

# Carbon Emissions in the News, 2019-2026: Attention, Geography and Tone of Global Emissions Coverage, and How It Compares with Research and Invention

Fliar BI · Prism Research Layer · Working paper, October 2026 · Dataset and code: [github.com/fliarbi/prism-news-api](https://github.com/fliarbi/prism-news-api) · Licence CC BY-NC 4.0

## Abstract

We measure how carbon dioxide and greenhouse-gas emissions were covered in a global news index from January 2019 to July 2026, using 145,200 de-duplicated articles, and set that coverage beside 45,064 research papers and 7,506 patent families on emissions. Six results stand out:

1. **Attention peaked in 2021.** The topic's share of news rose 1.72-fold from 2020 to 2021, to 13.25 articles per 10,000, and fell 38.2% by 2025 (8.19 per 10,000). The peak month was November 2021, the month of COP26, at 21.2 per 10,000.
2. **A November rhythm.** November carries the largest share of a typical year's coverage (10.09%), and September to November together carry 28.41%.
3. **Geography.** Europe's share of located emissions news is 1.72 times its share of all news; North America's is 0.69 and India's 0.57. Azerbaijan (17.63), Denmark (5.71) and Finland (4.78) are the most over-represented countries. Within India, Gujarat (2.75) leads by lift; within the United States, Oregon (2.73) and California (2.07) lead among states whose place tags hold up in a sample check.
4. **Shifting attention.** Between 2023 and 2025 the topic's share of national news fell in 21 of the 25 countries with most coverage, including the United Kingdom (18.71 to 9.15 per 10,000) and China (23.92 to 11.86). The United Arab Emirates and Azerbaijan show sharp rises in the years they hosted the UN climate conference.
5. **Tone and urgency.** 70.5% of emissions articles are positive in tone (all news: 56.8%), yet 79.4% are rated critical priority (all news: 42.6%).
6. **Research and invention.** Emissions papers grew from 3.81 to 10.81 per 10,000 papers between 2015 and 2025 (2.84 times). Patent families grew 17.19-fold from 2015 to 2024, and China's office held 79.8% of office filings.

## Findings stated for citation

- **F1.** November 2021 was the peak month for emissions news, at 21.2 articles per 10,000, 1.6 times the 2021 average.
- **F2.** The topic's share of news rose 1.72-fold from 2020 to 2021, then fell 38.2% by 2025.
- **F3.** In 2020, the first pandemic year, emissions took a 14.4% smaller share of news than in 2019 (7.71 vs 9.01 per 10,000).
- **F4.** November held 10.09% of a typical year's coverage; September–November held 28.41%.
- **F5.** 70.5% of emissions articles were positive in tone, 1.24 times the all-news share.

- **F6.** 79.4% of emissions articles were machine-rated critical priority, 1.86 times the all-news share.
- **F7.** Carbon-footprint reduction appeared in 27.62% of themed articles, 179.34 times its rate in all news.
- **F8.** Europe's lift was 1.72 and North America's 0.69; the United States supplied 32.89% of located articles at a lift of 0.68.
- **F9.** Azerbaijan's coverage rose from 9.31 to 265.53 per 10,000 of its news in 2024, the year it hosted COP29.
- **F10.** Within India, Gujarat (2.75), Haryana (1.85) and Karnataka (1.61) had the most over-represented coverage.
- **F11.** Within the United States, Oregon (2.73) and California (2.07) led among states whose place tags hold up.
- **F12.** From 2023 to 2025 the topic's share of national news fell in 21 of the 25 countries with most coverage, and rose clearly only in Brazil and Azerbaijan.
- **F13.** Emissions news located in China was more negative than Chinese news overall (34.1% vs 27.2%).
- **F14.** Emissions papers rose 2.84-fold as a share of all papers between 2015 and 2025.
- **F15.** Emissions patent families grew 17.19-fold between 2015 and 2024; China's office held 79.8% of office filings.

## 1. Introduction

Carbon dioxide and other greenhouse gases released by human activity are the main cause of current global warming. Emissions are measured by national inventories, companies and scientific projects. The news is where most people meet those numbers: annual emission estimates, national targets, corporate pledges and the UN climate conferences. News coverage also shapes what the public and policy-makers treat as urgent. Yet the attention that emissions receive is rarely measured as data in its own right.

This paper and its dataset do that. They combine three records for one topic: a global news index, research papers and patents. Each comparison uses a denominator, so that growth in the index or in publishing is not mistaken for growth in interest. The companion dataset publishes an article-level sample (36,103 rows) and full coverage tables, so every figure here can be re-derived. The [Prism News API](#) serves the full history.

## 2. Data and methods

**News.** The Prism news index holds articles from outlets worldwide; non-English articles are indexed in English translation. Each article carries its opening text (the first few sentences), a primary location, a graded tone label, an editorial priority rating (1–9), themes, keywords and named organisations. We count unique article identifiers; repeated rows for the same article are removed. When this release was built, 92.88% of the index was readable, so all counts are lower bounds.

**Matching.** An article is about carbon emissions when its opening text contains *carbon emission(s)*, *CO2 emission(s)* (including the subscript form), *carbon dioxide emissions*, *greenhouse gas(es)*, *greenhouse-gas emissions* or *GHG emissions* as whole words. The most frequent matched terms were *greenhouse gas* (61,340 articles), *carbon emissions* (41,684)

and *CO2 emissions* (19,038); one article can match several terms. Three families of items are excluded:

- research-paper abstracts that the index carries as news items ("this study investigates...", "evidence from China...");
- car advertisements that quote type-approval fuel and emission figures;
- press-release boilerplate that quotes a stock-exchange ticker alongside an emissions claim.

Together these removed 3,347 of 148,547 raw matches (2.25%). One reviewer read 40 randomly drawn matched openings. 38 were news items about human-caused emissions (precision 95%); the other two were research abstracts that escaped the exclusions. In 24 (60%) emissions were the main subject.

**Measures.** Coverage over time is expressed per 10,000 articles in the index that month or year, because the index grew from 11,807,177 articles in 2019 to 26,990,006 in 2025. Seasonality uses each year's within-year month shares, averaged over the complete years 2019–2025. Geography, tone, priority and themes use January 2023 – July 2026. Geography is expressed as lift: a country's share of emissions articles divided by its share of all located articles. State lift uses the same ratio within India and within the United States. Place tags derived from ordinary words (such as "Congress", "Earth" or "Winter") were treated as unlocated in every location field; this removed 15.3% of city-tagged articles.

**Research and patents.** Research papers are de-duplicated articles and reviews (2000–2025) with an emissions term in the title; repository deposits are excluded. Patent families (2005–2024) use the same title rule and are counted once per filing office.

## 3. Results

### 3.1 How much and when

The index holds 145,200 carbon-emissions articles from January 2019 to July 2026. Raw counts rose from 10,634 in 2019 to 22,891 in 2021 and stayed near that level (22,117 in 2025). As a share of all news, coverage rose from 9.01 per 10,000 in 2019 to 13.25 in 2021, then fell every year to 8.19 in 2025 (Table 1). The low point before the rise was 2020, at 7.71 per 10,000, 14.4% below 2019. The highest monthly shares were November 2021 (21.2 per 10,000) and October 2021 (20.23), the two months around the COP26 conference in Glasgow (Figure 1). November 2022 (15.08) is the next-highest November.

| Year | Emissions articles | All articles in index | Per 10,000 |
|------|--------------------|-----------------------|------------|
| 2019 | 10,634             | 11,807,177            | 9.01       |
| 2020 | 12,509             | 16,230,014            | 7.71       |
| 2021 | 22,891             | 17,281,220            | 13.25      |
| 2022 | 22,880             | 19,115,515            | 11.97      |
| 2023 | 24,343             | 20,484,506            | 11.88      |
| 2024 | 22,531             | 23,311,896            | 9.67       |
| 2025 | 22,117             | 26,990,006            | 8.19       |

**Table 1.** Carbon-emissions articles per year and as a share of the index. 2026 (January–July) is partial and omitted.

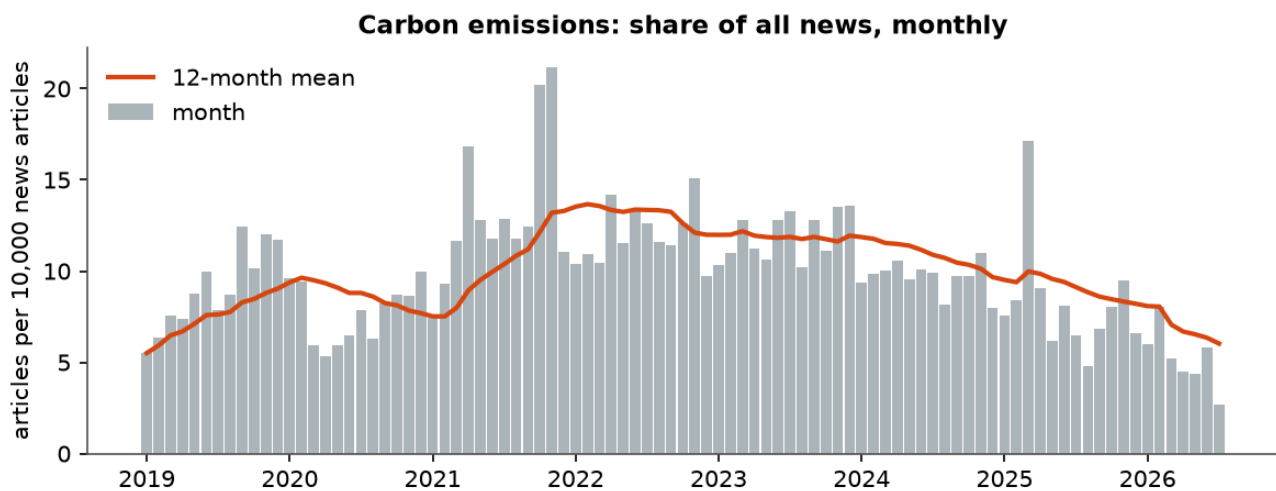


**Figure 1.** Carbon-emissions coverage as articles per 10,000 news articles, monthly, January 2019 – July 2026. Bars are months; the line is the 12-month mean.

The raw count peaks in March 2025 (4,255 articles), but much of that month is dated to a single day, 19 March 2025. That pattern points to a batch of items entering the index, not to a news event, so raw monthly counts are not used for peaks. As a share, March 2025 (17.11 per 10,000) stays below late 2021.

Coverage is only mildly seasonal (Figure 2). November is the largest month (10.09% of a typical year), followed by March (9.33%), October (9.25%) and September (9.07%). August is the quietest (7.1%). November is the month in which the annual UN climate conference usually takes place.

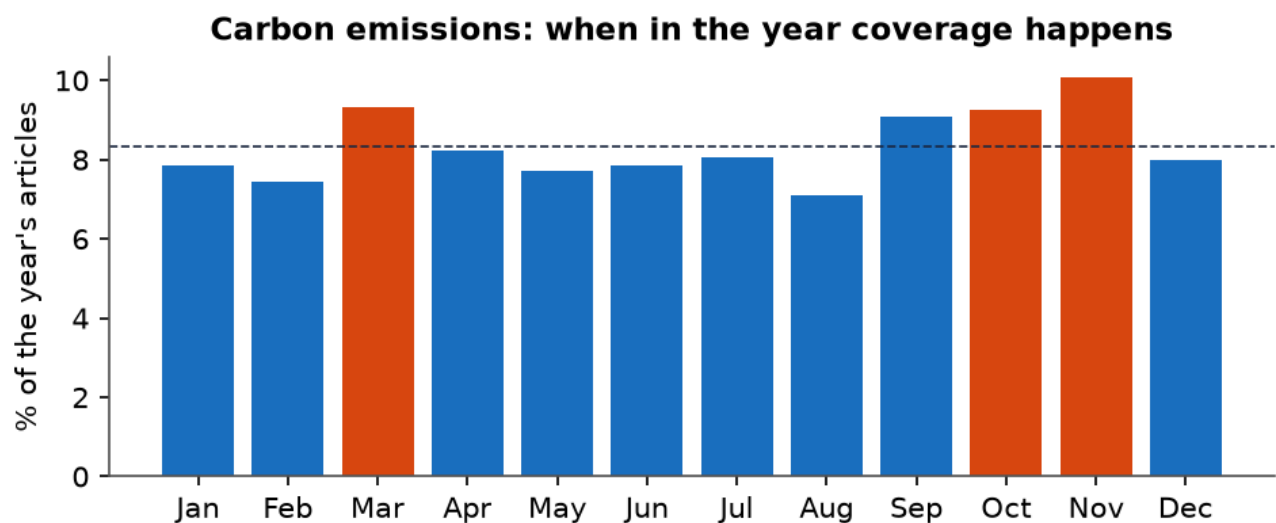


**Figure 2.** Share of each year's carbon-emissions articles published in each month, averaged over 2019-2025. Dashed line = an even spread across the twelve months.

### 3.2 Where

Between January 2023 and July 2026, 30,302 emissions articles carried a primary location. The United States holds the largest raw share (32.89%), but its lift is 0.68: emissions take a smaller share of American news than of news overall. India's share (7.58%) comes with a lift of 0.57. The United Kingdom (1.68), China (1.9) and Germany (2.57) are over-represented. France's lift (2.0) is set aside: most of its sampled rows are tagged to Paris, and most sampled openings use the name for the Paris Agreement or a Paris-based agency. The highest lifts belong to Azerbaijan, host of COP29 (17.63), and to smaller Northern European

countries: Denmark (5.71), Finland (4.78), the Netherlands (4.38) and Sweden (4.03) (Table 2, Figure 3).

| Country              | Located articles | Share % | Lift vs all news |
|----------------------|------------------|---------|------------------|
| United States        | 9,965            | 32.89   | 0.68             |
| United Kingdom       | 2,970            | 9.8     | 1.68             |
| India                | 2,296            | 7.58    | 0.57             |
| China                | 1,513            | 4.99    | 1.9              |
| France               | 1,195            | 3.94    | 2.0              |
| Australia            | 1,091            | 3.6     | 1.68             |
| Canada               | 1,071            | 3.53    | 1.65             |
| Germany              | 917              | 3.03    | 2.57             |
| United Arab Emirates | 668              | 2.2     | 3.38             |
| Singapore            | 654              | 2.16    | 2.42             |
| Japan                | 581              | 1.92    | 1.8              |
| Sweden               | 267              | 0.88    | 4.03             |
| Denmark              | 202              | 0.67    | 5.71             |
| Netherlands          | 184              | 0.61    | 4.38             |
| Azerbaijan           | 175              | 0.58    | 17.63            |
| Finland              | 142              | 0.47    | 4.78             |

**Table 2.** Located carbon-emissions news, January 2023 – July 2026, with lift against all located news: the eleven countries with the most located articles, then the five highest-lift countries outside them. France's count is inflated by "Paris" tags that refer to the Paris Agreement or Paris-based agencies.

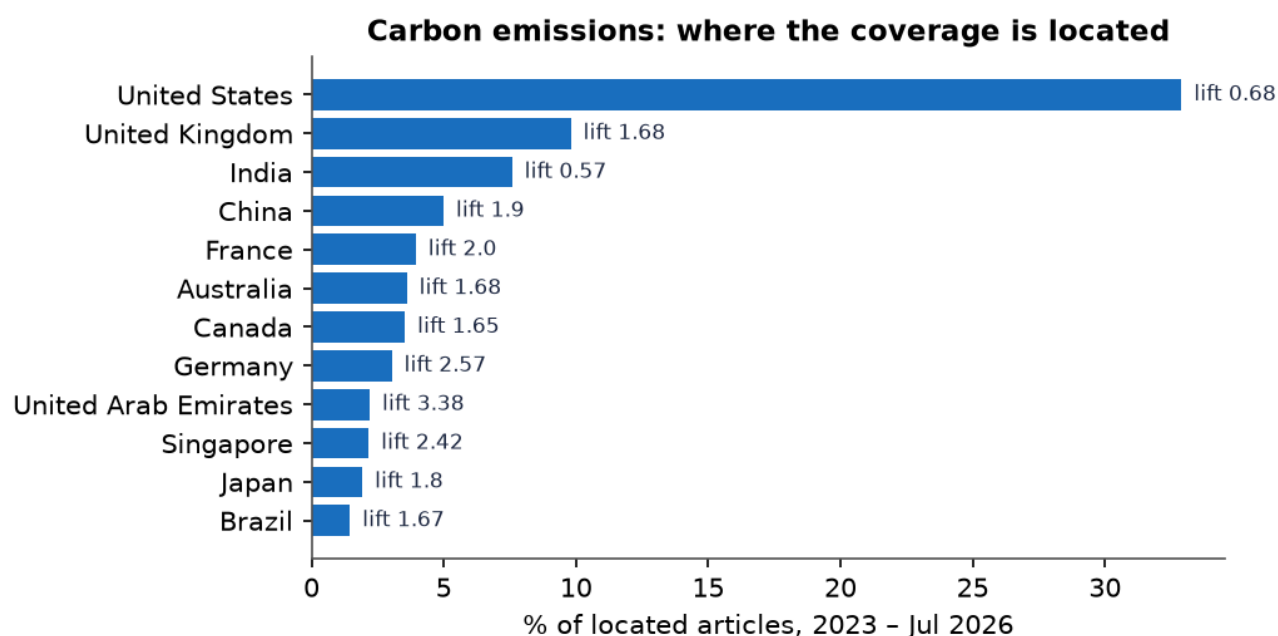


**Figure 3.** Leading countries by share of located carbon-emissions articles, 2023 – Jul 2026, labelled with lift against all located news.

### 3.3 Geo intelligence: continents, states and shifting attention

The world map (Figure 4) shows the pattern at a glance. Emissions are over-represented in the news of Northern and Western Europe, the United Arab Emirates, Azerbaijan, East and Southeast Asia, Oceania, Canada, Brazil and Kenya, and under-represented in the United

States, Russia, India and Italy. Much of Africa and Latin America has too few located articles to measure. By continent, Europe (1.72), Oceania (1.63) and Africa (1.18) are over-represented, Asia (0.99) is at parity, and South America (0.88) and North America (0.69) are under-represented (Figure 7, left).

#### Carbon emissions: which countries over- and under-cover the topic

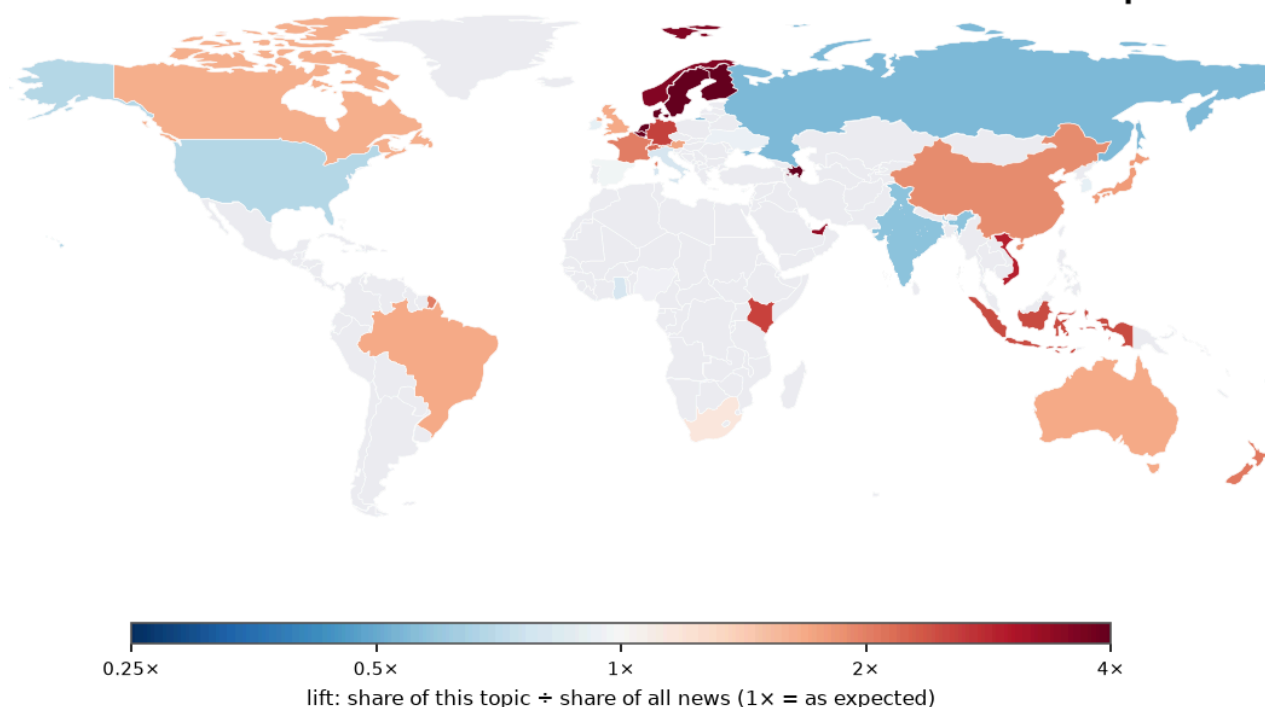


**Figure 4.** Lift of each country's share of located carbon-emissions articles, January 2023 – July 2026 (red = over-represented, blue = under-represented, grey = too few articles). India is drawn with its official outline.

Within countries the picture is more specific (Table 3). India has only 1,056 located emissions articles, so we discuss states with at least 50. Measured against each state's share of Indian news, Gujarat (2.75), Haryana (1.85), Karnataka (1.61) and Tamil Nadu (1.36) are over-represented. Maharashtra and Delhi, which hold the most articles (181 and 157), sit near parity at 1.08 and 1.15. Uttar Pradesh (0.48) is under-represented (Figure 5). In the United States (6,969 located articles), Oregon (2.73), West Virginia (2.42), Washington (2.29), California (2.07) and New Mexico (2.05) have the highest lifts, but sample checks set three of them aside. Most sampled openings tagged to Washington state are federal news datelined Washington, D.C. About half of the sampled West Virginia rows carry tags from surnames and other places, led by "Davis" (University of California, Davis). New Mexico's tags include surnames and the name "New England". That leaves Oregon (2.73) and California (2.07) as the leading states; California also has the most articles (1,438). North Dakota (1.78) has the same surname problem and is not discussed. New Jersey (0.11) and Florida (0.33) are far below their weight in American news (Figure 6). Texas, which led in an earlier build, sits near parity (1.15) once place tags from ordinary words are removed.

| India: state           | Articles | Lift | United States: state | Articles | Lift |
|------------------------|----------|------|----------------------|----------|------|
| Gujarat                | 96       | 2.75 | Oregon               | 190      | 2.73 |
| Haryana                | 50       | 1.85 | West Virginia*       | 70       | 2.42 |
| Karnataka              | 94       | 1.61 | Washington*          | 418      | 2.29 |
| Tamil Nadu             | 72       | 1.36 | California           | 1,438    | 2.07 |
| Delhi                  | 157      | 1.15 | New Mexico*          | 50       | 2.05 |
| Maharashtra            | 181      | 1.08 | North Dakota*        | 58       | 1.78 |
| Uttar Pradesh (lowest) | 65       | 0.48 | Florida (low)        | 122      | 0.33 |
|                        |          |      | New Jersey (lowest)  | 143      | 0.11 |

**Table 3.** States with the highest and lowest lift in carbon-emissions coverage, January 2023 – July 2026, states with at least 50 located articles. Lift = the state's share of the country's located emissions articles ÷ its share of all located news from that country. \* Set aside: a sample check finds most or many of these tags come from another place (Washington, D.C.), surnames or other place names.

### Carbon emissions: states of India by lift

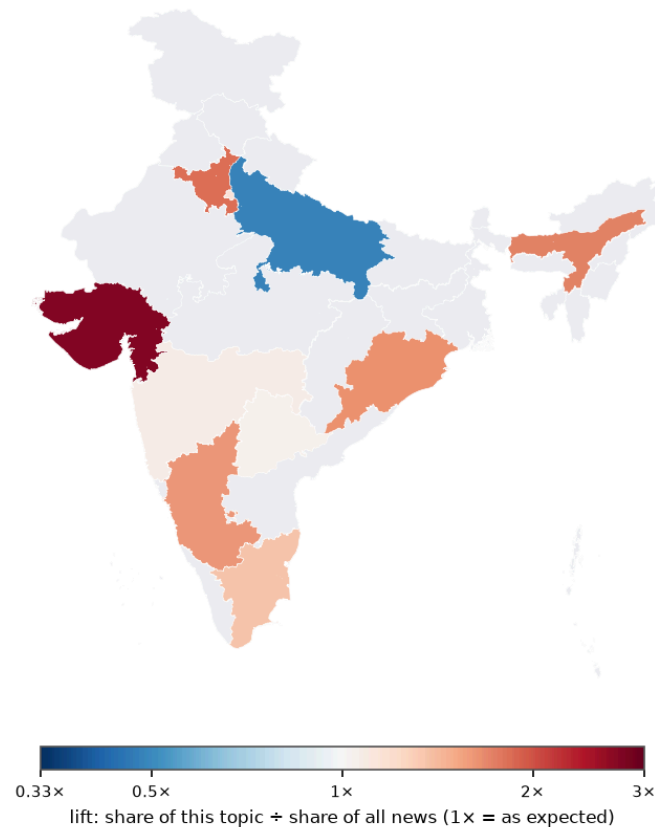


**Figure 5.** Lift of each Indian state's share of located carbon-emissions articles against its share of all located Indian news, January 2023 – July 2026. Official outline; states with few articles carry little weight.

## Carbon emissions: states of United States by lift

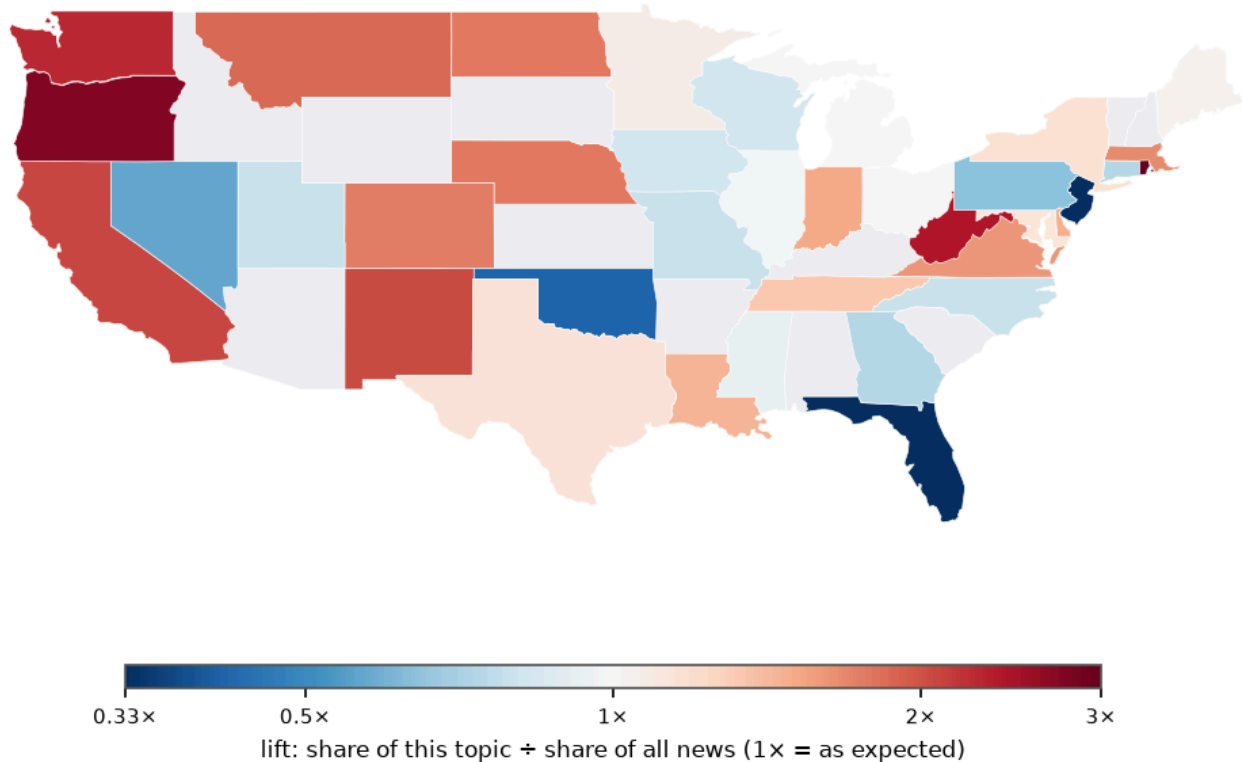


**Figure 6.** Lift of each US state's share of located carbon-emissions articles against its share of all located US news, January 2023 – July 2026.

Attention also moves between countries from year to year (Figure 7, right). Measured as emissions articles per 10,000 of each country's located news, the share fell between 2023 and 2025 in 21 of the 25 countries with most coverage. It roughly halved in the United Kingdom (18.71 to 9.15), China (23.92 to 11.86), Germany (29.26 to 15.19) and Japan (20.35 to 10.33), and fell further in Canada (18.06 to 7.83), Sweden (46.38 to 17.24) and Denmark (70.86 to 21.3). In the United States it fell from 6.61 to 4.5. Only Brazil (11.02 to 13.56) and Azerbaijan rose clearly; Nigeria was about level (8.5 to 8.93). The Netherlands also rose (26.21 to 49.34), but its 2025 figure comes from the batch of items dated 18–19 March 2025 and is set aside. The largest one-year rises belong to conference hosts. The United Arab Emirates rose from 25.85 per 10,000 in 2022 to 61.57 in 2023, the year Dubai hosted COP28. Azerbaijan rose from 9.31 in 2023 to 265.53 in 2024, the year Baku hosted COP29, and fell back to 42.29 in 2025. Brazil, host of COP30 in November 2025, shows no such rise (15.29 in 2024, 13.56 in 2025). These rises are placed in the conference years by timing only.

Tone by country is measured against each country's own news. Emissions news is more negative than the national baseline in China (34.1% negative against 27.2%), Belgium (39.2% against 32.5%) and the United States (37.8% against 33.1%). It is far less negative than the baseline in Nigeria (17.0% against 44.4%), India (17.6% against 41.2%), the United Kingdom (24.1% against 36.9%) and Sweden (13.9% against 26.2%).

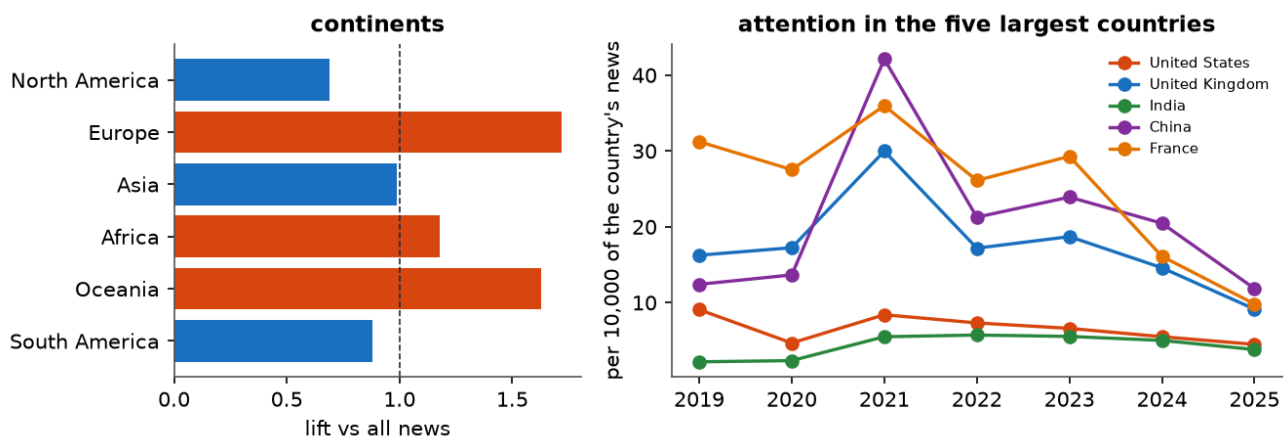


**Figure 7.** Left: lift by continent, January 2023 – July 2026. Right: carbon-emissions articles per 10,000 of each country's located news, 2019–2025, for the five countries with the most articles.

### 3.4 Tone, urgency and themes

Emissions coverage is more positive and more urgent than news in general (Figure 8). Among articles with a tone label, 70.5% are positive, against 56.8% across the index (1.24 times), and 27.7% are negative, against 33.6% (0.82 times). Many articles report a target, a cut or a new technology. Machine-assigned editorial priority puts 79.4% of emissions articles at critical level (7 or higher), against 42.6% of all news (1.86 times).

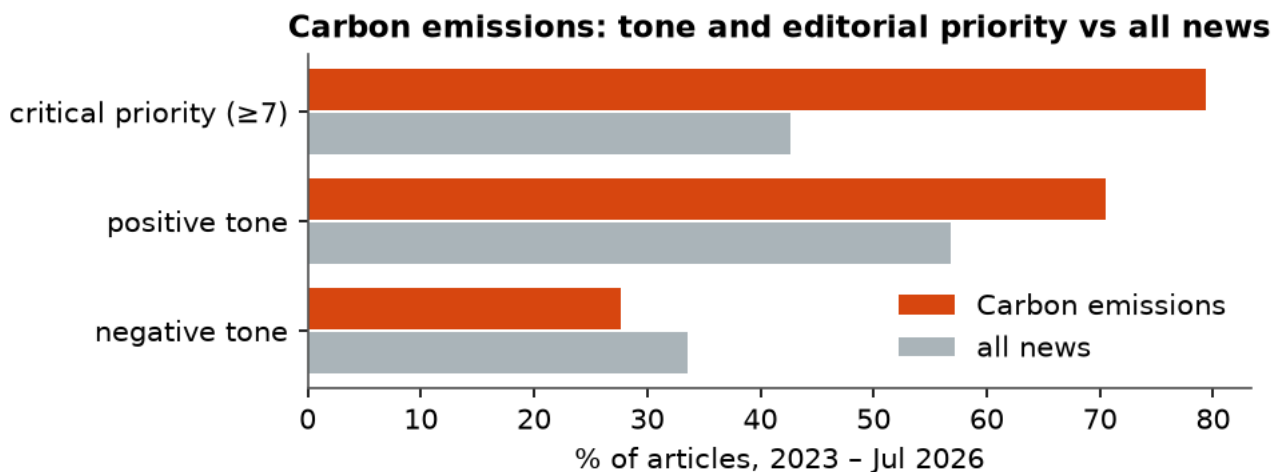


**Figure 8.** Tone and the share rated critical priority, carbon-emissions articles vs all news, 2023 – Jul 2026.

Themes show what emissions stories are about (Table 4). Climate-change mitigation strategies are the most common (36.81% of themed articles), followed by carbon-footprint reduction techniques (27.62%, lift 179.34) and renewable energy (15.19%). The most specific themes are emission sources and analysis, carbon dioxide concentration trends and carbon capture and storage. Shipping appears twice: maritime regulation and maritime fuel efficiency.

| Theme                                             | Articles | Share % | Lift   |
|---------------------------------------------------|----------|---------|--------|
| greenhouse gas emission sources and analysis      | 691      | 1.32    | 202.15 |
| carbon dioxide (co2) concentration trends         | 546      | 1.04    | 190.8  |
| carbon footprint reduction techniques             | 14,433   | 27.62   | 179.34 |
| carbon capture and storage technologies           | 297      | 0.57    | 160.99 |
| methane (ch4) release from permafrost thaw        | 338      | 0.65    | 144.08 |
| climate change mitigation strategies              | 19,236   | 36.81   | 135.85 |
| eco-friendly transportation alternatives          | 2,974    | 5.69    | 118.27 |
| maritime environmental regulations and compliance | 719      | 1.38    | 102.8  |

**Table 4.** Themes most specific to carbon-emissions coverage (lift against all themed news), January 2023 – July 2026.

The organisations list is led by generic tags (renewable energy, GHG, supply chain, ESG, net zero). Among named bodies, the United States Environmental Protection Agency leads (3,146 articles), followed by the International Maritime Organization (658), the Science Based Targets initiative (613) and the Intergovernmental Panel on Climate Change (603). Wire services also rank high, which reflects how the news is sourced.

### 3.5 Research attention and invention

Research on emissions grew much faster than the scientific literature. Papers with an emissions term in the title rose from 2,667 in 2015 to 7,605 in 2025, or from 3.81 to 10.81 per 10,000 papers, a 2.84-fold increase in share, while the total literature in the corpus grew by a factor of 1.0. Between 2015 and 2025, 45,064 such papers were published. The most-cited include the emission scenarios used in climate modelling, an estimate that food systems produce a third of anthropogenic emissions, and the measured fall in daily emissions during the 2020 lockdowns [1–4].

News attention does not track research attention (Figure 9). From 2019 to 2025 the research share rose 2.38 times, while the news share rose to 2021 and then fell below its 2019 level.

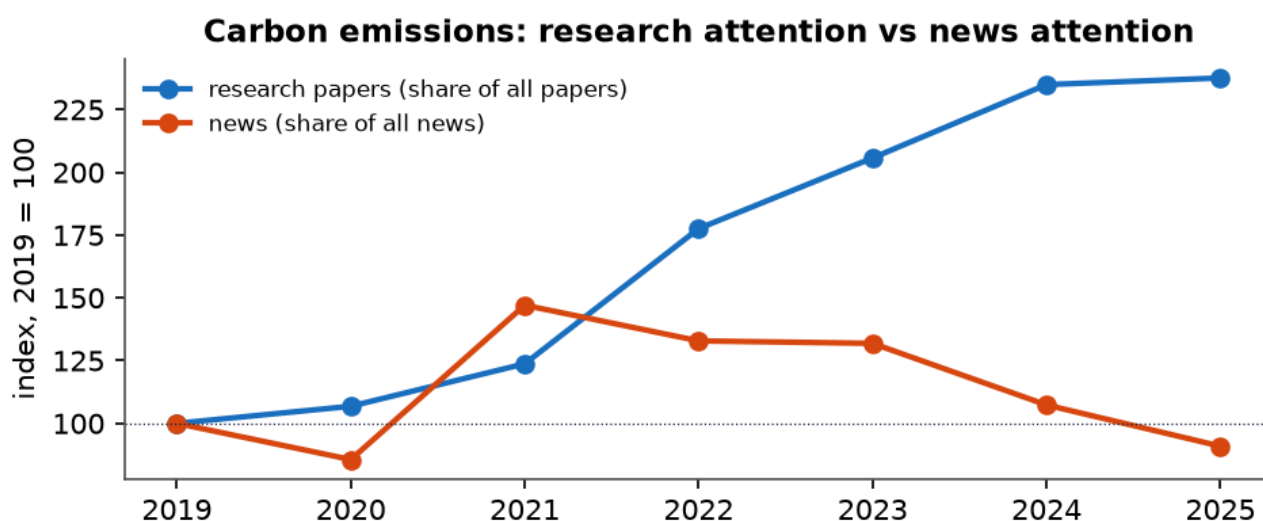


**Figure 9.** Research papers with emissions terms in the title (share of all papers) and carbon-emissions news (share of all news), each indexed to 2019 = 100.

Patenting rose faster still: 152 patent families with emissions terms in the title were published in 2015 and 2,613 in 2024 (17.19 times). Most of the rise came after 2021 (411 families) and 2022 (1,336). China's office holds 79.8% of office filings of these families from

2015 to 2024, followed by South Korea (4.5%) and the United States (4.2%) (Figure 10). The leading technology class is data processing for business and administration (G06Q, 2,087 families, 27.8% of the total), which covers carbon accounting and monitoring software. It is followed by measurement and analysis (G01N, 610) and computing (G06F, 536). Climate-mitigation technologies in production (Y02P) hold 355.

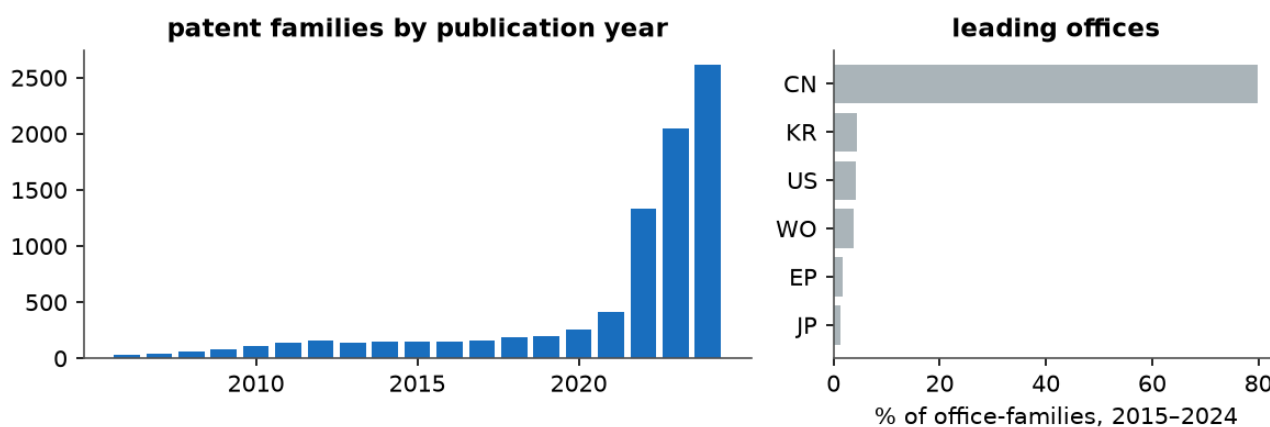


**Figure 10.** Carbon-emissions patent families by publication year (left) and the leading filing offices, 2015-2024 (right).

## 4. Discussion

Three points matter for anyone who uses news as a record of emissions. First, coverage measures attention, and attention has fallen. The share of news devoted to emissions in 2025 was 38.2% below 2021, and it fell in 21 of the 25 countries with the most coverage. The rise and fall cannot be read as a change in emissions themselves. Second, coverage peaks line up in time with the diplomatic calendar. The peak month coincides with COP26, November is the strongest month, and two recent host countries show sharp one-year rises; the timing does not establish a cause. Third, emissions coverage is unusually positive for a problem story. Targets, pledges and technology launches make up a large part of it, which fits the high share of corporate sustainability and carbon-footprint themes.

Geography matters. Raw counts are dominated by the United States, but its lift is below one, as is India's. Europe, and smaller Northern European countries such as Denmark, Finland and Sweden, give the topic the largest share of their news. Within countries, Gujarat, the Indian state with the highest lift, has a large energy and industrial sector, and Oregon and California lead in the US; the data do not test whether this explains the pattern.

Research, invention and news run on different clocks. Research share has nearly tripled since 2015. Patent filings grew fastest after 2021, are concentrated in one office and are dominated by accounting and monitoring software. News rose to a peak in 2021 and has fallen since. The dataset lets researchers link the three, for example to test whether national coverage changes follow climate conferences or new disclosure rules.

## 5. Limitations

- **Index availability.** 92.88% of the index was readable at build time, so counts are lower bounds. Shares and lifts are less affected, because the missing part is spread across topics.
- **Coverage after May 2026.** The index thins after May 2026, so 2026 is partial and is excluded from year comparisons.

- **Matching.** Matching uses the article opening. Articles that mention emissions only later are missed, and 5% of matches are not news about emissions (mostly research abstracts).
- **Batch dating.** March 2025 holds a batch of items dated to one day; raw monthly counts for that month are inflated, shares much less so.
- **Machine labels.** Location, tone, priority and themes are machine-labelled. The city field is noisy and is not analysed. Indian state counts are small.
- **Place words.** Place tags derived from ordinary words (714 words, such as "Congress", "Earth", "Winter", "Cloud", "Mobile" and "Hurricane") were treated as unlocated in every location field, which removed 15.3% of city-tagged articles. A sample check still finds tags from surnames and multi-word names (such as "Davis" and "New England"), most sampled items tagged to Washington state concern Washington, D.C., and most sampled France items tagged to Paris refer to the Paris Agreement or Paris-based agencies. Those lifts are set aside, and lifts for other US states are approximate.
- **Outlet mix.** The index over-represents English-language outlets. This shapes geography and tone.
- **Research and patent counts.** These match titles only. Office shares reflect filing practice; utility models are numerous in China.

## Data availability

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The dataset (article sample, monthly, country, continent and state tables, research and patent tables, all metrics) is released under CC BY-NC 4.0 with this paper. The sample holds 36,103 of 145,172 matched articles to 31 July 2026. Full article text, headlines, publishers, later articles and other topics are served by the Prism News API: <https://github.com/fliarbi/prism-news-api> (base URL <https://radar-api.fliarbi.com/news>). A worked query: `prism-news trends "carbon emissions" --since 2019-01-01 --until 2026-07-31 --granularity monthly`.

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