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THE HANG SENG UNIVERSITY
OF HONG KONG



ESG 研究中心
RESEARCH CENTRE FOR ESG

Introducing the basic components to construct the ESG intelligence data

Part A: ESG Data

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This project is funded by Innovation and Technology Commission

ESG Big Data

Research Objectives and questions



- The research aims using ESG big databases to understand stakeholders' views and estimate improve ESG communication efforts for listed firms
- How does the media view FSTE 100 companies' performance for SDG goal 13 (climate action)?

Research Method (SDG goal – 13, climate action)

- A big data analysis is applied to gauge the public image of FTSE 100 listed companies on 17 SDG goals over a 10-year period using Ravenpack as a data source
- Using SDG goals keyword list from Aurora University¹ Network's current research
- Results are matched against ESG reports to determine the responses against public views on SDG performance
- Analysis on correlations of SDG perception values against stakeholder's engagement levels
- Advancing in Bluewashing and legitimacy theories
- Allows stakeholders such as investors, bankers, and watchdogs such as government and stock exchange to understand individual firms' SDG impacts on society



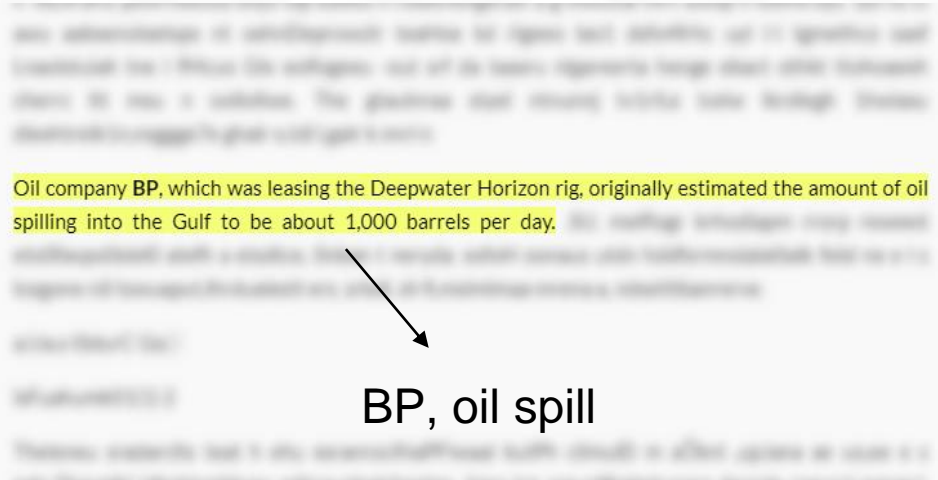
Keyword search query for SDG 13 – climate action

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( ( "climat*" W/P "anthropogenic*" ) OR ( "climat*" W/P "action*" ) OR ( "climat*" W/P "adapt*" ) OR ( "climat*" W/P "biod." ) OR ( "climat*" W/P "carbon*" ) ) OR (
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¹Search Queries for "Mapping Research Output to the Sustainable Development Goals (SDGs)" v5.0 by Aurora Universities Network (AUR) [doi:10.5281/zenodo.3817445](https://doi.org/10.5281/zenodo.3817445)

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"climat*" W/P "desertificati*" ) OR ( "climat*" W/P "ecolog*" ) OR ( ( "Paris" ) W/3 ( "agreement" OR "protocol" ) ) ) OR ( "climate acti
```

- Python coding to extract the dataset from Ravenpack
- Example of an article generated from the keyword scoping about BP for SDG-13



Sample raw data output – SDG 13.3 climate action

	A	B	E	F	M	O	AS	AT	AU	AV
1	TIMESTAMP_UTC	RP_DOCUMENT_ID	ENTITY_NAME	COUNTRY_CODE	ENTITY_SENTIMENT	ENTITY_TEXT_SENTIMENT	SUSTAINABILITY_SENTIMENT	CREDIT_SENTIMENT	INTEREST_RATE	EVENT_DETECTION
2	2013-01-07 14:38:52	6194494F3FF0A0373F21	BP PLC	GB	-0.1	-0.1				
3	2013-01-07 14:38:52	6194494F3FF0A0373F21	Royal Dutch Shell PLC	GB	-0.29	-0.29				
4	2013-01-21 15:05:01	28976DE1EA7B0367715	Royal Dutch Shell PLC	GB	0.57	0.37				
5	2013-01-25 12:50:16	9611277833959BCE9921	William Hill PLC	GB	0.26	0.26				
6	2013-01-26 18:02:30	22DE074EDC819237A45	Royal Dutch Shell PLC	GB	0.03	0.03				
7	2013-01-31 16:50:13	BD6CD3CE493E2F438C	Natwest Group PLC	GB	0	0				
8	2013-01-31 16:50:13	BD6CD3CE493E2F438C	Lloyds Banking Group PLC	GB	0.04	0.04				
9	2013-02-04 12:54:53	677B8B03A48CA340EE	Royal Dutch Shell PLC	GB	-0.16	-0.25				
10	2013-02-04 12:54:53	677B8B03A48CA340EE	BP PLC	GB	0.23	0.23				
11	2013-03-09 21:07:56	F61626A210D07EAC6DI	BP PLC	GB	-0.41	-0.41				
12	2013-03-09 21:19:02	64A91AA531F28865E75	BP PLC	GB	-0.41	-0.41				
13	2013-03-09 21:51:16	22FEF90E0B6D89A7465	BP PLC	GB	-0.41	-0.41				
14	2013-03-09 22:09:01	76AECC6BB374C49CC1	BP PLC	GB	-0.41	-0.41				
15	2013-03-14 16:35:07	0BBD551294B2D230045	BP PLC	GB	-0.32	-0.32				
16	2013-03-22 10:42:30	801229E22DA36BDEF0f	J Sainsbury PLC	GB	-0.36	-0.36				
17	2013-03-22 10:42:30	801229E22DA36BDEF0f	Natwest Group PLC	GB	0.1	0.1				
18	2013-03-27 13:24:02	8AA9EE8CD1E83015E5	St. James's Place PLC	GB	-0.42	-0.42				
19	2013-03-28 5:54:18	537FB34B7EDD73D56B	St. James's Place PLC	GB	-0.26	-0.26				
20	2013-03-28 18:13:30	351700EF7A7C0C3E85F	St. James's Place PLC	GB	-0.26	-0.26				
21	2013-04-03 10:29:34	99E60832F4AAB4B372E	HSBC Holdings PLC	GB	0	0				
22	2013-04-03 10:29:34	99E60832F4AAB4B372E	Rolls-Royce Holdings PLC	GB	0	0				
23	2013-04-03 10:29:34	99E60832F4AAB4B372E	Pearson PLC	GB	0	0				
24	2013-04-03 10:29:34	99E60832F4AAB4B372E	GlaxoSmithKline PLC	GB	0	0				
25	2013-04-03 10:29:34	99E60832F4AAB4B372E	Unilever PLC	GB	0	0				
26	2013-04-03 10:29:34	99E60832F4AAB4B372E	Centrica PLC	GB	0	0				
27	2013-04-03 10:29:34	99E60832F4AAB4B372E	BP PLC	GB	0	0				

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Conditional Formatting

Format as Table

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	Q	R	S	T	U	V	W
	TE TOPIC	GROUP	TYPE	SUB_TYPE	ROLE	CATEGORY	UNIT
1.55	society	legal	legal-issues	dismissed	defendant	legal-issues-dismissed-defendant	
1.67	business	revenues	revenue			revenues	
1.57	business	equity-actions	reorganization			reorganization	subsidiary
1.57	business	revenues	revenue	down		revenue-down	
1.57	business	revenues	revenue-volume			revenue-volume	
1.67	business	revenues	revenue			revenues	
1.57	business	equity-actions	reorganization			reorganization	subsidiary
1.57	business	revenues	revenue	down		revenue-down	
1.57	business	revenues	revenue-volume			revenue-volume	
		revenues	revenue			revenues	
		equity-actions	reorganization			reorganization	subsidiary
		revenues	revenue	down		revenue-down	
		revenues	revenue-volume			revenue-volume	
		revenues	revenue			revenues	
1.57	business	equity-actions	reorganization			reorganization	subsidiary
1.57	business	revenues	revenue	down		revenue-down	
1.57	business	revenues	revenue-volume			revenue-volume	

- Topic
- Group
- Type
- Category

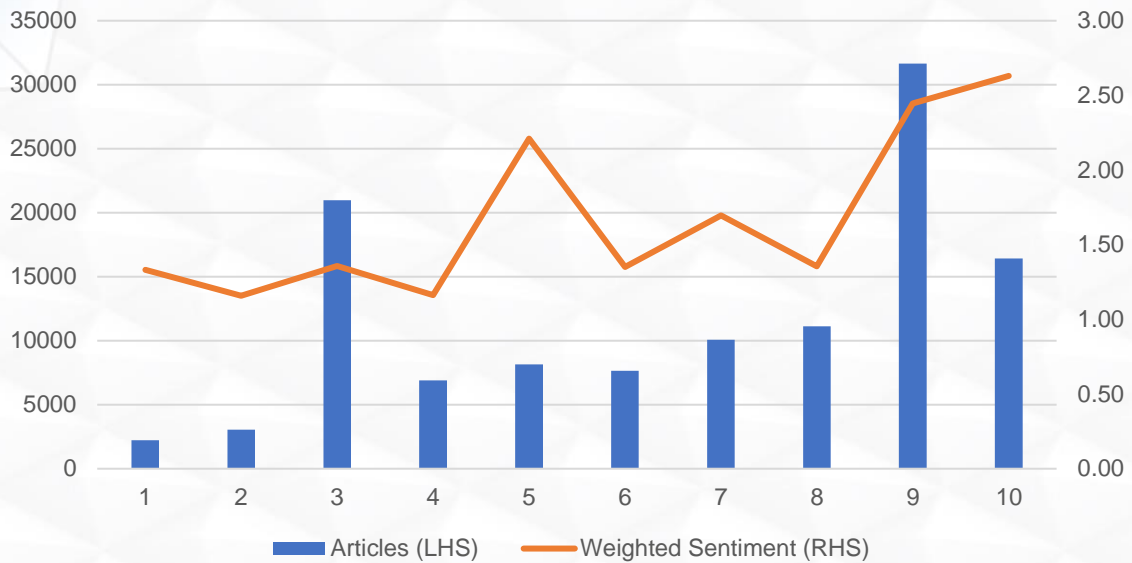
SDG 13 climate action – number of articles 2013–2022 (FTSE100)

SDG Goals	Number of articles
13.0	549,775
13.1	0
13.2	1
13.3	3,807
13.a	6
13.b	38
Total	553,627

Top 10 performers (2013–2022)

SDG13 – Top 10	Articles	Weighted Sentiment
1. Royal Dutch Shell PLC	103799	1.498
2. Unilever PLC	26796	0.917
3. AstraZeneca PLC	14394	0.622
4. National Grid PLC	17784	0.561
5. Rio Tinto PLC	24014	0.531
6. HSBC Holdings PLC	18908	0.511
7. Rolls-Royce Holdings PLC	16429	0.491
8. Barclays PLC	11801	0.461
9. BHP Group Ltd.	16653	0.400
10. Glencore PLC	16572	0.305

Top performer – Shell PLC (2013-2022)



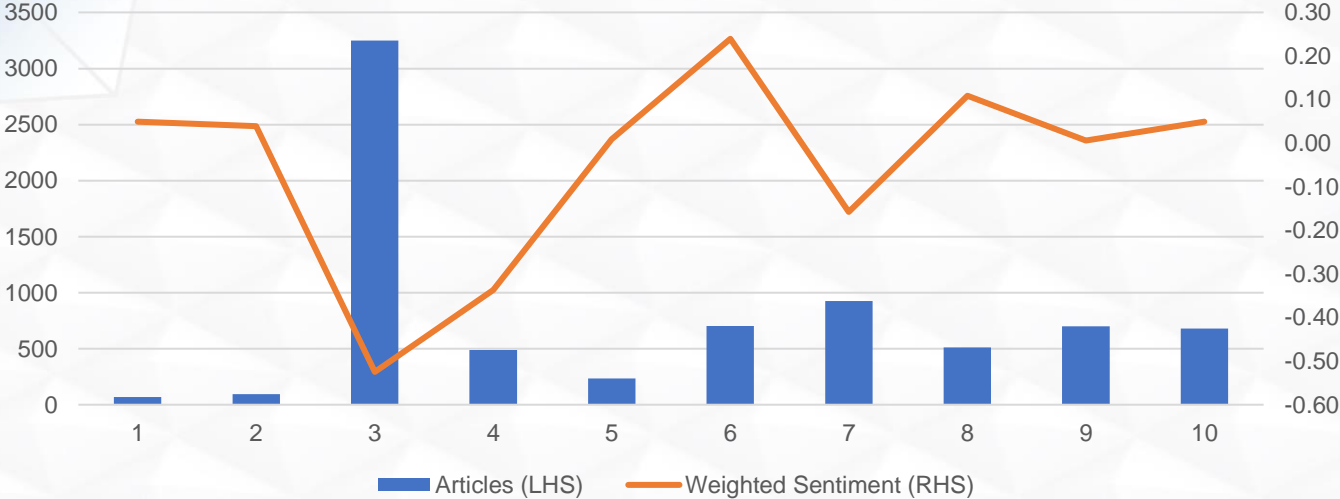
Shell – Key SDG 13 topics (media)



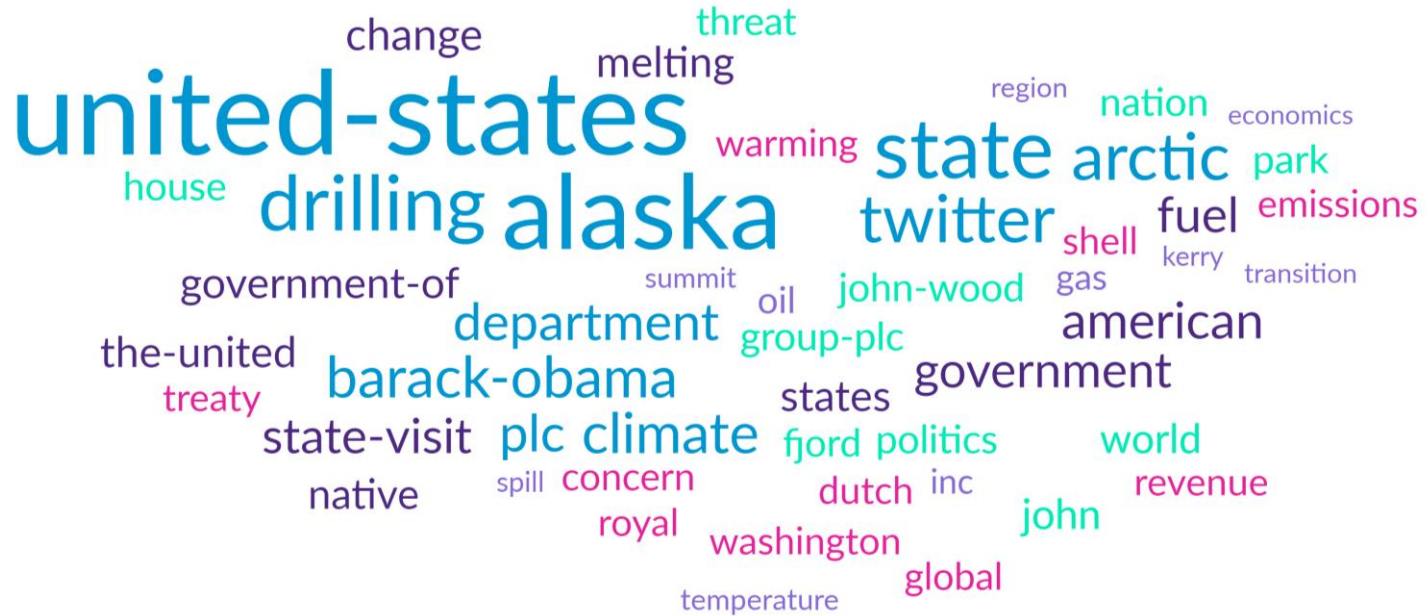
Bottom 10 performers (2013–2022)

SDG13 – Bottom 10	Articles	Weighted Sentiment
1. Eurasian Natural Resources Corp. Ltd.	70	0.001
2. Ashmore Group PLC	74	0.001
3. Provident Financial PLC	72	0.000
4. Admiral Group PLC	32	0.000
5. Rexam Ltd.	11	0.000
6. William Hill Ltd.	14	0.000
7. NMC Health PLC	57	0.000
8. Darktrace PLC	140	0.000
9. Imperial Brands PLC	1051	-0.056
10. John Wood Group PLC	7661	-0.064

Bottom performer - John Wood Group (2013-2022)



John Wood – Key SDG 13 entities / topics (media)



Our views

- A tale of two worlds – the top and bottom performers for SDG 13 are both energy companies.
- SDG media perceptions suggest Shell PLC is actively engaged in managing their efforts in climate action:
 - (1) good strong sentiment values,
 - (2) no identified crisis / events that leads to negative SDG13 performance,
 - (3) ESG reports suggests their efforts to become carbon neutral had received public endorsement.
- Media reflects their efforts to associate Shell with “lowering emissions and oil supply”, “partnerships” to support climate change. It shows active and successful management of SDG13 generating above average sentiment (150% over 0).
- John Wood had issues such as US-government intervention with downstream project with BP, Alaska drilling activities raised concerns as reflected by the media. The negative spillover effect in 2015 remains in until 2022. Strategic revamp is recommended to tackle SDG13 head-on.

Thank you!

Questions?

