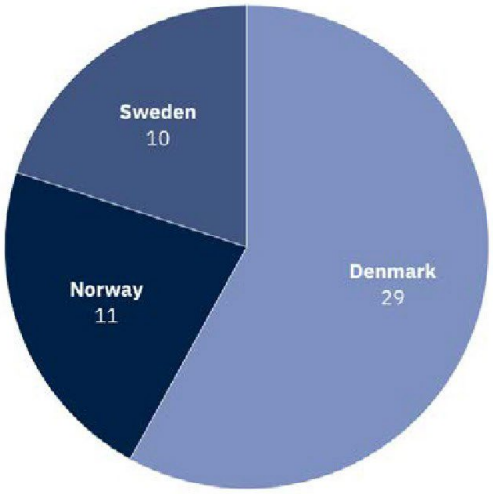
Results of climate journalists' questionnaire

To begin to answer that question, I polled climate journalists in Sweden, Norway, and Denmark. The sample was constructed using a database of reporters from the Global Strategic Communications Council (GCSS), a network of communications professionals in climate, energy and nature. I verified and expanded the list using my own contacts and sent a questionnaire to 100 reporters. I received 50 responses.

Who answered the questionnaire?

As the climate and environment editor of the largest Danish daily newspaper, *Politiken*, my professional network is mostly Danish, and *Politiken* is a strong brand in, but not outside of Denmark. Unsurprisingly, the majority of respondents were from Denmark.

Figure 1: Distribution of climate journalists polled



Question 4: Where is your outlet based? (Total responses: 50)
Source: Magnus Bredsdorff, 2025 climate journalists poll

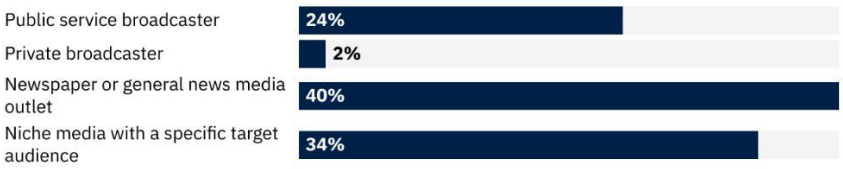
Most respondents were reporters, while one in five identified as editors:

Figure 2: Job title of climate journalists polled

Question 3: What is your job title? (Total responses: 50)

Most respondents worked for general news outlets, niche media, or public broadcasters.

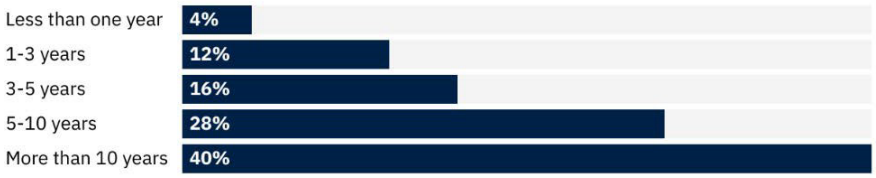
Figure 3: Types of media outlet represented by climate journalists polled



Question 5: What kind of media outlet are you working for? (Total responses: 50)

The vast majority of respondents were seasoned climate reporters: more than two-thirds had over five years' experience, and only eight had worked for fewer than three years.

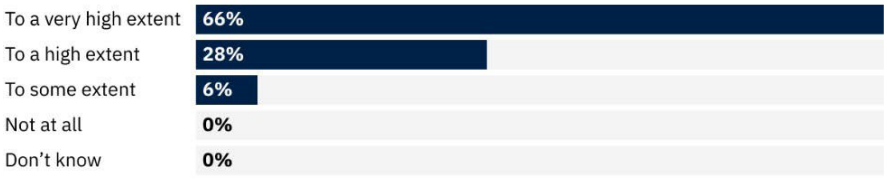
Figure 4: Respondents' years of experience in climate journalism



Question 10: How many years of experience do you have in journalism on climate and/or environmental issues? (Total responses: 50)

Most respondents identified strongly as climate journalists.

Figure 5: Respondents' identification as a climate reporter

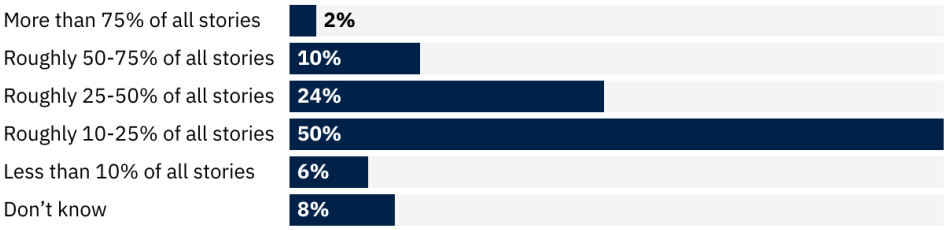


Question 6: This survey uses a broad definition of climate journalism, including financial, political, and technological aspects of climate change and green transition. To what extent do you consider that your work is encompassed by the above definition of climate journalism? (Total responses: 50)

Perceived focus of coverage and tone

Asked to estimate how much coverage their outlet devoted to emerging climate technology, 84% of respondents said at least 10%, with 12% responding that tech stories make up more than half of the coverage.

Figure 6: Share of coverage given to debating emerging climate technology

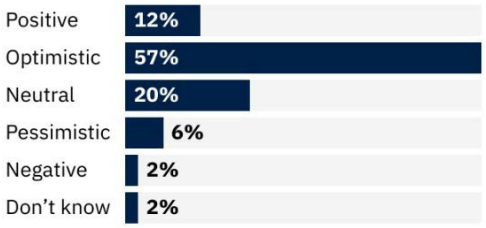


Question 12: How big a share of your publication's total coverage of climate related issues does the debate about new and emerging climate technologies constitute? This question is not limited to coverage of the technologies themselves, but includes their political, financial, industrial, and environmental aspects. (Total responses: 50)

Asked to assess the tone of all climate technology coverage in their country, 69% described the national press discourse as "positive" or "optimistic".

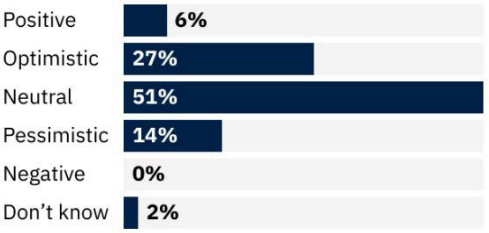
In stark contrast, only 33% said the same about their own outlet's coverage, while 51% described it as neutral — a 36-point gap in perceived positivity between national and in-house reporting.

Figure 7: Assessment of national tone of all emerging climate technology coverage



Question 22: In your opinion, which of the following words best describes the discourse of the media in general in the country of your outlet when it comes to reporting on new and emerging climate technologies? (Total responses: 49)

Figure 8: Assessment of own outlet's tone when covering emerging climate technology

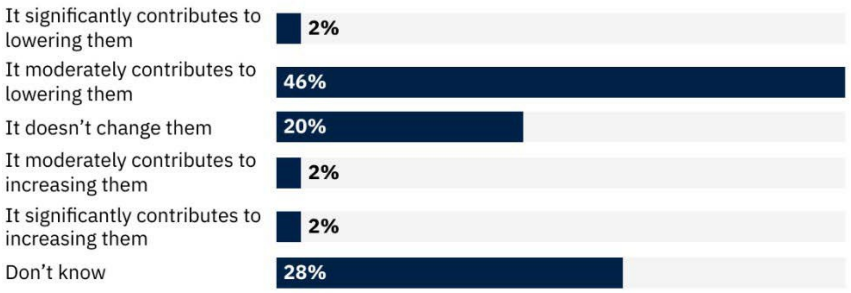


Question 24: In your opinion, which of the following words best describes the most common discourse in your media outlet's reporting on new and emerging climate technologies? (Total responses: 49)

Perceived impact of coverage

Another finding concerns the perceived impact of climate journalism on greenhouse gas emissions. When polled about climate reporting in general, almost half of the respondents answered that journalism contributes to lower emissions.

Figure 9: Perceived impact of outlet's coverage toward lowering of carbon emissions

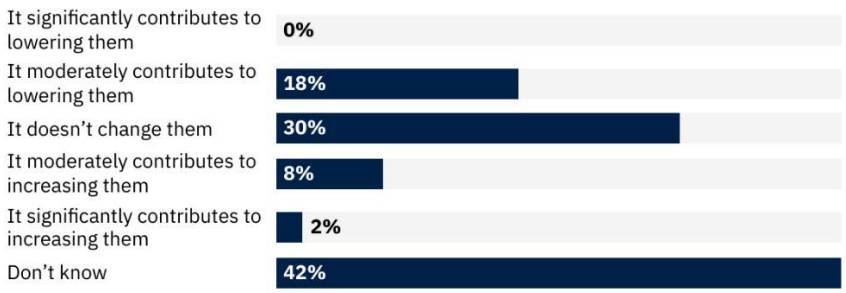


Question 32: In your opinion, what is the influence of media reporting in general in the country of your outlet relative to your country's carbon emissions? (Total responses: 50)

When asked about the impact of their reporting on new and emerging climate technologies toward lowering emissions, the share of respondents who believe it contributes to lower emissions drops to less than 20%.

A large share of the respondents (42%) found it hard to assess the impact of climate journalism (28%), particularly when it comes to the coverage of new technologies (42%). This point is further reflected in some of the comments gathered in the questionnaire.

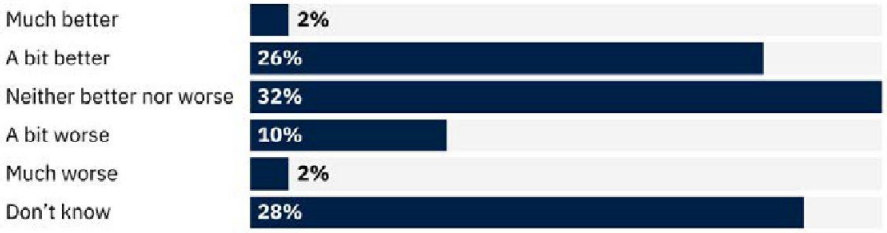
Figure 10: Perceived impact of outlet's climate technology coverage toward lowering of carbon emissions



Question 36: In your opinion, what is the influence of media reporting specifically on new and emerging climate technologies relative to your country's carbon emissions? (Total responses: 50)

One in three respondents reported no perceived difference between the performance of climate technology stories versus other kinds of climate stories. One in five estimated that climate tech stories perform a little better, while only 10% said they thought tech stories fare worse than other climate stories.

Figure 11: Reach of climate technology stories versus other types of climate coverage

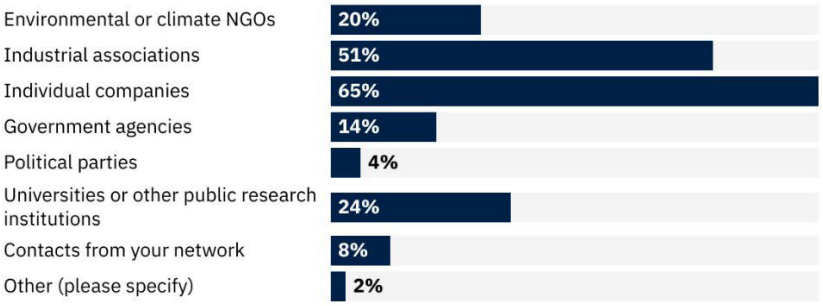


Question 14: How does reporting on new and emerging climate technologies perform in terms of numbers of readers, listeners, or viewers, compared to other climate related journalism? (Total responses: 50)

Sourcing and citing in climate technology stories

There is a significant bias in the sources initiating stories about climate technology.

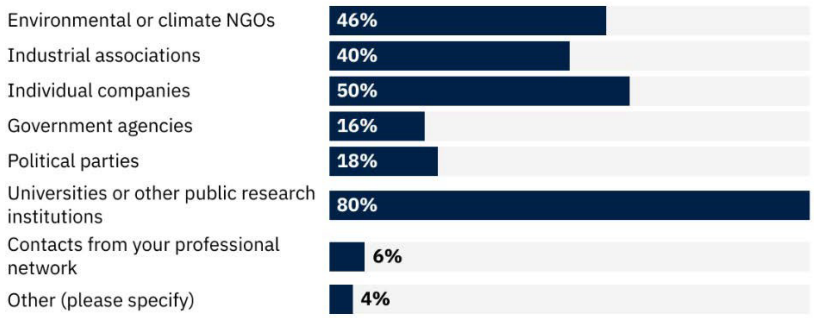
Figure 12: Main sources pitching climate technology stories



Question 16: Which parties most frequently approach the newsroom to suggest stories about new and emerging climate technologies? You can select a maximum of two options. (Total responses: 49)

And, when reporters research their stories, they quote academia to a high degree.

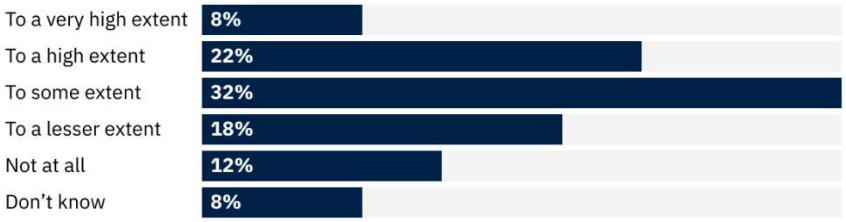
Figure 13: Most common sources quoted in climate technology coverage



Question 18: Which sources do you most frequently quote in your reporting on new and emerging climate technologies? You can select a maximum of three options. (Total responses: 50)

But even with the inclusion of academia in climate technology coverage, a majority of the respondents still considered it difficult to quote unbiased expert sources to some or a high extent.

Figure 14: Perceived difficulty of accessing nonbiased expert sources



Question 20: To what extent do you consider it difficult to quote nonbiased expert sources to assess the potential of new and emerging climate technologies or to compare them to other ways of reducing carbon emissions? (Total responses: 50)

Industry bias

Scandinavian climate journalists polled for this project reported a significant industry bias in the sources of news stories about new climate technology. That finding is echoed in academic literature, with four studies identifying an identical industry bias.

A 2020 study (Painter, et al.) analysed the content of 255 articles from the U.S. and the UK about laboratory-cultivated meat with potential climate benefits compared to meat from farmed animals.[16] It found that representatives of individual companies or the industry sector appeared in over half of the articles. The authors noted that the industry is even more overrepresented than the numbers suggest, as in many articles there were either more representatives from the industry, or the same source was quoted several times. Three quarters of articles with a strong news peg were prompted by an industry source.

A recent study of 209 articles in Danish media about sustainable aviation fuel promising to lower emissions from aircraft (Horsbøl & Eskjær) found that business sources from the energy and aviation industry were the most prevalent, with a share of 39% of voice.[17] NGOs accounted for less than 5%. In climate-optimistic stories, the study's authors found that "a remarkably two thirds of sources [...] are from business". "In contrast, the coalition supporting the 'staying on the ground' imaginary is largely missing in our data," they observed.

A 2017 study of two decades of CCS coverage in Finnish newspapers (Kojo & Innola) found that, with a presence in 63% of stories, industry "was distinctly the most frequent speaker" while NGOs were only given a voice in 9% of stories.[18] In 89% of news stories with CCS as the main subject, industry was the leading agenda-setter.

In a 2021 paper, *Climate journalism in a changing media ecosystem*, Schäfer and Painter concluded that "scholars have diagnosed a strong and increasing influence of PR on climate journalism", which has long been present in environmental journalism in general.[19] According to their research, previous studies have found

[16] Painter, J. et al. (2020). The coverage of cultured meat in the US and UK traditional media, 2013–2019: drivers, sources, and competing narratives. *Climatic Change*, *162*(4), 2379–2396.
[17] Horsbøl, A. & Eskjær, M. F. (2025) Flying Green? Representing 'Sustainable Aviation Fuels' in the Danish Media. *MedieKultur*. Accepted for publication at the time of writing.
[18] Kojo, M., & Innola, E. (2017). Carbon Capture and Storage in the Finnish Print Media. *Risk, Hazards and Crisis in Public Policy*, *8*(2), 113–146.
[19] See footnote 7: Schäfer, M. S., & Painter, J. (2021)

that half of the environmental news stories originate from industry press releases. They argue the figure is likely to have increased, leading to the conclusion that the influence of PR on climate journalism is “considerable and rising”.

Daniel Värjö from national Swedish radio has many industry press releases about climate tech forwarded to him by colleagues who found them interesting.

“Industry and academia are very good at producing material with lots of hyperbole about how efficient these technologies will become. But we should try to paint the big picture in terms of what they really mean for the climate,” he said.

The challenge of finding non-biased sources

The challenge of identifying non-biased expert sources on climate technology (as reported to some extent by 80% of my poll respondents) was expounded on in interviews with climate journalists.

"It's a huge challenge. Scholars often downplay conflicts of interest," said Mads Nyvold, the editor of Danish niche media, *Klimamonitor*.

Malene Emilie Rustad of *E24* pointed out that most Norwegian scientists have followed CCS for 20 years, and that many of them have been directly involved with the industry.

Marie Sæhl, an experienced climate reporter with Danish daily newspaper *Information*, added: "I would not know who to call at a Danish university for a critical review of the big spending on CCS."

Andreas Ytterstad, a professor in media studies and journalism at Oslo Metropolitan University, noted that research grants are often awarded to new technologies, and that funding is distributed to projects in co-production with government agencies or industry. "It can make it hard to find scholars who are savvy about technology, and who are not wedded to a particular project utilising that technology," he said.

Many academic studies of media coverage of specific climate technologies are initiated by the institutions developing these technologies. The purpose of these studies is to provide knowledge about media coverage and public perception of the technologies, in service of avoiding a negative narrative. Enough of these studies have been conducted for a meta-study in 2022 attempting to make general recommendations to stakeholders on how to communicate locally about CCS projects.[20] The conclusion was, however, that the CCS projects were too diverse to provide such general recommendations.

Some media scholars have identified a conflict of interest of scientific sources in climate tech coverage. A study of British print news media's coverage of biochar

[20] Nielsen, J. A. E., et al. (2022). Community acceptance and social impacts of carbon capture, utilization and storage projects: A systematic meta-narrative literature review. PLOS ONE, 17(8), e0272409.

showed that scientists, as well as other sources, employed rhetorical devices positioning the technology as beneficial.[21]

The study of Finnish newspaper coverage of CCS concluded that representatives of the Technical Research Center of Finland (VTT) were the dominant expert voices despite VTT being "closely involved in CCS-related research and development together with the industry".[18]

[21] Nerlich, B., et al. (2024). Biochar in the British print news media: an analysis of promissory discourse and the creation of expectations about carbon removal. Science as Culture, 33(3), 392–416.

Tech positive discourse

The questionnaire carried out for this project, interviews with reporters, and a review of academic literature unanimously find a media discourse highly positive of new climate technology.

Reporter insights

Kristian Elster of Norwegian NRK remarked: "I usually call [these stories]: Norway saves the world chapter 4,224. At article number 394, I thought I had done enough."

Alexandra Urisman, an award-winning climate reporter at the Swedish daily newspaper *Dagens Nyheter*, observed: "We start with the solutions, and we don't discuss what the solutions are for. We tend to write about the technologies completely out of context and of proportion. By doing so, we fool our readers."

"The industry is very good at telling this story [of climate tech benefits], and it's a perfect story also for the governments. It's perfect for the entire power machine. Our most important role is to hold the people in power accountable. And we fail because we play along instead," she added.

Marie Sæhl from *Information* acknowledged that there is some critical reporting about climate technologies. "But it's not much considering how dependent the government's climate plans are on new technologies, and that in Denmark, they have become more expensive, and expectations as to how big cuts in emissions they can deliver are constantly revised downwards," she emphasised.

Daniel Värjö from national Swedish radio said: "In general, we are failing. We have to be critical and investigate those [climate tech] stories."

Scholarly insights

Mikkel Fugl Eskjær from Aalborg University in Denmark, an associate professor specialising in communication related to the environment, discussed the concept of "technological fix discourse": "There is this wishful thinking about every new technology emerging, that this one will solve the [climate] problem. It is this constant optimistic idea that we can modernise ourselves out of the climate issue, that we will find the technologies which allow us to continue our lifestyle, and that they will be climate friendly."

He noted a tendency for media to become more critical of a new climate technology when it does not fulfil the promises put forward in its initial stages.

Professor Ytterstad from Oslo Metropolitan University observed that the positive narrative even extends to a traditional left-wing paper in Norway. "It's interesting to note that when climate journalism tries to be positive, it very often means being technology positive," he said.

Peter Berglez, a professor in journalism and climate change communication at the Swedish Örebro University, emphasised that climate technologies are associated with a particular kind of news, and attract a certain kind of journalists. "The risk is that that we get too many positive stories about new technologies," he said.

Perspective from literature

With one exception, all the academic literature about media coverage of new climate technology identified for this paper concluded that the narrative is overall positive, sometimes to a degree that surprises the scholars.

For instance, the authors of the analysis of media a coverage of biochar label it as being not only positive, but "in early reporting, even enthusiastic": "Given the widespread uncertainties, we were surprised by the mostly positive tone adopted in the British print news media."[21]

Their study finds that "claimed-for benefits of biochar were made salient through the use of a variety of rhetorical devices that all boosted and in some instances exaggerated such benefits".

The study of the coverage of cultivated meat found a positive tone in 49% of analysed articles compared to only 3% with a negative or oppositional tone.[22] The remainder were categorised as neutral or balanced.

The analysis of Danish media coverage of sustainable aviation fuel (SAF) divides articles into six frames.[23] The political-regulatory frame is the most prevalent (33%) followed by the optimistic climate frame (26%), and the technology frame (24%), with a large gap before the fourth category, the critical climate frame (7%).

"Business sources constitute the dominant source in most frames, not least the optimistic climate frame. This use of business sources contributes significantly to promote SAF as a solution towards CO_2-reduction. [...] It is striking that the history of (failed) sustainable aviation solutions is virtually absent in our data corpus. Media

[22] See footnote 16: Painter et al., 2020
[23] See footnote 17: Horsbøl, A. & Eskjær, M. F. (2025)

memory, it seems, is rather short and does not extend beyond SAF," the authors conclude.

In the study of Finnish newspaper's coverage of CCS, 60% of articles were found to be positively oriented towards the technology, and 14% were labelled negatively oriented.[24] The rest were either mixed or neutral.

The State of Carbon Dioxide Removal (CDR), a report published by University of Oxford's Smith School of Enterprise and the Environment, analysed 1,500 media articles about technologies to extract and store CO_2 from the atmosphere.[25] The organisations involved in the report are all working with new climate technologies, but on the basis of the analyses warned that technology may be used to counter emission cuts: "These examples highlight the risk that interest groups could leverage CDR to propagate discourses downplaying the need for ambitious climate policy and action, potentially continuing a longer tradition of climate obstruction through the mass media."

The exemption from the positive narrative is German media coverage of CCS. A study of 887 regional media articles published between 2007 and 2011 categorised 66% as negative and 6% positive towards the technology.[26] A more recent study of two decades of German media coverage concludes that the negative discourse towards CCS was a consequence of the technology being associated with prolonging the life span of coal fired power plant.[27] This "clean coal" narrative is contested by NGOs, "and CCS tends to appear in a 'prolonging fossil fuels' frame instead", the authors wrote.

At the same time, and unlike in other countries, the risk of storing carbon has been likened to the risk of storing radioactive waste, a long-running controversy in Germany.

However, in recent years CCS has been reframed by German governments, moving away from clean coal and towards achieving negative emissions, which affects the media discourse in the same way as in other countries.

[24] See footnote 18: Kojo, M., & Innola, E. (2017)
[25] Geden, O., et al. (2024). The State of Carbon Dioxide Removal – 2nd edition.
[26] Pietzner, K., et al. (2014). Media Coverage of Four Carbon Capture and Storage (CCS) Projects in Germany: Analysis of 1,115 Regional Newspaper Articles. Energy Procedia, 63, 7141–7148.
[27] Otto, D., et al. (2022). Fixed Amidst Change: 20 Years of Media Coverage on Carbon Capture and Storage in Germany. Sustainability (Switzerland), 14(12), 7342.

Disproportionate tech coverage

While not reflected in the polling data, in interviews, most experienced reporters stressed that climate journalism devotes too much coverage to new technology.

According to Elster from Norway's public broadcaster, it is difficult to determine if journalistic standards are compromised in individual climate tech stories. "But the volume of them may very well create a false, unfortunate impression," he said.

Swedish newspaper reporter Urisman criticised news outlets for not explaining the severity of global warming and the deterioration of living conditions if emissions continue to follow current projections. "When you look at the numbers for how much carbon CCS will store, it's basically nothing. And still CCS is used in every single political statement around the world as if it is going to save us all," she said.

Nyvold of Danish *Klimamonitor* argued that a small newsroom is often overwhelmed by the amount of climate tech news, especially from government. "It feels like every second week government presents a technology deal or strategy. We need to write about how taxpayers' money is spent. Then we end up investing a lot of time in critical, in-depth coverage of the technologies, and we don't have the resources to also ask the question of why they are not spending money on behavioural change instead," he said.

Associate Professor Eskjær pointed to the nature of journalism. "From critical media studies we know that journalism present us with a lot of unrelated stories. One day you hear about Power-to-X [green hydrogen and sustainable fuel production], and the next day it something new. It's totally fragmented and not related to the technology that fails in the end," he said.

Professor Ytterstad stressed that technology such as wind and solar deliver vast emission reductions, but they are no longer new. Journalism has a strong focus on the novelty. "It's not just technology. It's new technology. It's the pilot project that you can patent, export, and earn money from. But it is not new technology as much as the scaling up of industrial climate solution [that will reduce emissions]," he said.

A study linking action taken by the aviation industry to two decades of media coverage of technologies to reduce the climate impact of aviation found that most of the technologies were in fact myths that never delivered the promised emission

reductions.[28] The authors wrote: "Findings indicate that a wide range of solutions to growing emissions from aviation have been presented by industry, hyped in global media, and subsequently vanished to be replaced by new technology discourses."

[28] Peeters, P., et al. (2016). Are technology myths stalling aviation climate policy? Transportation Research Part D: Transport and Environment, 44, 30–42.

The climate technology news cycle

Questionnaire results, interviews with climate reporters and scientists, and a review of scientific literature, all point to a cycle responsible for the significant prevalence of positive technology stories in Scandinavian climate journalism.

1. Resistance to lower consumption

At the starting point of the cycle, I place a population unwilling to lower their consumption (and thereby emissions) by changing their behaviour.

Governments, as well as all political parties (except for a few green or left-leaning parties), largely equate climate taxes on consumer goods to interfering in the people's lives. They argue that the electorate should have the right to decide whether to drive a fossil fuel consuming car, fly on vacation, or buy beef and dairy, all of which would face price hikes with the introduction of direct climate taxation.

In addition, governments point to the social imbalance as lower-income groups would spend the highest percentage of available income on climate taxes, creating a risk of social unrest like the French yellow vest movement.

2. Carbon reduction targets dependent on climate tech

Despite a reluctance to lower personal consumption, there is still a public push for climate action. The electorate continues to value climate and the environment among the five most important issues in polls in Denmark. Polls consistently show that the population is concerned about climate change. Thus, political majorities in Scandinavia have adopted climate plans with specific carbon reduction targets relying heavily on deployment of new technology, even if the current right-wing coalition government in Sweden has scaled back climate plans.

3. Subsidies and grants

National governments, as well as the EU, have funnelled large subsidies to climate technologies – most frequently distributed in tenders with industry competing to offer the lowest price per ton of reduced emissions.

The different stages of CCS, green hydrogen production, sustainable fuel production for shipping and aviation, and recently pyrolysis have received the bulk of state subsidies.

In most countries, governments have set aside funding for technology projects developed jointly by industry and academia.

In addition, academic research grants are often allocated taking government priorities into account, further incentivising scholars to work on improving technologies on which government climate strategies rely.

4. Easy-to-report tech stories presented to newsrooms

With the funding from government, industry and academia have professionalised how to sell stories of climate tech benefits to newsrooms. Climate reporters are presented with a variety of tech stories every week in press releases, personalised emails, and calls from PR professionals hired be technology developers. They are skilled in presenting lists of potential sources, making the job of reporting the stories less time-consuming for reporters.

Many presentations contain ready-to-use visuals which overstretched newsrooms would otherwise need to produce themselves.

5. Newsrooms looking for stories of hope

As discussed above, most newsrooms are looking for stories of hope to counter the constant flow of negative news about extreme weather events and climate science.

Many newsrooms, particularly in Scandinavia, are simultaneously implementing more Solutions Journalism. This trend is often associated with positive stories, and even though that vastly oversimplifies the mission of Solutions Journalism, it does put even more pressure on climate reporters to file stories with a hopeful narrative.

6. Better audience reception of tech stories

My interviews and poll show that many, but not all, reporters believe that tech stories perform better with their audience than other climate stories. This is partly due to experienced climate journalists consciously avoiding reporting only the hard global warming news, which could lead to news avoidance and the audience losing agency.

At the same time, audiences may respond positively to stories of technology lowering emissions without behavioural change.

The positive narrative in climate tech journalism reinforces the political message that no substantial change in lifestyle is needed to lower emissions and combat climate change, leaving us back at the starting point of the cycle.

The consequences

The consequences of the climate technology news cycle and the optimistic discourse it fuels is a skewed public focus diminishing the impetus for urgent climate action, deplored by climate reporters and scholars alike.

“One technology doesn’t solve this, and sometimes you get the picture that CCS will solve everything. But it is a false hope,” said Värjö of National Swedish radio. “Most politicians in Sweden say that we don’t need to change the way we are living. They don’t talk about the fundamental changes to society [to mitigate and adapt to the climate crisis].”

Nyvold from Danish *Klimamonitor* argued that stories pointing to audiences’ personal responsibility for emissions perform poorly because they may evoke guilt. “Consciously or unconsciously, we tend not to publish these kinds of stories,” he stated, adding that governments risk becoming unpopular if they start a debate about changing behaviour. Instead, they turn to tech subsidies.

“If politics and media functioned optimally, we would be discussing how to spend taxpayers’ money to reduce emissions as much as possible. Yet, we don’t cover a solution like behavioural change. It is a significant consequence [of media focus on new technology] that we only discuss certain climate solutions. I am very disillusioned. I don’t think that overall, we are doing a good job.”

According to Danish newspaper reporter Sæhl, media coverage pays very little attention to consumption-based emissions. Instead, the climate technology discourse reflects a political point that audiences can maintain their current lifestyle without having to worry about their contribution to warming the planet. “It’s a huge problem,” she said.

Associate Professor Eskjær described the climate technology news cycle as a “precise depiction”. “Industry and academia are adept at creating a lot of hyperbole about how efficient their technologies will be, especially at the beginning of the cycle,” he said.

Professor Ytterstad argued that climate journalism is already experiencing another merry-go-round in which journalism blames audience for not paying attention to climate stories. Audiences in turn blame politicians for not taking sufficient climate action, while politicians shy away from introducing mechanisms to change

behaviour or consumption for fear of not being re-elected, enforced by the failure of journalism to cover these issues.

“You could see new technology as a way of escaping another eternal blame game. We cling onto it because it liberates us from the Nietzschean nightmare of repeating another endless cycle,” he said.

Some academic studies raise the alarm over media tech coverage. The paper about Danish coverage of sustainable aviation fuel concluded: “Assembling powerful actors and giving them a voice in the media arguably help strengthen the position of the climate tech governance discourse.”[29]

The authors of the study of the news coverage of cultivated meat label industry dominance “a concern” that “fails to provide the public with a realistic account of the current capabilities of this emerging technology”.[30]

Overly optimistic media coverage of technology has policy implications, warn the authors of the study of the coverage of green flight myths.[31] They point to aviation being particularly difficult to govern politically because it is an international activity. “In this situation, politicians may embrace myths to justify non-action beyond efficiency improvements achieved through technology,” they wrote.

[29] See footnote 17: Horsbøl, A. & Eskjær, M. F. (2025)
[30] See footnote 16: Painter et al. (2020)
[31] See footnote 28: Peeters, P., et al. (2016)

Recommendations

Of course, journalism should not ignore reporting on technologies with a potential to lower emissions of greenhouse gasses. Wind turbines, solar panels, and battery-powered vehicles were not too long-ago new climate tech. Today, they are instrumental in keeping emissions from spiralling. Technologies like CCS, sustainable fuels, and pyrolysis may well prove indispensable climate instruments in the future. But the immense focus on climate technology in government plans makes it imperative to achieve balanced reporting.

While the dynamics behind each step in the climate tech news cycle cannot be changed by media action alone, improved reporting on new climate technologies is certainly possible – even with the strained resources in many newsrooms.

Provide perspective and context

In interviews for this project, experienced reporters repeated the need for perspective and context. In large newsrooms with resources like a data visualisation desk, this can be done by graphically illustrating emissions, the need for emission reductions to limit global warming, and the potential of the technology in question. Even inexperienced reporters on a tight deadline can, with limited effort, be guided to ask proponents questions about the potential and the timeframe of a new technology, thereby adding a broader climate crisis perspective to tech news stories.

Evaluate your coverage

Many mainstream newsrooms have systemised user needs, tracking the number of articles and their performance against audience needs. It is a helpful tool in climate journalism to avoid only catering for audiences with one or a few styles of reporting.

However, few newsrooms regularly evaluate the tone of discourse generated by different kinds of stories. My questionnaire results indicate that this is vitally needed. Based on the findings of this project, systematic evaluation of individual media outlets is likely to reveal an obvious need for more balanced tech reporting.

Create structures for knowledge sharing

Most newsrooms have only one or a few reporters who specialise in covering climate stories. Many of them will also report on environmental and biodiversity issues. Due to demand, general assignment reporters may be called upon to provide climate reporting. To the untrained eye, technology stories seem to offer a relatively

straightforward and optimistic alternative to stories of climate science requiring special knowledge to report.

A consultation with an experienced climate reporter can quickly and easily provide perspectives and context lacking in much of the climate tech reporting. But in most newsrooms, management need to create formal structures that encourage the sharing of climate knowledge. My own newsroom has introduced monthly climate journalism meetings with representatives from all news desks. In addition to sharing knowledge and ideas for ongoing stories, the purpose is to empower colleagues from other desks to spearhead climate reporting in their areas of expertise.

Hold expert sources to account for their conflicts of interest

Reporters and scholars emphasise that many expert sources quoted in climate technology coverage have conflicts of interest that are not being reported by news media. Declaring sources' conflicts of interest is a basic skill for journalists. There is a need for reporters and editors to step up their efforts to show these conflicts to audiences. A first step is asking experts to explain how they have been involved in the deployment of the technology in question.

Enhanced climate literacy

For many years, poor climate reporting has been blamed on reporters' lack of climate literacy. Initiatives such as the Oxford Climate Journalism Network were established to improve newsrooms' climate reporting.

Improving climate literacy will enhance climate reporting in general and, by extension, climate technology reporting. Specialised courses for reporters outside the climate desk offer the best prospect in most newsrooms.

Professor Berglez from Örebro University argued that it is essential that climate perspective and outlook become a general competence for journalists. Reporters Rustad and Urisman found editors' lack of climate literacy and interest to be of even greater concern than that of reporters.

A study last year concluded that climate is only taught very sporadically at 22 Nordic journalism schools.[32] While enhancing climate literacy is the best long-term solution, it cannot be relied upon to quickly break the climate tech news cycle.

[32] Weldingh, Line, et al. (2024). "Investigating notions of climate change in Nordic journalism education." Journalism Education 13.2: 15-35.

Conclusion

News media continue to play a vital role in shaping public opinion, particularly on issues perceived as complex, such as the climate question. Despite the growing influence of social media, most audiences look to traditional media for information about the climate crisis.

Climate journalism has improved greatly since the days of overrepresented climate scepticism. However, all documentation in this paper points to newsrooms generally failing to add context and proportion to technology reporting, an area of increasing importance to the climate policy discourse.

The degree to which climate reporters assess their own technology coverage to be optimistic or positive is remarkable. It is noticeable that climate reporters have a slightly more negative view on the effect of climate technology coverage on emissions than climate coverage in general. Experienced climate reporters are outright frustrated with technology coverage, but newsrooms do not have procedures in place to make use of their knowledge to improve tech reporting.

In addition, the few academic studies carried out point almost unilaterally in the direction of an industry bias and an overly positive narrative, though the clarity of the pooled results has not yet been widely reported in academic literature.

The consequence of media being unable to break the climate technology news cycle is that newsrooms contribute to the narrative that tech will save humanity from the climate crisis. As opposed to other climate reporting, climate tech news risk conveying an impression to audiences that a status quo in consumption is possible.

This is out of touch with science. Emissions have still not peaked, the estimates for the temperature rise have been increased in recent years, and studies point to ever more disastrous effects of extreme weather events, heat, and rising sea levels.

Every 0.1°C of warming we avoid matters – one study estimated it could prevent 140 million people from being exposed to extreme heat. That's why many newsrooms aim to give audiences a sense of agency, focusing not just on the dangers of climate change, but also on what individuals, communities, and societies can do to help reduce emissions. The prevailing view is that if coverage leaves audiences feeling hopeless, they'll be less likely to take action. As a result, many outlets deliberately prioritise stories that offer constructive solutions and a sense of hope.

But as this paper has shown, in media coverage, hope too often equates to undue technology optimism, removing the sense of urgency rather than providing agency.

This paper specifically examined Scandinavian climate reporting. In Sweden, Denmark, and Norway there is a long tradition of environment and climate policy, debate, and journalism. While all conclusions may not apply to other countries, many of the dynamics will also be present outside the Nordics.

Before we publish the next chapters in the book of "tech saving the world", the time has come for editors and reporters to ask a simple question: what is the realistic potential and timeframe of the technology to limit global warming? The answer is vital if we are to make our audiences understand the urgent need to cut emissions to avoid the worst-case scenarios of climate change.