



# A Comparative Analysis of Australian Media Coverage of the 2019 Climate Protests

---

A comparison between media coverage of Extinction Rebellion, School Strike for Climate and Stop Adani campaigns

DR ROBYN GULLIVER  
ACTIVISM RESEARCH HUB  
NOVEMBER 2019

# Report Contents

1. Coverage
2. Topics
3. Media reach
4. Media bias
5. Themes
6. Words
7. Summary of findings
8. Appendices
  1. Leximancer analysis
  2. LIWC analysis
  3. Methodology

## Report Purpose

This report presents findings from a comparative analysis of media coverage across Australia for three 2019 protests: Extinction Rebellion's Rebellion Week (October 2019), School Strike for Climate (September 2019) and Stop Adani (2017-2019). The purpose of this analysis was to identify the coverage generated by Rebellion Week and SS4C and assess whether media coverage differed in its focus and sentiment between the two campaigns. These findings were then compared with the longer term coverage on the Stop Adani campaign.

## Research Questions

### COVERAGE

*Q1. What coverage was generated during Rebellion Week 2019 and which State generated the most media attention?*

### TOPICS

*Q2a. What were the most common headlines?*

*Q2b. What were the most common topics?*

*Q2c. What were the most common media sources?*

### MEDIA REACH

*Q3a. What topics had the greatest media reach and what sentiments were conveyed?*

*Q3b. How did reach and sentiment differ across Australia?*

### MEDIA BIAS

*Q4a. What was the influence of media bias on sentiment?*

*Q4b. What was the influence of media bias on sentiment over time?*

### THEMES

*Q5a. What were the key themes the media focused on?*

*Q5b. What was the sentiment associated with these themes?*

### WORDS

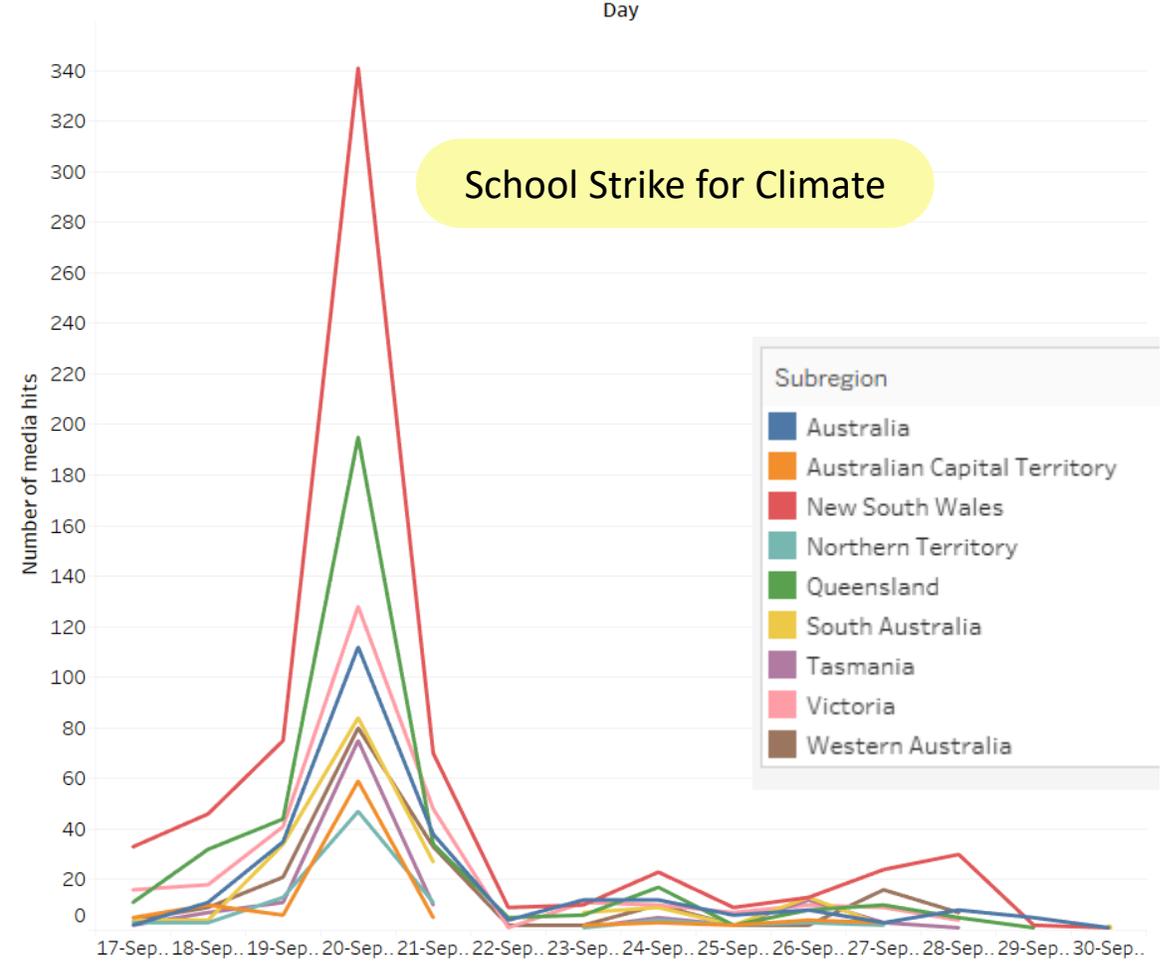
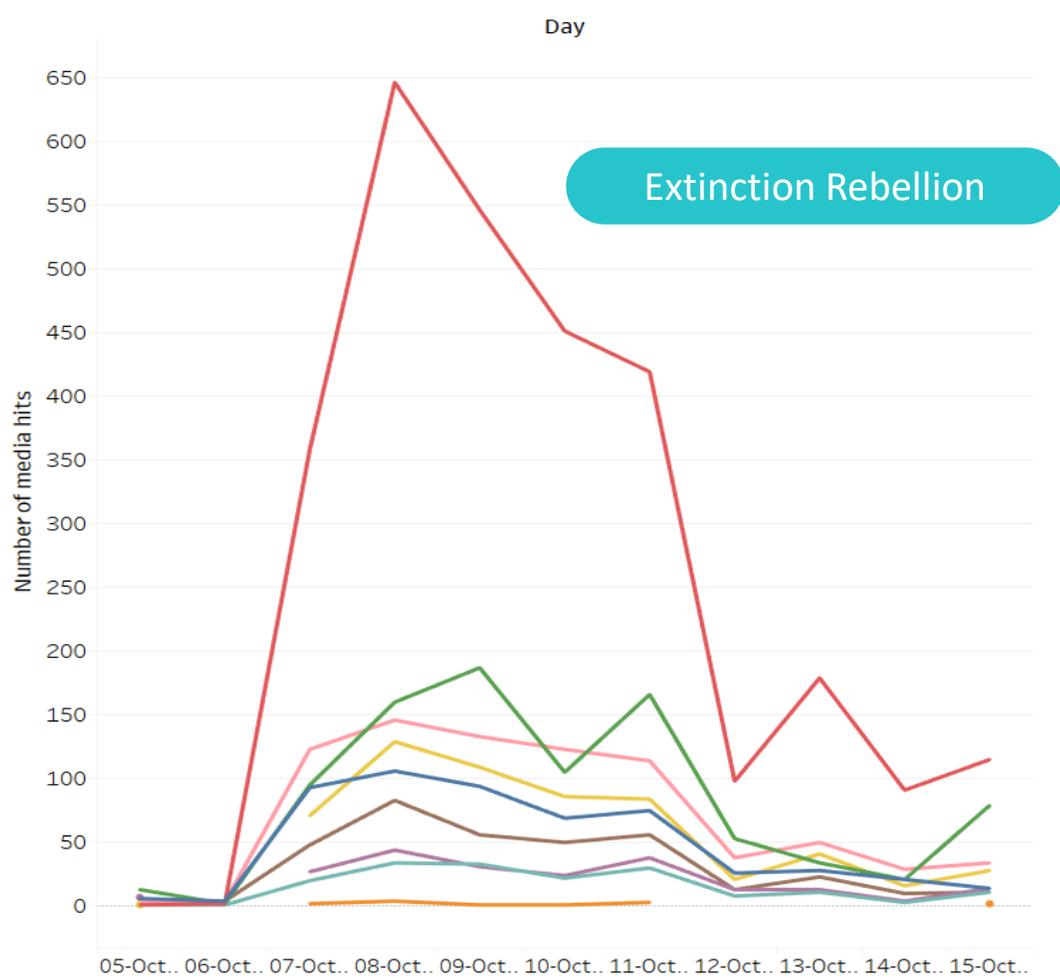
*Q6. What kind of words were most commonly used in media reporting?*

### REFLECTION AND SUMMARY

*Q7. What does all this mean?*

# Coverage

Q1: What coverage was generated during Rebellion week and the Climate Strike, and which State generated the most media attention?



These graphs compare the media coverage frequency by State over the 10 day period for each group. For both datasets the majority of coverage was generated in New South Wales, with the least coverage generated in ACT and the Northern Territory.

*NOTE: most media is syndicated widely around Australia. For the purposes of this analysis all media were assigned a single unique geographic area (e.g. 'Australia', or 'Queensland'). While NSW had the greatest number of single media hits, many of these stories may have been syndicated from a national source.*

## Extinction Rebellion

# Topics

## School Strike for Climate

Q2a: What were the most common headlines?

Headline	Count	Average Reach
Qld to fast-track laws on protest devices	185	292,382
Australia-wide climate protests continue	161	29,440
Dutton resumes attack on climate activists	154	33,386
Qld rail protest 'absolutely ridiculous'	150	50,050
Cop bill over climate change protest	150	33,623
New Qld laws will not stop protest tactics	149	19,114
Ex-senator arrested, Qld questions protest	149	19,114
Climate activist ends Qld bridge hangout	149	21,127
Aurizon backs new Qld anti-protest laws	149	19,114
Qld needs new protest rules: law president	147	308,676
Canberra climate protesters block traffic	147	312,377
Climate scientists for civil disobedience	143	274,546
Mass arrests begin week of climate protest	138	18,194
Climate activists strip down in Melbourne	138	93,266
NSW activists warned not to disrupt trains	137	59,295
Melb tram strike off due to CBD protests	137	51,989
Police arrest 30 at Sydney climate protest	136	58,791
Ludlam has bail win after climate protest	136	105,572
Climate protesters shut down Perth CBD	136	63,602
Climate change protests to hit Melbourne	136	40,275

Headline	Count	Average Reach
Huge numbers attend Aust climate rallies	135	59,554
Students across world strike over climate	134	140,969
Behind the scenes of the school climate strike in Canberra	120	20,049
2019 student-led climate strike leads Grong Grong farmer to tak..	120	20,049
Voice of Real Australia: Time to strike while the climate is hot	117	19,501
Fighting for our planet must be first priority	116	19,651
Jimmy Barnes backs Qld climate protesters	104	57,078
14 fine photos from the climate strike around regional Australia	102	13,915
Principal's powerful message to climate strikers	34	16,660
Girl, 12, only climate protester in drought stricken town	32	16,492
Shocking truth behind this viral snap	26	14,616
More students complain of 'pressure' to join climate rally	16	15,312
Climate protest: 30,000 flood Brisbane streets	15	13,274
Climate change-denying grandpa slams student 'riots'	14	13,038
Minister warns kids: protest on your own time	13	12,603
Families target work camp in anti-Adani protest	12	12,089
'If you don't want us striking, don't teach us science'	12	12,089
Voice of Real Australia: When a 'little' island joins big global acti..	11	2,629
Climate crisis hits home for CQ teen on a mission	11	11,532
Where the climate strikes will be held	10	203,883
The small schoolgirl who stood alone in town on strike day	10	9,690

These tables rank the most common headlines along with their average reach (which is an indicative measure of readership). The average frequency of positive emotion words used across those articles is indicated by the shading: a darker colour indicates a higher proportion of positive emotion words in each 100 words of text.

Both the article most frequently syndicated and the article with the greatest reach concerned Extinction Rebellion protest. The most common article (syndicated 185 times) reported on fast-tracking of protest devices in Queensland in response to Extinction Rebellion protest. The article with the highest coverage reported on Canberra Extinction Rebellion protesters blocking traffic (312,377 reach).



*NOTE: Positive emotion words are included on these tables to highlight the challenge of measuring sentiment. In further slides the high proportion of negative sentiment XR articles contrasts with these positive emotion frequencies. This is due to the possibility that articles can be simultaneously positive about the activity (e.g. protests) while negative about the climate crisis..*

# Topics

Q2b: What were the most common topics?

These tables demonstrate the coverage obtained on each topic across States. The size of the box refers to the number of media hits generated on that topic in that particular location. The smaller tables refer to the number of media hits generated from sources with a known bias in different States.

The most common Extinction Rebellion topic was general protest news, followed by arrest news and commentary, predominantly by media that leans right. The most common SS4C topic was Strike news followed by strikers voices, also predominantly by media that leans right.

## Extinction Rebellion

Bias	Subregion				
	Aus	NSW	NT	Qld	Vic
Center	■	■			■
Leans left		■			
Leans right	■	■	■	■	■
Partisan left	.				
Partisan right	■				

## School Strike for Climate

Media Bias	Sub-region									
	ACT	Aus	NSW	NT	Qld	SA	Tas	Vic	WA	
Center	■	■	■	.	.	.	.	■	.	
Leans left			■							
Leans right	.	■	■	■	■	■		■	.	
Partisan left		■								
Partisan right		■								

Topic	Subregion									
	ACT	Aus	NSW	NT	Qld	SA	Tas	Vic	WA	
Anti-protest laws	.	■	■	■	■	■	■	■	■	
Brisbane bridge action		■	■	.	■	.	.	■	■	
Brisbane train action		.	.	.	.	.	.	.	.	
Consequence		■	■	.	.	.	.	■	.	
Cost in money or police time		■	.	.	.	.	.	■	.	
Daisy Lowe and airplane		.	.	.	.	.	.	.	.	
Demanding harsher responses		■	■	.	■	.	.	■	.	
Eric Herbert		.	.	.	■	.	.	.	.	
Filming in watchhouse		.	.	.	.	.	.	.	.	
General arrest news		■	■	■	■	■	■	■	■	
General commentary	.	■	■	■	■	■	■	■	.	
General protest news	■	■	■	■	■	■	■	■	■	
Melbourne nude rally		.	.	.	.	.	.	.	.	
Negative commentary		■	■	■	■	■	■	■	.	
Positive commentary	.	■	■	.	■	.	.	■	.	
Reportage on Dutton's comm..		■	.	.	.	.	.	.	.	
Scientists back civil disobedi..		■	.	.	■	.	.	.	.	
Scott Ludlum arrest and bail		■	■	■	■	■	■	■	■	
Voice of XR		■	■	■	■	■	■	■	■	

Topic	👤	Sub-region									
		ACT	Aus	NSW	NT	Qld	SA	Tas	Vic	WA	
Adani		.	.	.	.	.	.	.	.	.	
Ariel Ehlers		.	■	■	.	■	.	.	.	.	
Eco-anxiety			■	.	.	.	.	■	.	.	
General commentary		.	■	■	.	.	.	■	.	.	
Greta Thunberg			■	.	.	.	.	.	.	.	
Jimmy Barnes			.	.	.	.	.	.	.	.	
Negative commentary			■	■	■	■	.	■	■	.	
Positive commentary		.	■	■	.	■	.	■	.	.	
Strike news		■	■	■	■	■	■	■	■	■	
Support from others		.	■	■	■	■	■	■	■	■	
The message of action on cl..		.	■	■	.	■	.	■	■	■	
Voice of strikers		.	■	■	■	■	■	■	■	■	

NOTE: media bias was identified through data obtained from politico, and has some methodological limitations. Only larger networks were covered. Much of the XR coverage came from regional media outlets of which their bias was not available to the author.

# Topics

## Extinction Rebellion

Q2c: What were the most common media sources?

## School Strike for Climate

Source	Subregion							
	Vic	Tas	SA	Qld	NT	NSW	ACT	Aus
2GB Radio (secondary)								243
2CC Talking Canberra							221	
4BC 1116 News Talk				186				
Herald Sun	156							
ABC NewsRadio								143
2BS 95.1 FM	130							
990 AM 4RO				115				
River 1467	114							
2SM (secondary)								113
Gold Central Victoria	106							
3AW 693 News Talk						101		
4GY				99				
2GF Radio						95		
Radio 2ST Highlands						92		
Radio 2ST Coast						91		
The Australian								90
ABC 24 (secondary)								90
The Daily Telegraph						89		
2RE Radio						87		
The Courier-Mail				86				
2HD 1143AM						86		
MSN - Australia								85
WIN TV Mackay				82				
WIN TV Cairns					82			
4WK 963AM				82				
Geelong Advertiser	81							
981 2NM						81		
WIN TV Wide Bay				80				
2PM Radio 531						80		
WIN TV Hobart (secondary)		79						
3BA FM	79							
2TM Tamworth 1287AM						79		
The Advertiser			78					
Ntnews.com.au					78			

Source shortened	Sub-region							
	ACT	Aus	NSW	NT	Qld	SA	Vic	WA
1233 ABC Newcastle			27					
The Courier-Mail					21			
Herald Sun							21	
Gold Coast Bulletin					21			
2BS 95.1 FM							21	
The Advertiser						20		
The Daily Telegraph			19					
SBS		19						
Ntnews.com.au				19				
Geelong Advertiser							19	
Cairns Post					19			
ABC North Coast NSW			18					
ABC North and West SA						18		
ABC South East SA						17		
ABC South East NSW			17					
ABC Riverland AM						17		
ABC Illawarra			17					
ABC Broken Hill AM			17					
4BC 1116 News Talk					17			
2GB Radio (secondary)		17						
2CC Talking Canberra	17							
Sunshine Coast Daily					16			
ABC North West WA								16
ABC NewsRadio		16						
ABC Mid North Coast NSW Radio			16					
ABC 24 (secondary)		16						

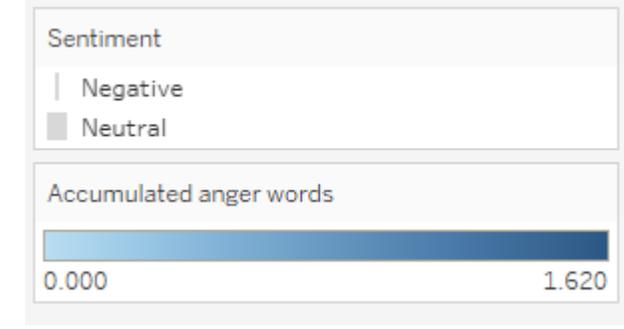
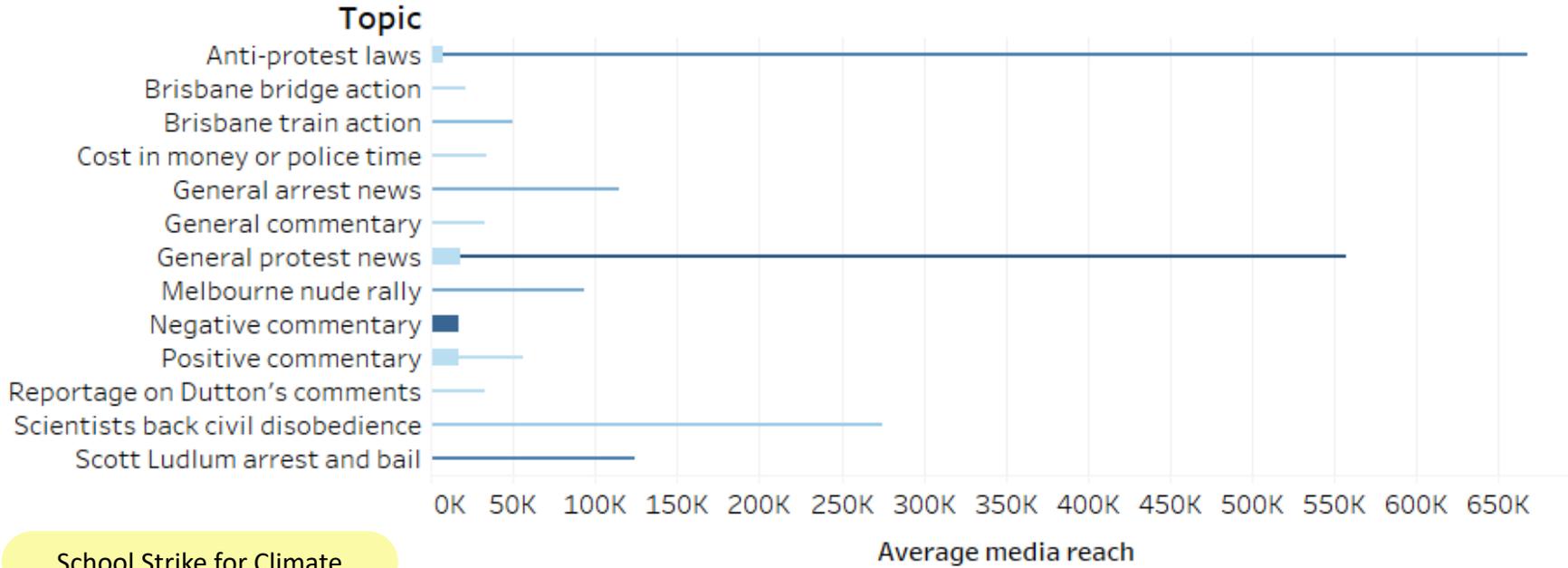
These tables rank the total number of media hits by source across the different State based media and national media. The darker the colour, the greater the number of media hits (as identified by numbers in each box)

NOTE: Only media sources generating above 77 media hits for XR, and 15 media hits for SS4C are included here.

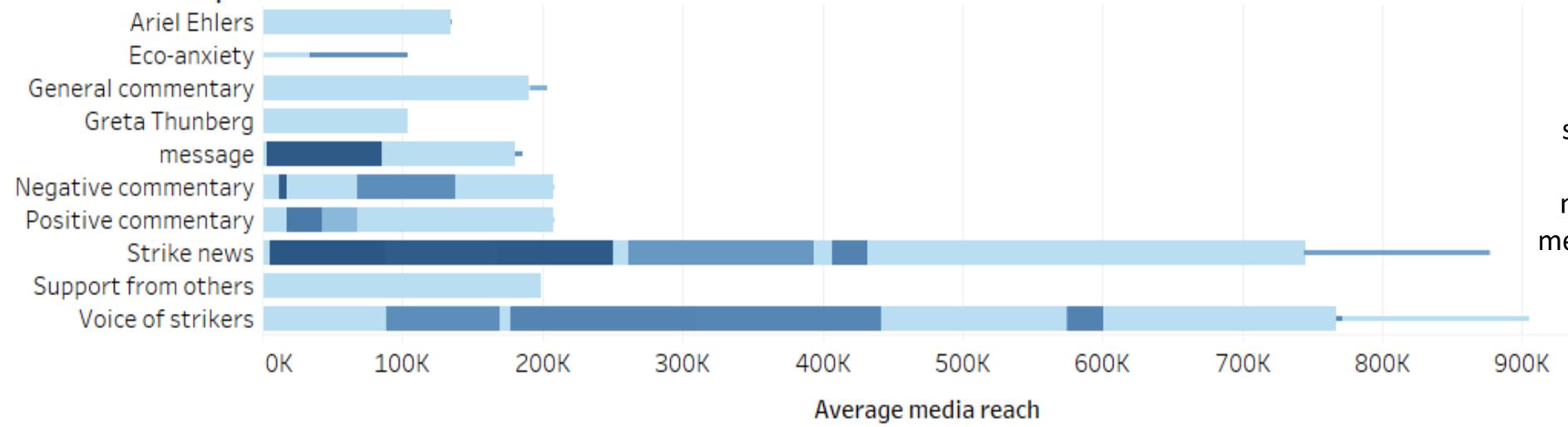
# Media Reach

Q3a: What topics had the greatest media reach and what sentiments were conveyed?

## Extinction Rebellion



## School Strike for Climate



These graphs compare the topics (in print media only for both datasets) in three dimensions; 1, their average media reach (length of bars); 2, their sentiment (width of bar); and 3, the accumulated anger words used in the media text.

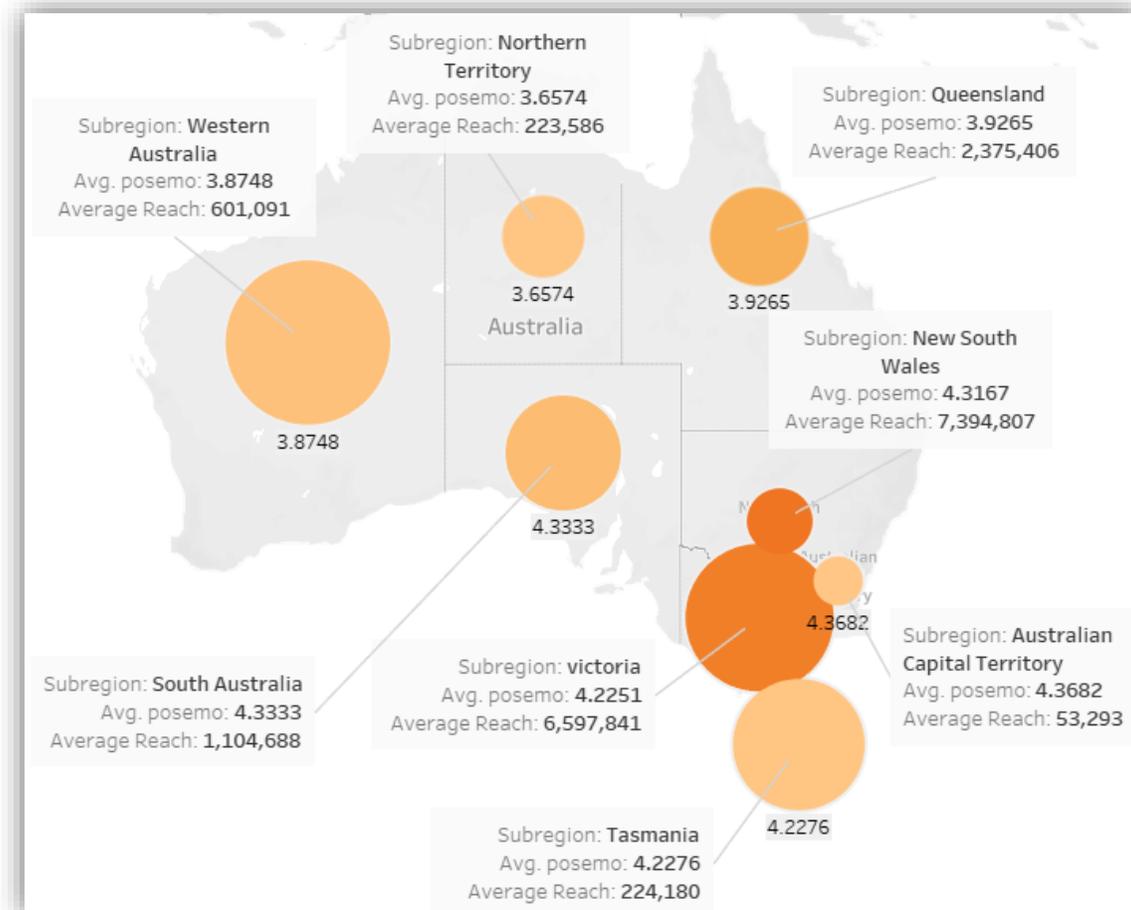
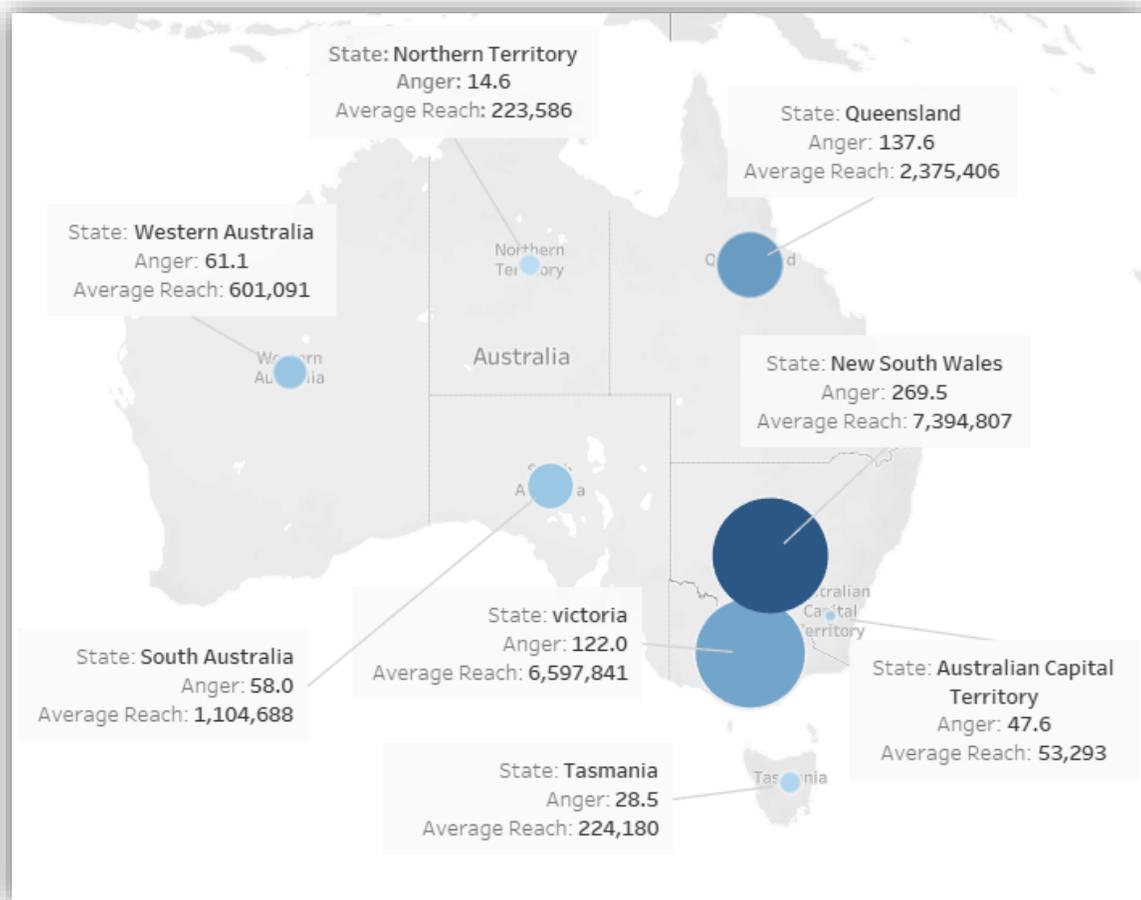
XR received far more negative sentiment, and more accumulated anger words. SS4C received more neutral coverage, particularly from media conveying voices from the SS4C constituents/organisers.

Extinction Rebellion and 'anger' words

# Media Reach: Extinction Rebellion

## Q3b: How did reach and sentiment differ across Australia?

Extinction Rebellion and 'positive emotion' words



Maps are of XR 'anger' words and average media reach (on the left) and 'positive emotion' words and average reach (on the right). The size of the bubble refers to the frequency of anger or positive words. The colour of the bubble refers to the average reach of all combined media hits in that State.

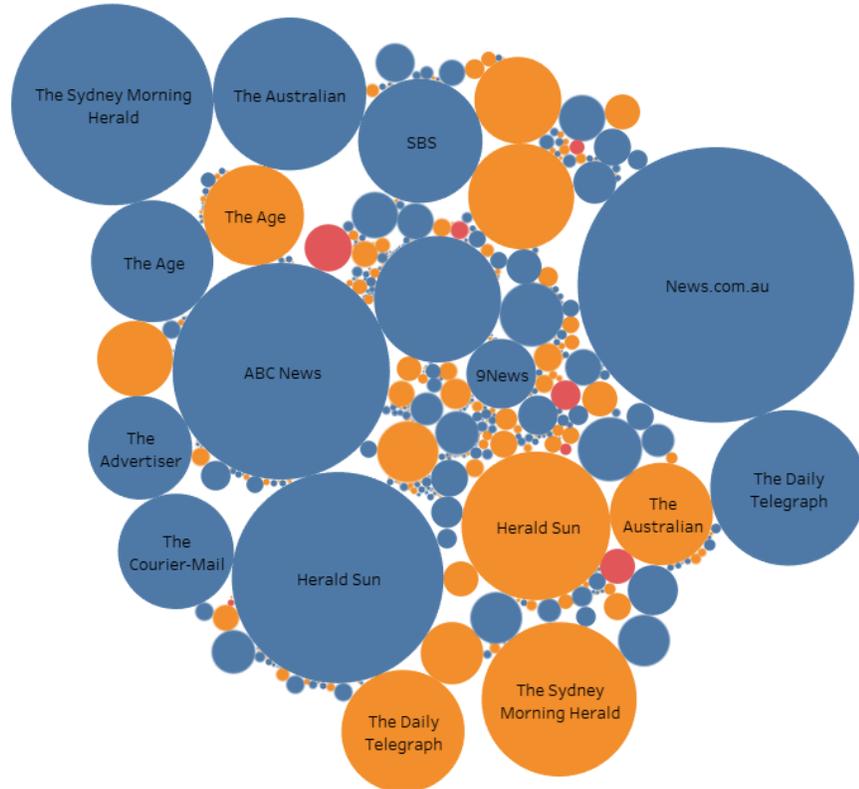
Coverage of XR had the greatest reach in NSW, and also had the greatest rating of 'anger' words. Coverage in the NT, SA and WA included far fewer 'anger' words than NSW. Both Victoria and NSW coverage had a high proportion of 'positive emotion' words, while NSW had the greatest reach.

*NOTE: An unfixable glitch in the software resulted in the 'anger' word graph referred to the sum of anger words in all media hits, whereas the 'positive emotion' words refer to an average of positive emotion word frequency within all media hits. This does not affect the ability to compare within each map.*

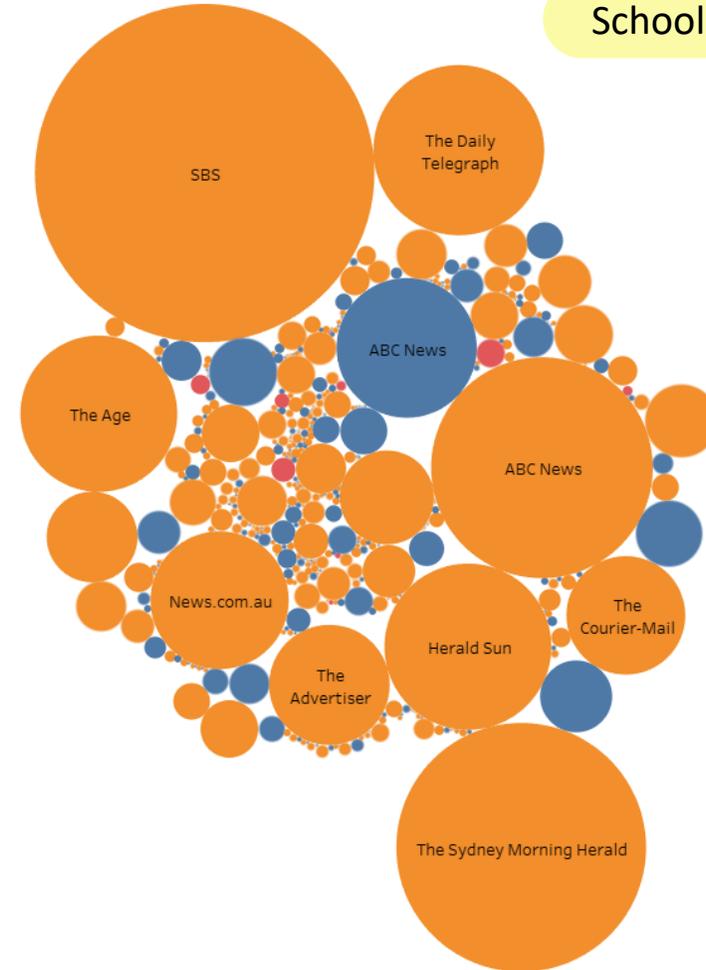
# Media Bias

Q4a: What was the influence of media bias on sentiment?

## Extinction Rebellion



## School Strike for Climate



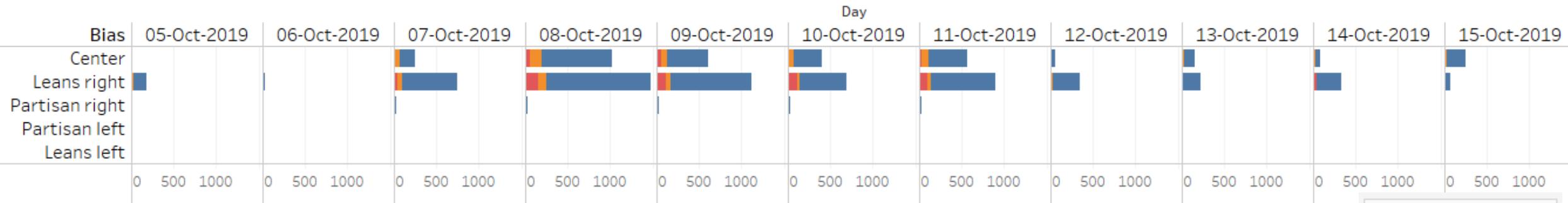
Negative coverage of Extinction Rebellion was communicated primarily by News.com.au, followed by the Herald Sun, The Sydney Morning Herald and ABC News. However, The Sydney Morning Herald and ABC News also communicated a large volume of neutral coverage on SS4C, as did SBS.

*NOTE: Sentiment measurements result in each individual article categorised as either negative, neutral or positive sentiment. Please refer to Appendix 1 for a discussion of the limitations of this sentiment measure. The size of the bubbles indicate the average reach of that media source.*

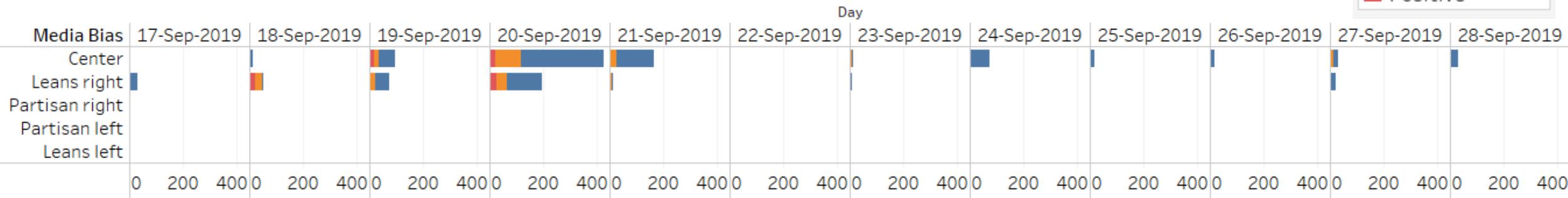
# Media Bias

Q4b: What was the influence of media bias on sentiment over time?

## Extinction Rebellion



## School Strike for Climate



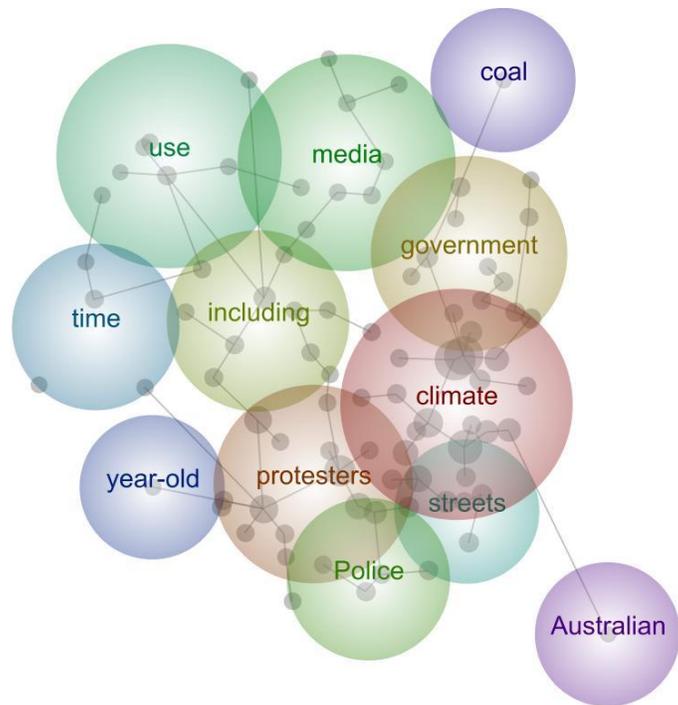
These graphs indicate the number of media print and broadcast hits each day, split by sentiment. For XR (top graph) right leaning media, followed by centre/no bias media produced the most media hits on the 8<sup>th</sup> October. For SS4C the most coverage was generated by centre/no bias media, of negative sentiment, on 20<sup>th</sup> Sept.

*NOTE: Words associated with the negative impact of climate change, or reasons for protesting, can result in a skew towards negative sentiment despite conveying an accurate and fair message about the climate crisis. It is perhaps more likely that 'center' (i.e. neutral) media may convey negative sentiment about climate, whereas 'leans/partisan right' media may convey negative sentiment about climate activism. This would require manual sentiment analysis to test. See Appendix 1 for more detail.*

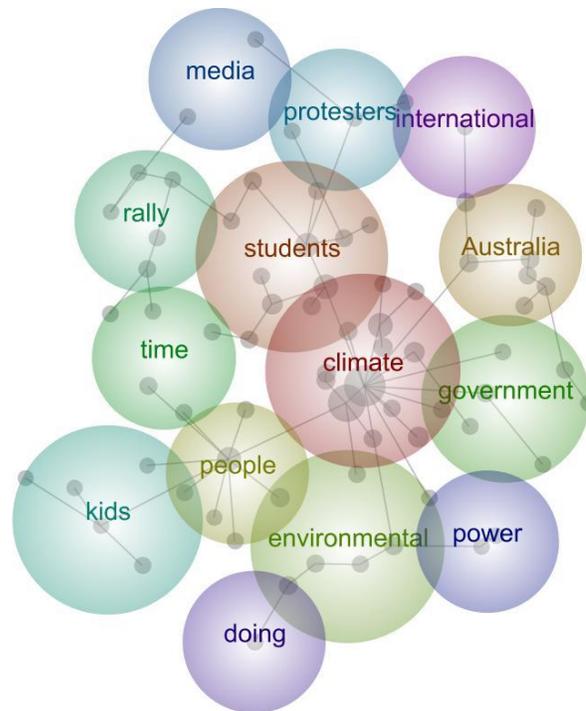
# Themes

Q5a: What were the key themes the media focused on?

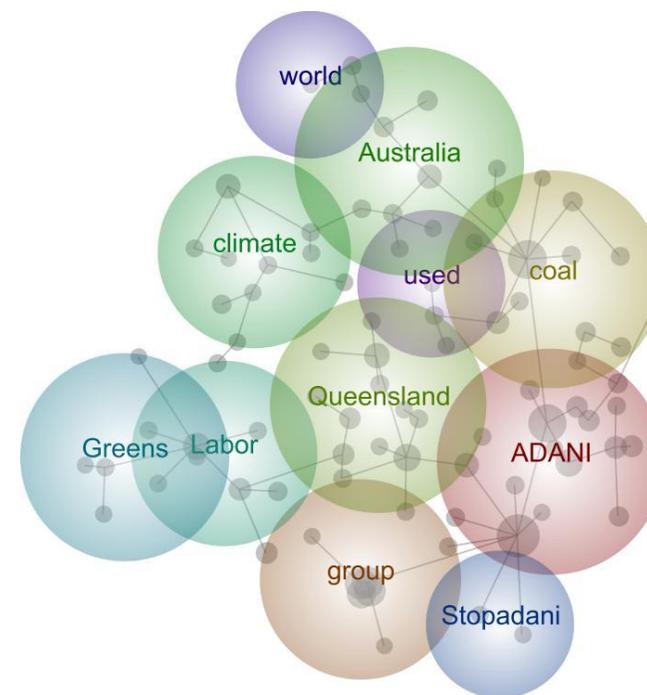
## Extinction Rebellion



## School Strike for Climate



## Stop Adani



Leximancer software identifies key themes within text corpus. The location of the bubble represents the centrality of words within a theme across the entire text. The larger the bubble, the more prevalent words associated with that theme are within the text. The closeness of each bubble represents how closely words in a particular theme are linked to words in different themes.

XR themes related strongly to 'climate', as well as 'protesters', 'police' and 'government'. Conversely, while SS4C coverage focused on 'climate', it also equally included the themes of 'students', 'environmental' and 'kids'. This demonstrates that both XR and SS4C coverage communicated the issue of climate change. Stop Adani media focused on the themes of 'Adani', 'Queensland', 'Australia' and 'coal', slightly more than the theme of 'climate'.

*NOTE: lines within the bubbles represent connections between particular words. These are available to view as a Gaussian network diagram in the full Leximancer output reports.*

# Themes

Q5a continued: What were the key themes the media focused on?

## XR

Theme: **climate**

Concepts: climate, change, Extinction Rebellion, protests, protest, activists, action, group, week, emergency, Sydney, movement, down, take, Melbourne, governments, major, disruption, activist  
Hits: **5317**

Theme: **protesters**

Concepts: protesters, police, people, arrested, traffic, city, during, bail, conditions, road  
Hits: **3913**

Theme: **government**

Concepts: government, Australia, world, global, civil, emissions  
Hits: **1707**

Theme (5<sup>th</sup>): **Police**

Concepts: Police, Brisbane, morning  
Hits: **937**

## SS4C

Theme: **climate**

Concepts: climate, change, action, strike, world, global, take, Greta Thunberg, Swedish, movement, leaders, taking  
Hits: **4156**

Theme: **students**

Concepts: students, student, Climate, support, year, day, thousands  
Hits: **2419**

Theme (4<sup>th</sup>): **environmental**

Concepts: environmental, future, children, politicians  
Hits: **1492**

Theme (5<sup>th</sup>): **Australia**

Concepts: Australia, coal, workers, energy, gas, including, fossil  
Hits: **1443**

## Stop Adani

Theme: **ADANI**

Concepts: ADANI, mine, project, jobs, line, rail, Carmichael, Adani's, loan, plan, environmental, work, decision  
Hits: **30318**

Theme: **coal**

Concepts: coal, mining, billion, year, company, projects, million  
Hits: **18209**

Theme: **Queensland**

Concepts: Queensland, government, federal, support, week, including, regional, saying  
Hits: **16595**

Theme: **Australia**

Concepts: Australia, energy, power, industry, emissions, future  
Hits: **12253**

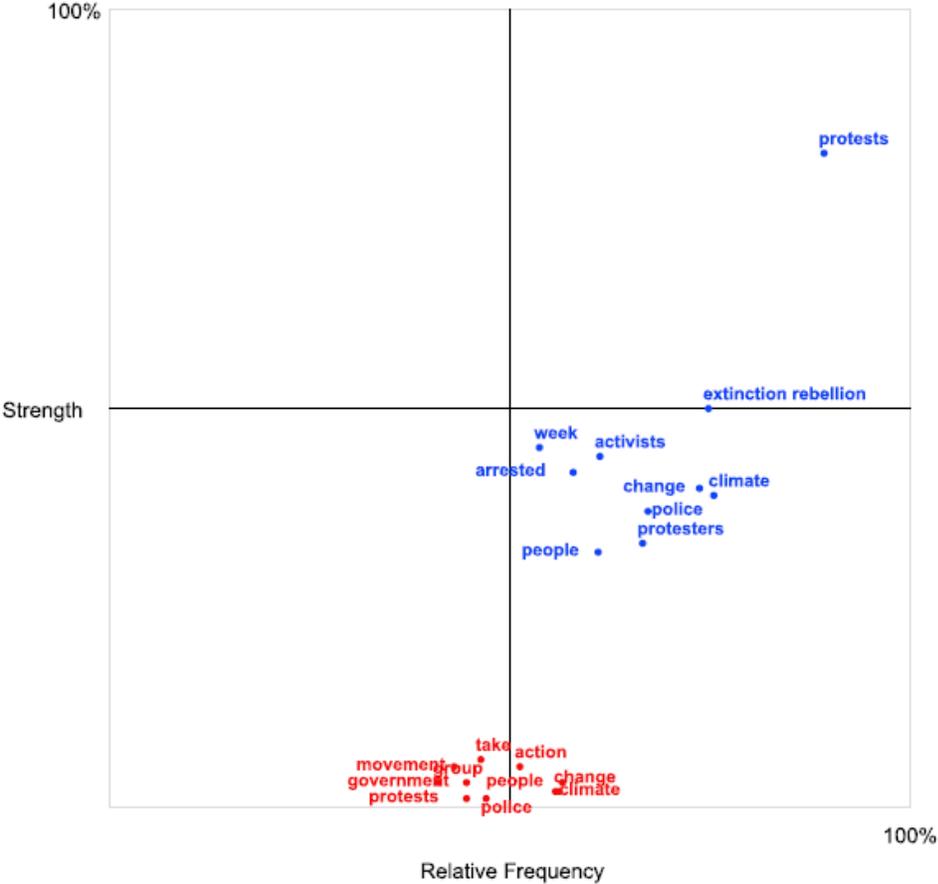
*NOTE: Leximancer analysis was undertaken only on print media text, not broadcast. This was due to the high frequency of non-related conversation on broadcast media, and errors in the audio transcription process. Theme 4 of XR and Theme 3 for SS4C were removed as they represented redundant words (e.g. 'including', 'along').*

# Themes

Q5b: What was the sentiment associated with these themes?

Extinction Rebellion

School Strike for Climate



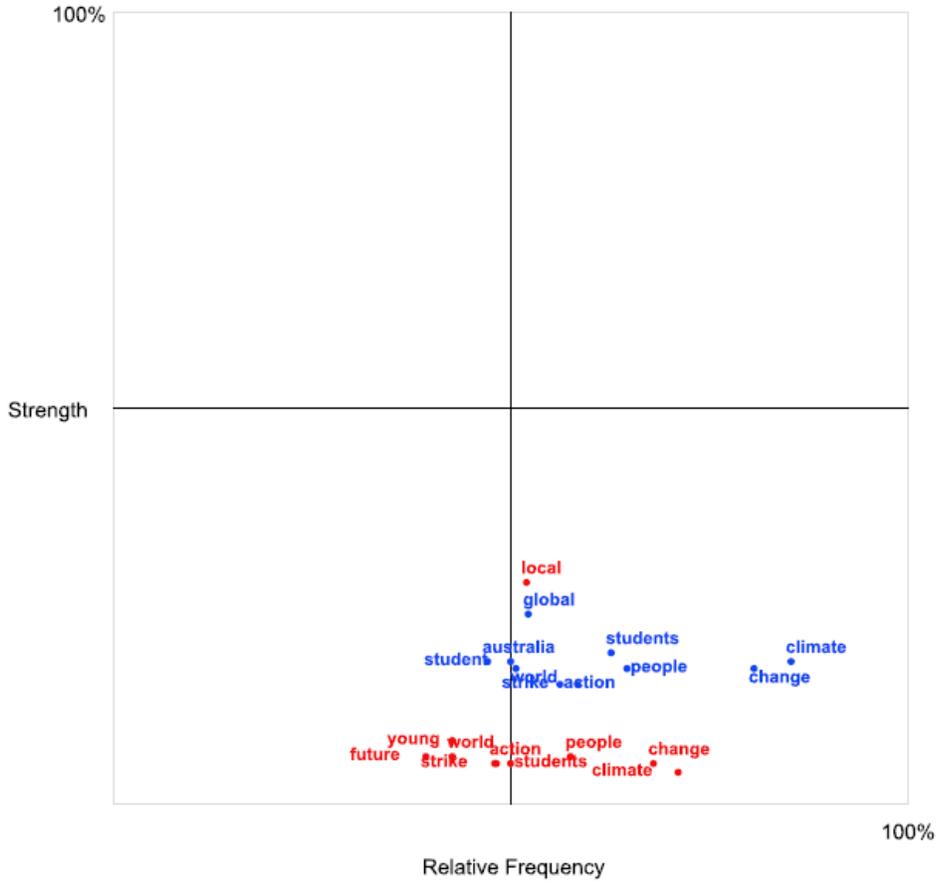
Relative Frequency

**Legend**

- favourable
- unfavourable

These graphs map each of the themes from the bubbles above according to the strength of sentiment (y axis) and frequency (x axis) across the full text dataset.

Unfavourable coverage of XR protests were substantially more prevalent than favourable coverage, unlike coverage of the SS4C protest.



Relative Frequency

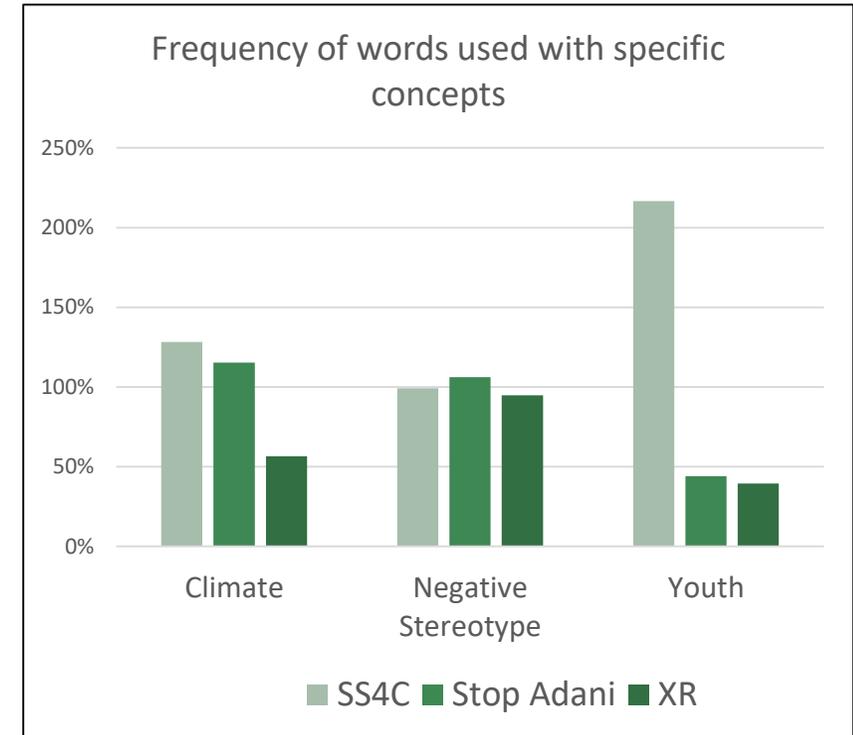
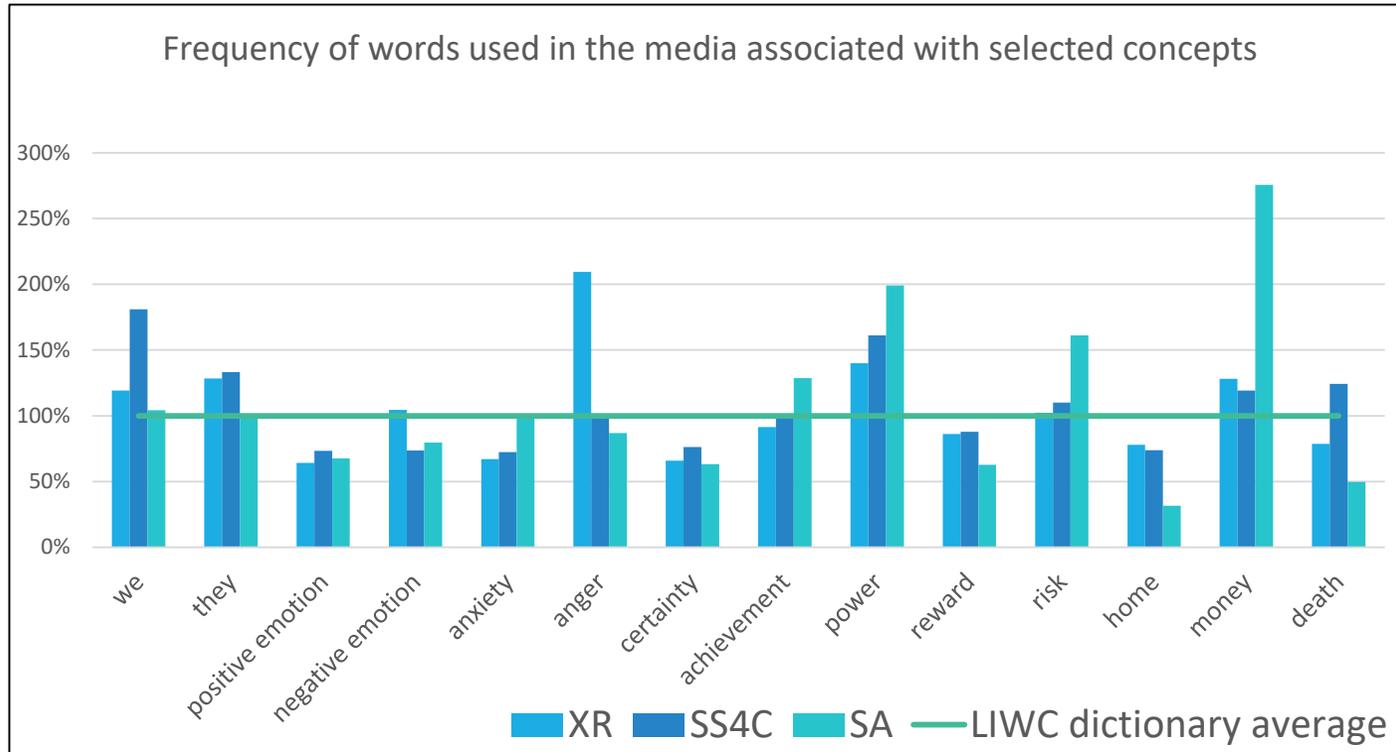
**Legend**

- favourable
- unfavourable

NOTE: this measure of favourable and unfavourable sentiment is calculated through a proprietary algorithm in Leximancer software. Unfavourable sentiment is recorded when words are more likely to be associated with negative language, and vice versa.

# Words

Q6: What kind of words were most commonly used in media reporting?



Linguistic Inquiry and Word Count (LIWC) is software which counts frequency of words associated with a certain concept. Each concept has 5-100 words associated with it. Text is run through the software and then calculates the total proportion of references to all words in a specific category. The green line represents an average use of words across 250,000 documents from varying genres to use as a comparison value.

XR coverage had the highest use of ‘anger’ and ‘negative emotion’ words, while SS4C coverage had the highest number of ‘we’, ‘they’, ‘position emotion’ and ‘death’ words. Stop Adani had the highest use of ‘achievement’, ‘anxiety’, ‘power’, ‘risk’ and ‘money’ awards. SS4C coverage focused on ‘climate’ more than XR or Stop Adani, as well as ‘youth’. All three protests generated similar use of words conveying negative stereotypes of protesters.

*NOTE: Three ‘dictionaries’ of words were created to measure the frequency of selected words in each of the concepts of ‘negative stereotype’, ‘climate’ and ‘youth’. Appendix 2 lists some of the words used in each dictionary.*

# Reflections and summary of findings

## Q7: What does it all mean?

### POSITIVE

### NEGATIVE

#### COVERAGE

#### Substantial, widespread coverage was achieved

- › Coverage was obtained across all platforms and channels.
- › Substantial XR coverage was obtained by public media outlets (e.g. ABC), which were more likely to be neutral in sentiment and syndicated widely across Australia including to regional areas.
- › XR coverage was generated across a vast number of media outlets, and across Australia with substantial average media reach recorded across all States.

#### Coverage often dictated by other considerations

- › The more inconvenient the protest, the greater media coverage it obtains (particularly combined with arrests). However, positive sentiment linking climate and protests still appeared through the Leximancer analysis.
- › Coverage of XR activities was fewer in neutral bias/left leaning media, with 'anger' coverage dominated by Victoria and New South Wales.
- › The greatest source of coverage with negative sentiment was News.com, and these also appear to have been widely syndicated across their right leaning and partisan right networks.

#### CONTENT

#### Issue and messenger are being communicated

- › Issue of climate is communicated and connected in all three groups, tied with protest and arrests (for XR), young people (SS4C) and the Adani project (SA).
- › XR coverage was linked with the issue of climate change, and gained substantial media saturation with the Scott Ludlum arrest, and the Brisbane bridge protest.
- › SS4C had coverage that was less angry, of more neutral sentiment, and more frequently relaying the voice of strikers. SA coverage was more project focused, XR coverage most prevalent across all media.

#### Perpetuation of stereotypes and tropes

- › Right leaning media were more likely to cover XR protests, and with a more negative sentiment and use of stereotypes. Activists who particularly reflect stereotypes, or are well known, are covered more in right leaning bias, and with a more negative sentiment.
- › Voices of XR activists are often removed/ absent from coverage. The media appear more willing to give neutral coverage to young strikers than XR activists.
- › While some non-arrestable actions were covered (the Melbourne nude parade, the bee street theatre), arrests dominated coverage which appeared to suppress opportunities to convey why civil disobedience was chosen as a method.

# Thank you

For further information, research requests or to contact the author:

Activism Research Hub

Contact Dr Robyn Gulliver

Robynegulliver@gmail.com

ESSENTIAL REPORT

## Awareness of and support for Extinction Rebellion

Oct 29, 2019 [Comments](#)

*Q. Before today, had you heard of Extinction Rebellion? / To what extent do you support or oppose the Extinction Rebellion protests to push for governments to act on climate change and move towards renewable energy?*

	Total	Voting Intention			
		Labor	Coalition	Greens	NET: Other
Yes	42%	41%	41%	52%	45%
No	58%	59%	59%	48%	55%
Base (n)	1,033	371	401	106	119

IF AWARE OF THE EXTINCTION REBELLION	Total	Voting Intention			
		Labor	Coalition	Greens	NET: Other
Strongly support	22%	24%	9%	65%	17%
Somewhat support	30%	44%	18%	31%	22%
Somewhat oppose	15%	15%	21%	3%	10%
Strongly oppose	29%	13%	49%	0%	44%
Unsure	4%	5%	3%	1%	7%
<b>NET: Support</b>	<b>52%</b>	<b>68%</b>	<b>27%</b>	<b>96%</b>	<b>39%</b>
<b>NET: Oppose</b>	<b>44%</b>	<b>28%</b>	<b>71%</b>	<b>3%</b>	<b>54%</b>
Base (n)	446	153	170	55	55

Given the rapid appearance of Extinction Rebellion in Australia in 2019 the level of awareness and support the movement has generated in this short time is a considerable achievement.

XR generated over 25,000 media hits during a 10 day period around Rebellion week. This comparative media analysis demonstrates that while headlines are dominated by arrests, more nuanced messaging around the climate crisis and the need for urgent action is also being conveyed through this media attention.

Post-Rebellion week polling highlights that 52% of respondents strongly or somewhat support the movement. Given this large number of supporters, media strategy could build on the wave of existing high levels of coverage to increase the diversity of voices within the XR movement. This could be done through novel and media-savvy activities which incorporate an element of civil disobedience while attracting different sectors of society both in and outside of the cities.

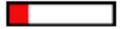
# Appendix 1: Leximancer word analysis

As highlighted in the report above, it is difficult to ascertain the overall sentiment of media articles. This is particularly so when covering both issues (e.g. climate change) and activities (e.g. activism). Three methods were used in this report to triangulate sentiment:

- Sentiment as measured by the data provider (limitation: this is only a single measure for each individual media item, with the algorithm/method unavailable to the author for deeper analysis)
- Sentiment as measured by the use of words associated with positive and negative emotion (limitation: this counts all words in the articles, which includes additional words such as hyperlinks and menu items scraped from webpages)
- Leximancer favourable/unfavourable word analysis (limitation: the algorithm is proprietary)

The benefit of Leximancer analysis is that it connects words with sentiment. This is a better measure of sentiment as analysis of the words connected to the favourable & unfavourable measures can be identified.

Category: favourable

Concept	Rel Freq (%)	Strength (%)	Prominence
take	9	6	 2.2
movement	7	5	 1.8
action	11	5	 1.7
people	14	3	 1.2
government	8	3	 1.1
group	7	3	 1.1
change	13	2	 0.8
climate	13	2	 0.7
police	9	1	 0.6
protests	8	1	 0.5

Category: unfavourable

Concept	Rel Freq (%)	Strength (%)	Prominence
protests	61	82	 3.6
extinction rebellion	32	50	 2.2
week	12	45	 2.0
activists	17	44	 2.0
arrested	15	42	 1.9
change	30	40	 1.7
climate	33	39	 1.7
police	22	37	 1.6
protesters	22	33	 1.5
people	17	32	 1.4

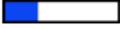
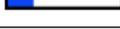
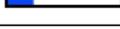
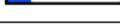
We can see in this analysis that negative sentiment is primarily connected to words about protestors and arrests, whereas positive sentiment is connected with taking action, people and the movement. However, unfavourable sentiment is far more frequent (as shown by the Rel Freq column) and far stronger (as shown by the Strength column) than favourable sentiment.

# Appendix 1: Leximancer word analysis continued

Category: favourable

Concept	Rel Freq (%)	Strength (%)	Prominence
take & crisis	3	41	 44.3
take & emissions	3	33	 31.5
action & crisis	3	21	 30.9
take & told	3	29	 22.9
action & emissions	3	20	 21.8
take & action	5	12	 20.4
government & parliament	2	19	 19.0
government & business	2	21	 18.9
government & policy	2	19	 15.6
take & political	< 1	50	 15.4
movement & cause	1	29	 15.0
movement & rights	< 1	7	 14.9
movement & <b>xr</b>	1	9	 14.7
action & told	3	24	 14.4
government & country	2	21	 14.4
action & political	1	25	 12.9

Category: unfavourable

Concept	Rel Freq (%)	Strength (%)	Prominence
protests & during	7	89	 13.7
arrested & during	3	67	 13.1
protests & peaceful	4	90	 13.0
arrested & <b>sydney</b>	4	57	 12.0
protests & <b>sydney</b>	9	90	 11.6
police & officers	3	45	 10.9
protests & <b>extinction rebellion</b>	26	90	 10.8
activists & major	2	64	 10.7
protests & <b>melbourne</b>	6	87	 10.5
<b>extinction rebellion</b> & <b>sydney</b>	7	63	 10.5
protests & major	4	94	 10.4
protests & movement	7	87	 10.3
<b>extinction rebellion</b> & during	4	78	 10.2
activists & <b>melbourne</b>	3	66	 10.0
<b>extinction rebellion</b> & movement	5	68	 9.5

Connections between concepts also generate favourable and unfavourable sentiment, as per the tables above for the XR print media analysis.

## Appendix 2: LIWC word analysis

Example words from pre-loaded LIWC word categories

Example LIWC Category	Example words for each category
We	We, us, our
Affiliation	Ally, friend, social
They	They, their, they'd
Anger	Hate, kill, outrage
Negative Emotion	Hurt, ugly, nasty
Positive Emotion	Love, nice, sweet
Analytic	See note *
Achievement	Win, success, better
Power	Superior, strong
Reward	Take, prize, benefit

LIWC software comes preloaded with 82 categories, each of which have a 'dictionary' of words associated with them. The table above gives example words from some categories.

\*Four categories (including Analytic above) are calculated through a factor-derived algorithm which incorporates other dictionaries.

Example words from dictionaries created for this analysis

Example Climate words	Example Negative Stereotype words	Example Youth words
Climate	Greenie	Young
Emission	Feral	Child
Coal	Cult	School
Gas	Anti	Minor
Carbon	Extremist	Kid
Atmosphere	Hippie	Secondary
Drought	Hugger	Primary

Three additional 'dictionaries' were created to measure the proportion of words associated with the concepts 'Climate', 'Negative Stereotype' and 'Youth' words. The table above gives examples of the words included in each dictionary.

# Appendix 3: Data sources and process

Group	Source	Time period	Total media hits	Scraped	Limitations
Extinction Rebellion	Media hits spreadsheet	5 <sup>th</sup> -10 <sup>th</sup> October 2019	26,064	4,452 unique print/broadcast text	Broadcast text is not 'clean' (i.e. transcripts are occasionally garbled, and often include other topics)
School Strike for Climate	Media hits spreadsheet	18 <sup>th</sup> -28 <sup>th</sup> September 2019	14,334 (only 3,550 for print and broadcast – social was removed)	934 unique print/broadcast text	
Stop Adani	Daily emails, merged into monthly collections	Sept 2017-Sept 2019	24 monthly collections	24 text files with all email media text for each month	Emails include text from senders. Also many missing full text articles

## Process:

1. Media hits spreadsheets on XR and SS4C (acquired through a parallel project on bushfire media analysis in 2020) were cleaned, with non-Australian and non-relevant hits were removed.
2. Unique media was identified
3. R text scraping grabbed all text on the unique media hits
4. Full text was then run through various software, namely Leximancer, LIWC and Tableau.

## Most important limitations of this data and analysis:

1. **Scraping** captures all text. Over a large dataset additional 'noise' of non-related text will be negligible, however for the broadcast datasets it can affect results.
2. **Stop Adani** emails were unable to be separated by headline, nor cleaned.
3. **Sentiment** is challenging to measure via automated text analysis software, particularly given the negative context of the message of climate change. Overall sentiment (negative, neutral, positive) measures were obtained from the data source. In addition, measures related to the proportion of negative emotion, positive emotion and angry words (via LIWC text analysis software) were also used to provide additional information. In this report comparisons of sentiment across the three datasets were used to increase usability of sentiment measures.