SUPPLEMENTARY INFORMATION

for

The political economy of coal across 12 countries: Analysing qualitative interviews with topic models

1. Overview of interviews

Table S1 shows the total number and the shares of interviews by country and actor group.

Table S1 | Number and share of interviews by country and actor group.

Country	Number of interviews				Share of interviews			
	Economic	Political	Societal international	Societal national	Economic	Political	Societal international	Societal national
DE	4	5	0	8	23.5	29.4	0.0	47.1
UK	1	8	1	8	5.6	44.4	5.6	44.4
CL	7	10	1	7	28.0	40.0	4.0	28.0
CO	3	6	2	9	15.0	30.0	10.0	45.0
US	3	4	0	4	27.3	36.4	0.0	36.4
KE	4	2	4	7	23.5	11.8	23.5	41.2
ZA	8	4	2	5	42.1	21.1	10.5	26.3
ID	4	3	6	4	23.5	17.6	35.3	23.5
IN	4	8	2	11	16.0	32.0	8.0	44.0
VN	2	4	4	1	18.2	36.4	36.4	9.1
PH	5	5	5	5	25.0	25.0	25.0	25.0
PK	5	4	0	3	41.7	33.3	0.0	25.0
TOTAL	50	63	27	72	23.6	29.7	12.7	34.0

2. Turning text into Bag-of-Words

As explained in the paper, we used n-grams in the text. In Python, we identified n-grams by manually going through lists of n-grams using the following requirements: for bigrams, the first word should be an adjective or a noun, the second a noun; for trigrams and tetragrams, at least one word should be a noun. We found 89 bigrams such as 'renewable energy', 'climate change' and 'net zero'; 30 trigrams including 'coal phase out', 'ministry of energy' and 'feed in tariff'; and 7 tetragrams, inter alia, 'coal fired power plants', 'ministry of the environment' and 'carbon capture and storage'.

We additionally pre-processed the text. Steps included removing punctuation with the string library in Python and some added characters, e.g., "'", "´", and "…". We removed stopwords using the nltk library and some manually added words, such as "okay", "haha", and "actually". Finally, we lemmatized the words, i.e., converting words into their dictionary form, for example "plants" to "plant" and "buying" to "buy".

3. Dropping short documents

We looked at the information content of the shortest documents, i.e., question and answer pairs, per country and found that it is difficult to make sense of cleaned documents, i.e., after removing stopwords, which only consists of a handful of words. We further found that the top keywords do not

change substantially when dropping short documents. At the same time, some words are removed more frequently than the average. These are mostly country-specific words for Indonesia and Vietnam, because the composition of documents from these countries differ from the rest. For these two countries, around 15% of all documents are dropped when only considering documents with a word limit of 10. For a word limit of 20 words the share increases to 35%. Given these findings we decided to consider only documents with more than 10 words after removing stopwords.

Table S2 shows the number of interviews, documents and words for the original interviews, i.e., including short documents.

*Table S2 | **Overview of interviews by country for all documents**. The number of interviews, documents and words is shown in addition to the number of average documents and words per interview, and the average word count per document.*

Country		Per country			Per interview		Per document
		Interviews	Documents	Words	Average documents	Average words	Average words
DE	Germany	17	360	104,868	21.2	6,168.7	291.3
UK	United Kingdom	18	311	92,962	17.3	5,164.6	298.9
CL	Chile	25	458	142,034	18.3	5,681.4	310.1
CO	Colombia	20	507	151,924	25.4	7,596.2	299.7
US	United States	11	254	52,500	23.1	4,772.7	206.7
KE	Kenya	17	296	91,831	17.4	5,401.8	310.2
ZA	South Africa	19	338	126,688	17.8	6,667.8	374.8
ID	India	17	568	89,200	33.4	5,247.1	157.0
IN	Indonesia	25	996	172,459	39.8	6,898.4	173.2
VN	Vietnam	11	469	57,002	42.6	5,182.0	121.5
PH	Philippines	20	616	105,266	30.8	5,263.3	170.9
PK	Pakistan	12	219	19,823	18.2	1,651.9	90.5
TOTAL		212	5,392	1,206,557	25.4	5,691.3	223.8

Figure S1 shows the length of the original documents, i.e., before removing stopwords, when considering only documents below a certain word limit for cleaned text. The graph thus shows the composition of the documents that would be removed given the specific word limits.
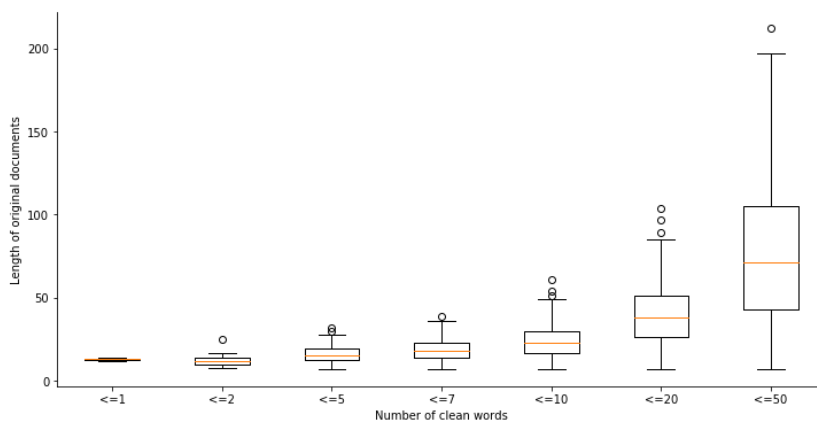

*Figure S1 | **Length of original documents by number of words after text regularization**. The graph shows the distribution of text items after removal of stopwords and punctuation and lemmatization as boxplots with the lower and upper quartile and the median. Whiskers show either the minimum/maximum or 1.5 times the interquartile range. In the latter case, outliers are plotted separately.*

To reduce country bias in the remaining documents we analysed the number of short documents by country as shown in **Table S3**. We additionally looked at the shortest documents with clean text qualitatively to determine if they contain relevant and interpretable information. We chose to only consider documents >10 words. This word limit is highlighted in the following graphs.

Table S3 |Length of documents per country. *The table shows the share of documents below a specific word limit.*

<=x	DE	UK	CL	CO	US	KE	ZA	ID	IN	VN	PH	PK
1	0	0	0	0	0	0	0.3	0	0	0.2	0	0
2	0	0	0	0	0.4	0	0.3	0.9	0.4	0.9	0.5	0.5
5	0.3	0.3	0.4	0.8	1.6	1.4	0.6	6.0	3.8	5.8	1.6	2.3
7	0.6	0.6	0.9	2.2	3.9	2.7	0.9	9.9	6.6	9.2	3.3	3.7
10	**1.9**	**1.9**	**2.4**	**4.3**	**7.9**	**4.1**	**2.4**	**16.5**	**9.8**	**15.6**	**5.9**	**8.2**
20	5.8	5.8	7.6	12.6	18.5	7.8	5.6	35.6	26.1	35.4	18.0	31.5
50	23.6	28.6	25.8	30.8	47.2	27.7	24.6	62.0	54.3	72.5	50.6	82.2
75	41.9	45.0	41.0	47.1	63.0	42.9	39.9	75.5	71.6	86.1	73.7	93.6
100	61.1	57.9	56.6	60.9	74.8	54.1	52.4	84.3	82.0	91.5	86.0	95.9
200	88.6	88.1	89.1	86.4	93.7	84.8	81.7	97.0	96.4	98.5	96.7	99.1
500	99.2	99.4	99.3	99.4	99.6	99.7	97.9	99.8	100	100	99.8	100
1000	100	99.7	100	100	100	100	99.4	100	100	100	100	100
2000	100	100	100	100	100	100	100	100	100	100	100	100

Table S4 provides an overview of the remaining documents when only considering documents above the respective word limit after removing stopwords.

Table S4 | Descriptive statistics for the documents. *The numbers for "min", "max" and the percentage share relate to the number of words in the documents before removing stopwords.*

	>0	>1	>2	>5	>7	**>10**	>20	>50
count	5391	5389	5372	5259	5158	**4986**	4356	2934
mean	226.1	226.2	226.9	231.4	235.5	**242.5**	270.6	352.8
std	230.1	230.1	230.2	230.5	230.9	**231.6**	234.9	246.6
min	7	7	7	10	15	**22**	34	99
25%	78	78	78	82	86	**94**	121	198
50%	160	160	161	165	170	**176**	201	279
75%	295	295	296	300	304	**311**	338	421
max	3363	3363	3363	3363	3363	**3363**	3363	3363

Another aspect we considered are the top words of the remaining text when removing short documents. In Python we inspected the top 50 keywords. **Table S5** shows the top five keywords and the respective number of occurrences.

Table S5 | Top keywords when short documents are dropped. *">0" implies that none of the documents are removed.*

>0	>1	>2	>5	>7	**>10**	>20	>50
('coal', 5563)	('coal', 5563)	('coal', 5563)	('coal', 5556)	('coal', 5547)	**('coal', 5531)**	('coal', 5402)	('coal', 4790)
('energy', 3685)	('energy', 3685)	('energy', 3683)	('energy', 3682)	('energy', 3680)	**('energy', 3663)**	('energy', 3587)	('energy', 3176)
('government', 2924)	('government', 2924)	('government', 2923)	('government', 2920)	('government', 2915)	**('government', 2888)**	('government', 2806)	('government', 2401)
('work', 2757)	('work', 2757)	('work', 2757)	('work', 2755)	('work', 2754)	**('work', 2744)**	('work', 2655)	('year', 2329)
('year', 2652)	('year', 2652)	('year', 2652)	('year', 2649)	('year', 2646)	**('year', 2638)**	('year', 2587)	('work', 2286)

Next we analysed which words are removed more than average when dropping short documents. **Table S6** shows the top five words.

Table S6 | Words that are dropped relatively more often than average. *"2-5" shows words whose number of occurrence reduces most by proportion when considering only documents >2 and >=5 words in length. We first calculated the average rate of reduced occurrence considering all words and then compared the rate for each individual word to this average rate.*

0-1 words	1-2 words	2-5 words	5-7 words	7-10 words	10-20 words	20-50 words
cheaper	energy_system	corporate	contact	pdp**	pilot	pdp
sure	steel	division	gold	cil***	evn****	moit
	department_of_energy	employee	hopefully	provincial	moit	province
	moit*	stateowned	stateowned	2022	forestry	guideline
	2015	decrease	ministry_of_environment	mr	pakistan	protest

*moit: Ministry of Industry and Trade (Vietnam); **pdp: Power Development Plant; ***cil: Coal India Limited; ****evn: Vietnam Electricity

4. Parameters

We conducted multiple model runs with different parameter settings to identify the most-fitting values for our model. We first evaluated values for the document-topic distribution α, and for the number of topics K. For the a-priori belief of the document-topic distribution α, we looked at settings for 0.01, 0.02 and 0.05. For the number of topics K, we first ran models with K=10, 20, 30, and 40 before evaluating values around 20, i.e., 16, 18, 20, 22, 24, 26 and 28. Based on coherence scores of initial model runs, we first examined results for for α = 0.01 and K = 20.

Based on these values we considered the number of passes. **Figure S2** depicts the coherence score for different parameter values. A high score suggests a high topic quality. Given the coherence score and the runtime of the model, we chose 50 for the number of passes.
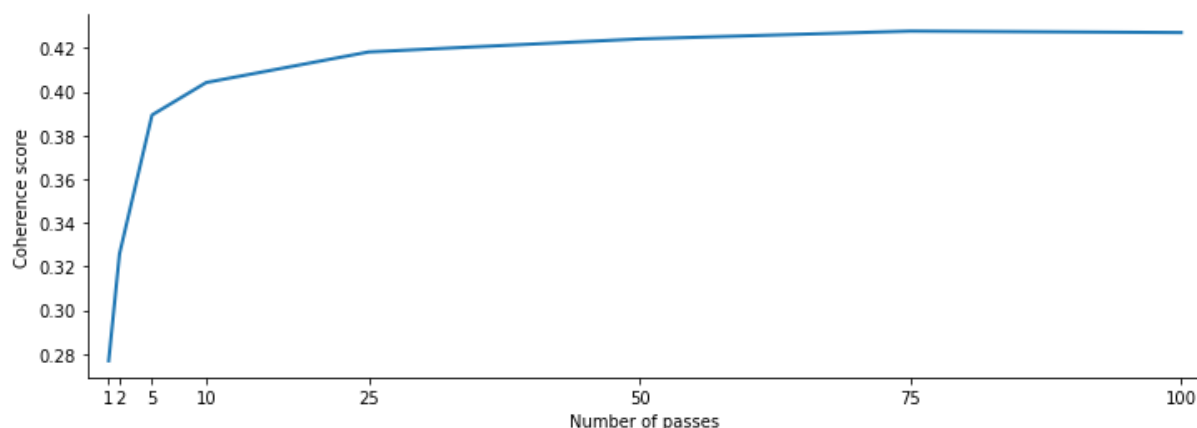

Figure S2 | Coherence score for different number of passes. *The coherence score is considered a proxy for the quality of topics.*

Next we examined parameter values for K around K = 20. **Figure S3** presents the coherence scores for different numbers of topics.
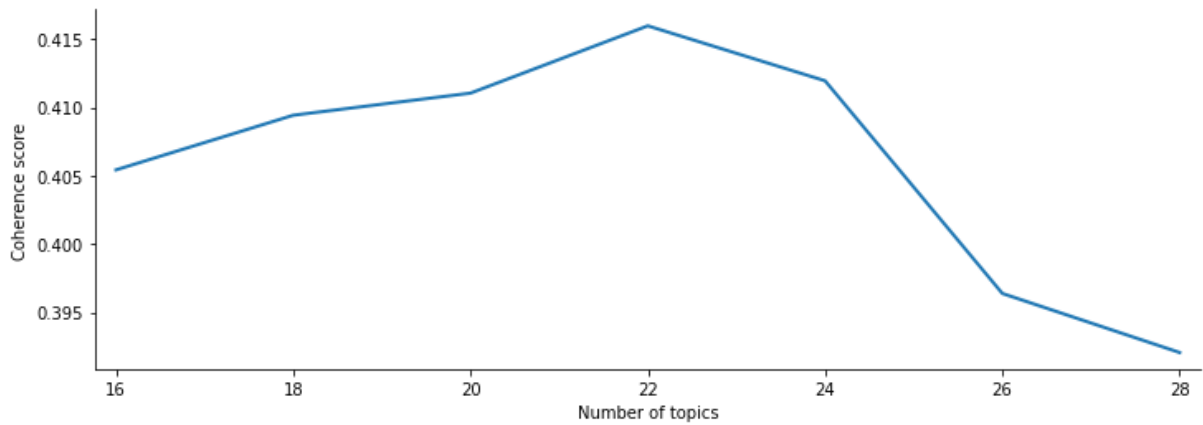
Figure S3 | Coherence score for different numbers of topics.

Afterwards, we qualitatively looked into the differences in topic composition for the number of topics around 22. **Figure S4** shows the cosine similarity between topics for model runs with *K* = 22 and *K* = 24 and the top three words per topic.
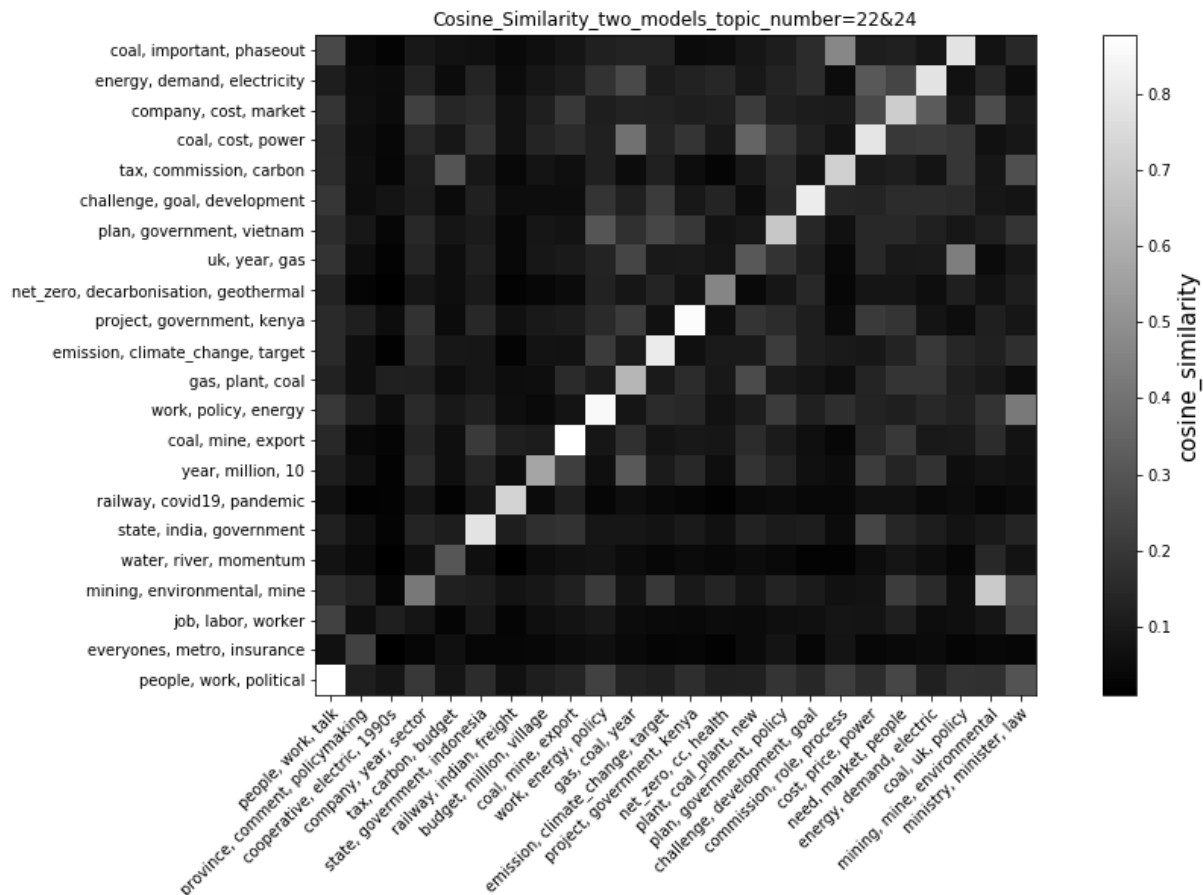

Figure S4 | Cosine similarity between topics of two different topic models (K=22 and K=24). The graph shows the similarity between topics. A high value (white) suggests a high similarity, a low value (black) a low similarity. The graph shows the top three keywords as labels for each topic.

We further investigated the differences in topics between *K* = 20 and *K* = 22, and between *K* = 22 and *K* = 24. **Table S7** shows the top three keywords per topic and the topic scores. Topics in one row show large similarities. The graph helps to identify emerging topics when increasing the number of topics.

Table S7 | Development of topics. *The graph includes results from three model runs with different parameter values for the number of topics.*

20 topics keywords	topic scores	22 topics keywords	topic scores	24 topics keywords	topic scores
commission, state, process,	3.57	tax, commission, carbon,	2.8	commission, role, process,	2.98
people, political, work,	11.6	people, work, political,	12.7	company, year, sector,	3.45
				people, work, talk	11.3
crc, expenditure, metro,	0.23	everyones, metro, insurance,	0.14	province, comment, policymaking,	0.3
job, labor, land,	0.93	job, labor, worker,	0.74	cooperative, electric, 1990s,	0.2
cost, market, price,	8.77	company, cost, market,	7.2	need, market, people,	7.15
plan, work, development,	8.51	mining, environmental, mine,	5.75	mining, mine, environmental,	3.87
energy, colombia, geothermal,	1.59	energy, demand, electricity,	5.64	energy, demand, electric,	5.21
tax, carbon, budget,	0.95	year, million, 10,	2.58	budget, million, village,	0.94
water, river, guajira,	0.35	water, river, momentum,	0.25	tax, carbon, budget,	0.73
company, private, state,	2.2				
price, electricity, government,	5.96	state, india, government,	3.99	state, government, indonesia,	4.08
important, sector, policy,	6.84	emission, climate_change, target,	4.09	emission, climate_change, target,	3.69
railway, indian, governor,	0.31	railway, covid19, pandemic,	0.26	railway, indian, freight,	0.39
coal, mine, mining,	5.22	coal, mine, export,	4.61	coal, mine, export,	4.21
work, energy, policy,	10.4	work, policy, energy,	10	ministry, minister, law,	4.85
				work, energy, policy,	9.56
coal, policy, phaseout,	1.93	coal, important, phaseout,	5.92	coal, uk, policy,	5.4
coal, gas, uk,	5.6	challenge, goal, development,	3.36	challenge, development, goal,	2.18
		gas, plant, coal,	3.77	gas, coal, year,	6.6
plant, year, power,	12.8	coal, cost, power,	11.4	cost, price, power,	9.32
				plant, coal_plant, new,	2.92
government, policy, year,	7.45	net_zero, decarbonisation, geothermal,	0.73	net_zero, cc, health,	0.62
		plan, government, vietnam,	5.83	plan, government, policy,	5.52
		uk, year, gas,	2.82		
project, government, vietnam,	4.81	project, government, kenya,	5.41	project, government, kenya,	4.53

Another option to validate our parameter settings and to test robustness of results is to compare the resulting country clusters for different model runs. We compared the clusters when choosing numbers of topics other than *K* = 22 for the topic model. The hierarchical clustering yields slightly deviating results for *K* = 18 and *K* = 26. For *K* = 20 and *K* = 24 we found congruent results as compared to the model parameters we chose for the study (**Figure S5**).
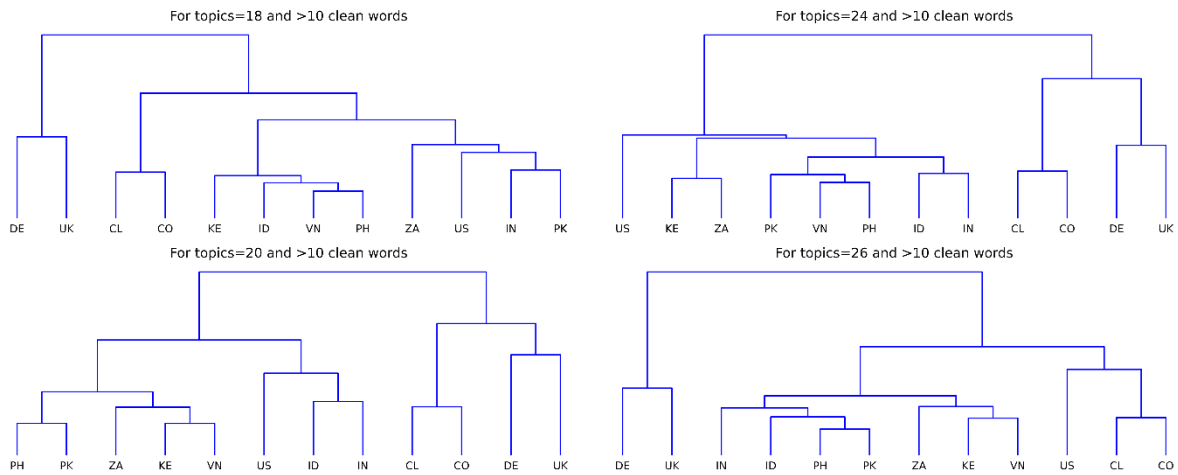
Figure S5 | Cluster for different number of topics. *In the dendrogram, countries with similar topic distribution are joint at a low height.*

5. Preparing data for analysis

The model produces document topic and topic word matrices. After labelling the topics and assigning them to categories, we prepared the data for the following analyses. First, we sorted and arranged the topics according to the categories. Second, we created a table with the topic contribution, topic keywords, the country, the actor group and the number of interview for each document. This table is the foundation of all subsequent analyses. Based on the table, we created multiple other tables to for instance show the topic contribution per country and actor group.

6. Heat maps showing actor groups and countries

In the paper, we show one heat map for actor groups and one for the countries. These consider the contribution of topics per group/country. **Figure S6** and **Figure S7** show two heat maps each. On the left-hand side the groups/countries add up to 100% and on the right-hand side the topics add up to 100%.
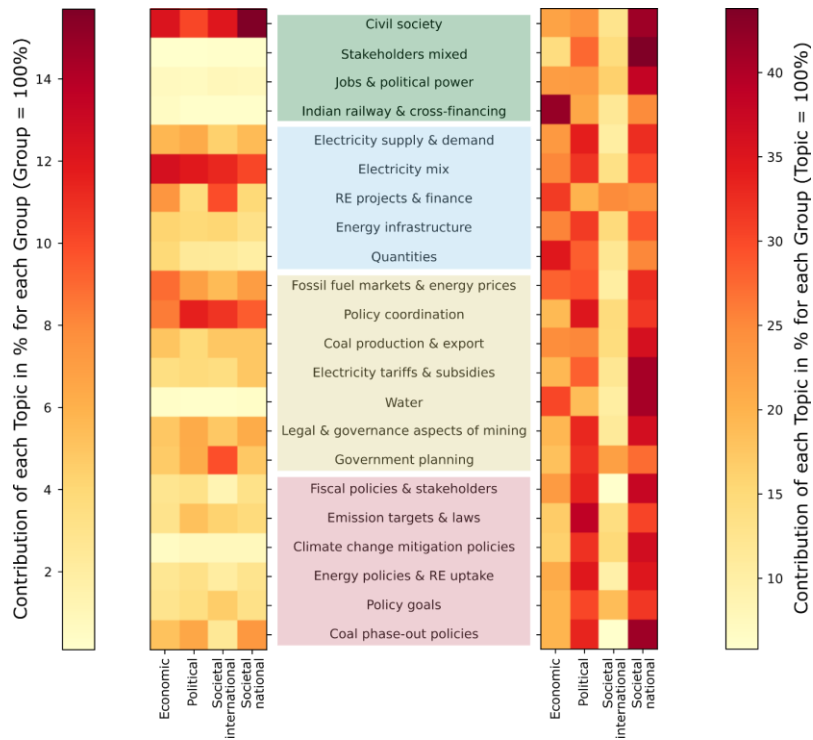
Figure S6 | Topic contribution to actor groups. *In the heat maps the colour of each square represents the normalized sum of its topic contribution. In the graph on the left-hand side, the topics for each actor group add up to 100%. In the graph on the right-hand side, the groups for each topic add up to 100%. The colours of the topics represent the four categories.*
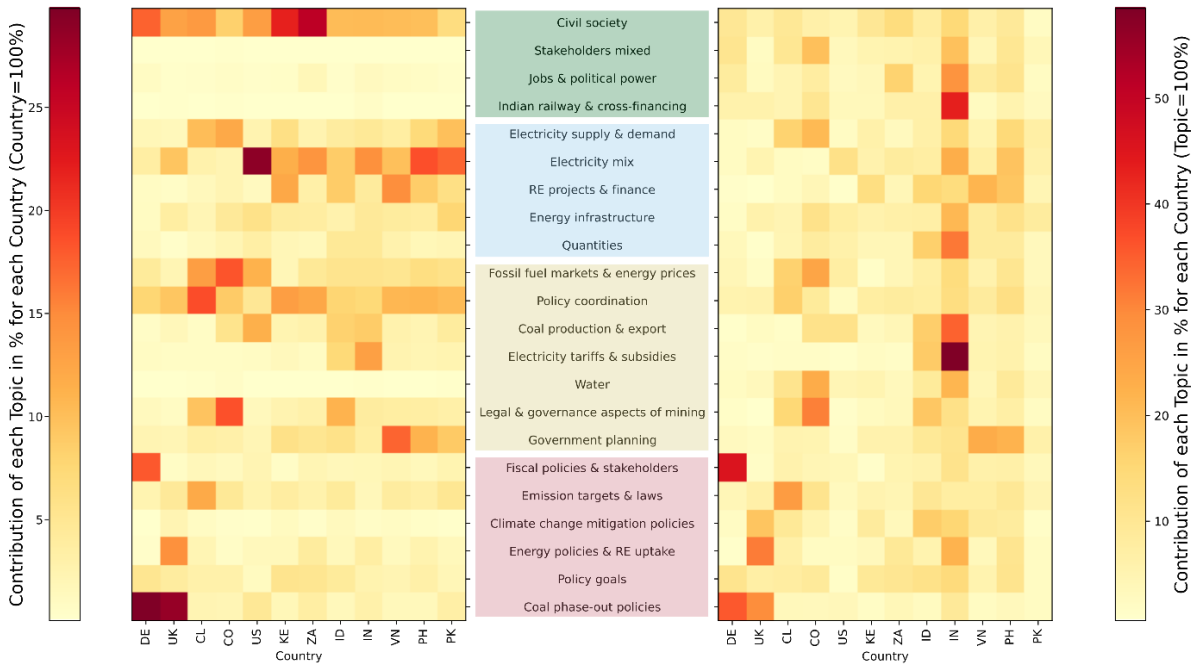

Figure S7 | Topic contribution to the countries. *In the heat maps the colour of each square represents its contribution. We merged all documents belonging to each country. In the graph on the left-hand side, the topics for each country add up to 100%. In the graph on the right-hand side, the countries for each topic add up to 100%. The colours of the topics represent the four categories.*

7. Country cluster

For the dendrogram shown in the paper, we calculated the distance matrix with the Minkowski p-norm = 1 and used the Ward variance minimization algorithm for the hierarchical clustering. We additionally clustered countries using the t-distributed stochastic neighbour embedding (t-SNE) algorithm: **Figure S8** shows the similarities of countries for the topic distribution of all 22 topics.
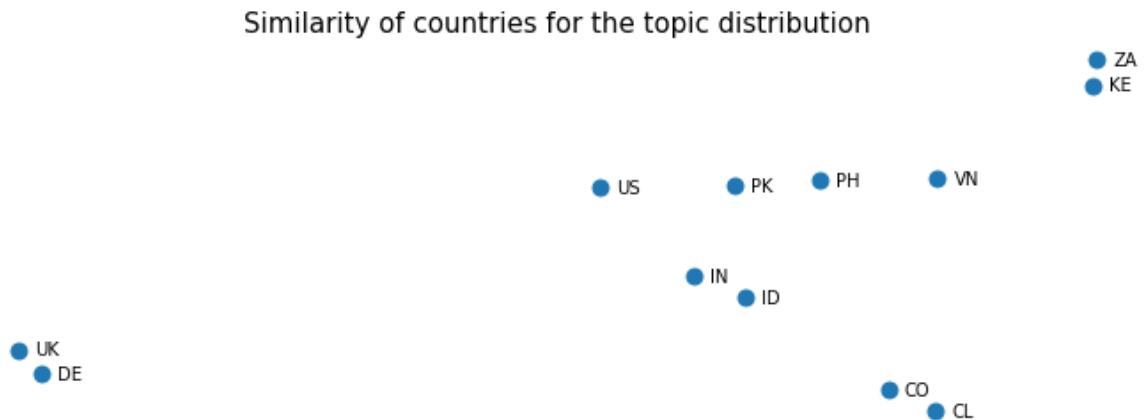

Similarity of countries for the topic distribution

Figure S8 | Similarities between countries using t-SNE. The similarities are calculated using the topic distribution of all topics for each country.

Figure S9 shows the similarities between documents for the topic distribution. Documents in minimal distance to each other have similar contributions of topics.
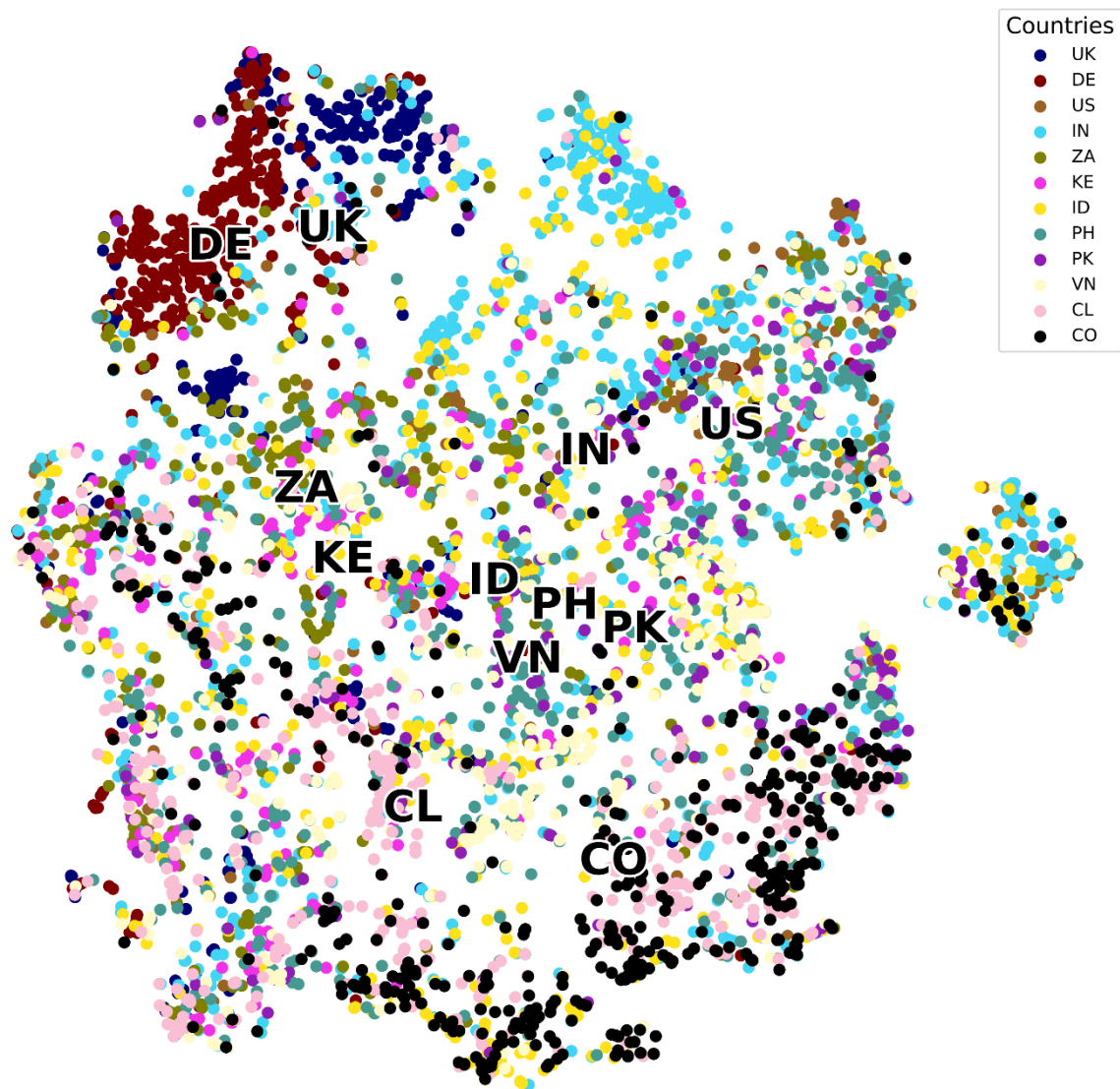
Figure S9 | Similarity of documents using t-SNE. *The colour represents the interviewee's country. The order of the legend is according to the median y-value for each country. The position of the labels of countries was changed slightly when overlapping.*

8. Topics and documents per country

In the following, we present an overview of each of the 12 countries, including country features such as large or small shares of topics and categories, and examples of documents for each of the three biggest topics per country. We additionally summarized the main content covered by the interviewees of each country based on the three displayed quotes and a qualitative analyses on additional question-answer pairs.

Germany

The overarching content of the German interviews is the coal commission. A focus lies on political and social actors in the commission and resulting fiscal and coal-phase out policies. The category 'Policies' is by far the biggest (56%). The topic 'Coal phase-out policies' alone contributes 30%. Germany has the largest share of all countries for the topics 'Fiscal policies & stakeholders' and 'Coal phase-out policies'.

Germany has 18% for the topic 'Fiscal policies & stakeholders', whereas all other countries have less than2%. The three largest topics and examples of respective documents are stated below.

'Coal phase-out policies': "[…] In your view, what were the main framework conditions for the Commission's negotiations, but also for the debate on the coal phase-out in general? - […] In this context, the question of jobs is of course a very decisive one for us. And in this context also the regional anchoring and the structural-political questions that arise from it."

'Fiscal policies & stakeholders': "In that respect, if I summarize what you say, one could perhaps say that the taxpayer was not represented in the Commission. - No, the Ministry of Finance was not at the table. The taxpayer, the Ministry of Finance, was absent from the negotiating table."

'Civil society': "Who, in your opinion, were other major players? What influence did they have, and how could they maybe gain such influence? - So definitely the Green Party. It was already evident in the commission how strong and with how many people they appeared there. It is, however, true that the Commission was of course balanced. So the employers were represented, the unions were very well represented, but there were also many NGOs. But in my opinion the Greens tried to exert the greatest influence."

These quotes from the interviews highlight the strong focus on the coal commission. Each of them mentions the commission with a different focus. The first discusses the setup of the policy ("framework conditions"). The second covers financial aspects, to be more precise relevant actors in terms of the finance issues ("Ministry of Finance", "taxpayer"). The third falls into the category of civil society, while again representing a discussion on involved actors, this time societal in nature ("NGOs", "unions"). Next to the setup and the composition of the commission, the interviewees also mentioned potential impacts of the commission, as represented in the first quote ("jobs").

The UK

The overarching content in the UK is the coal phase-out. Interviewees discuss policies and actors that were/are driving the coal phase-out. Similar to Germany, the category 'Policies' is by far the biggest (54%). The topic 'Coal phase-out policies' alone contributes 28%. The UK shows the largest share of all countries for the topic 'Energy policies & RE uptake'.

'Coal phase-out policies': "And what was the role of the EU in driving the coal phase-out, in your opinion? You already mentioned a few EU policies. - Yes. So as mentioned, mainly I would say that the EU-ETS and a number of other, in particular environmental legislations, played a very, very important role in making that happen. […]"

'Energy policies & RE uptake': "And then, when we look a bit more into the past, so from the perspective of the Committee on Climate Change, what were the three biggest challenges for the development of the UK energy sector since 2000? - […] So, the first one, the biggest one is moving away from coal. Because coal was a very big part of the UK's generation mix, twenty years ago, nearly half. So clearly, moving away from Coal was one of the biggest priorities. I think the second one that goes with that is building up the market for low carbon generation. So renewables, and nuclear as well. […]"

'Civil society': "So and which other actors from the energy sector are you involved with? - All kinds, political, NGOs, business, so that's kind of the spectrum that we're covering. […]"

The quotes show the importance of actors and policies to the coal phase-out debate in the UK. The first text item discusses relevant policies ("EU-ETS", "environmental legislations"). The second describes the challenges that had to be overcome with policies ("moving away from coal", "building

up the market for low carbon generation"). The third brings in the actors that were important to the phase-out, including those from politics, the civil society and industry ("political, NGOs, business"). Thus, regardless of the topic (e.g., 'Coal phase-out policies' or 'Civil society'), the question-answer touch upon the overarching content of the coal-phase out.

Chile

The expert debate on coal in Chile is focussing on actors, e.g., the coordination of political and societal actors and private companies in the fossil fuel markets. The topic 'Policy Coordination' is the biggest, contributing 19%. Chile has the largest share of all countries for the topics 'Policy Coordination' and 'Emission targets & laws'.

'Policy Coordination': "In general, would you say how much coordination or synergy there is between the different actors in policy decision-making: more of a synergistic or conflicting relationship, so to speak, in these policy developments? - In my own subjective impression, it depends... Of course, more from my experience, it depends on the minister on duty. There are ministers who have been more inclined to bring us all together at the table and hold these working groups. […]"

'Civil society': "Like not engage with the civil society protests or advocacy? - The two main protest about coal power or the one was the first mandate of President of Pinera; the first trimester was a huge opposition for the construction of a coal power plant. […]"

'Fossil fuel markets & energy prices': "And what is the main concern that you see? - That it could mean a price increase in the market, and that is not so, because the power plants focus on lower costs and differentiating the lower costs versus the additional costs that it may bring in terms of complementary services, etc., always gives a positive balance […]".

The three quotes express the two main contents covered by the interviewees. The first and second explain the influence of influence of political and societal actors on policies ("coordination", "minister", "civil society", "president"). The third bridges the gap to the fossil fuel market ("costs", "power plants"). Looking into additional question-answer pairs, it becomes evident that the debate in Chile focuses on the relevant actors to fossil fuel policy making, which includes – but is not limited to – policies on coal.

Colombia

The interviews focus on coal mining, prices for coal and opportunities for coal companies. Colombia has the largest share of all countries for the three topics 'Legal & governance aspects of mining', 'Fossil fuel markets & energy prices', and 'Electricity supply & demand'. These three are also the topics with the biggest contributions for Colombia.

'Legal & governance aspects of mining': "But this is from the Auditor General of the Nation? […] - No, from the national mining agency, who must go to the mines to verify that the biological study, that the safety controls, that everything is being done as it should be... but they are pocket officials, that finally the first thing they do is to inform the companies that they are going to visit them"

'Fossil fuel markets & energy prices': "Is that like the formula you use for contracts, which you were telling us has been coming from oil code since the 1950s...? - No. This is the first one. What it says about how prices are set. So, it was with opportunity cost because you are telling Ecopetrol your option is to sell in the domestic market or in the international market."

'Electricity supply & demand': "And one point then, seeing which are the big consumers of energy, what is that generation going to be directed to, more extractivism? - What happens is that in Colombia, and you know this, the coal used is very small. […] What I am talking about is the demand, for example, for coal for consumption."

The quote which was chosen for table 4 of the paper: "Who are the ones, the government agencies or the actors that are currently influencing the formulation of public policies in this issue of the mining and energy sector? - Well, in addition to the Ministry of Mines and Energy, the Planning Unit, the DNP, but I don't really know who else is involved in construction… the presidency."

All four text items discuss parts of the fossil fuel industry, with a focus on coal mining. The first explains interests in the mining sector and how they play out ("mines", "pocket officials"). The second discusses the largest fossil fuel company in Colombia and business opportunities ("Ecopetrol", "how prices are set", "international market"). The third deals with the coal market ("extractivism", "coal used"). The fourth explicitly discusses actors and policies for policy making in the coal mining sector ("actors", "formulation of policies", "Planning Unit").

The US

The interviewees from the US discuss the market driven decline of coal consumption and production, and its effects on the electricity mix, communities, and export. The three topics with the largest contribution for the US are stated with examples below.

'Electricity mix': "So if I'm asking you to give me your forecast, could you give me a number, specifically on how many percentage of electricity…? - I would expect coal to be less than 10% of the U.S. electric generation by the end of the decade."

'Civil society': "What is unique about this community, how is it different from the Appalachian that you mentioned? - I always hesitate to say before I've been there, because one of the criticisms that I think is very valid that comes from these communities is: you guys in Washington cannot write policy, or propose solutions for us if you've never even been in our communities."

'Coal production & export': "Oh, I see. So this coal export doesn't really have a future? - I mean, unless for some reason Australia shuts down its mining operations, which it won't, and China decides they want to actually continue to go big on importing coal […]"

The three question-answer pairs expose the content of the coal-phase out debate in the US. The first displays the downward trend in coal power ("percentage of electricity", "less than 10%"). The second explicitly mentions communities ("Appalachian", "solutions"). The third provides an outlook of business opportunities in coal ("export", "China"). Overall, the interviewees discuss the past and future market-led decline of coal consumption and potential impacts on the industry and communities.

Kenya

The debate in Kenya focuses on reasons for coal plants and capacity additions, e.g., the civil society, policies, and vested interests. Kenya shows the largest share of all countries for the topic 'Policy goals'.

'Civil society': "Maybe you could also say something about the anti-coal protest in the Lamu region […] - Basically what happens in some of these demonstrations, is that some of them are organized by politicians that are over there. […] sometimes you give up, because I think that people have more power, it's the power of the people, it's perceived their influence."

'Policy coordination': "I'm wondering how influential the civil society or NGOs are in the policy formulation, do you see a role in that for the NGOs? – […] Kenya actually has implemented the energy policies now with a focus on gender, and that is a result of, I would say, the work that has been put by NGOs. So yes, speaking from the point of, civil society does have a role and participates."

'Electricity mix': "[…] if there's no space for coal, there's no space for nuclear, there should be more space for renewables, but this is not happening… - Exactly. And again, it's because of vested interests. Developing solar, wind or geothermal takes time."

The first quote shows the importance of the civil society for the development of the coal sector, here using the example of the Lamu power plant ("anti-coal protest", "power of the people"). The second outlines the role for the civil society on policy making ("policy formulation", "NGOs", "participation"). The third briefly touches upon vested interests and how they influence the deployment of different power technologies ("coal", "vested interests", "solar"). Overall the debate on coal in Kenya is concentrated around relevant actors, their interests, and if they influence policymaking.

South Africa

The interviews from South Africa cover different reasons for investments in coal infrastructure. South Africa has the largest share of all countries for the topic 'Civil society'. The three topics with the largest contributions are mentioned below.

'Civil society': "Are you in contact and communication with the Labor Party? […] - Labor people cannot be approached directly. They can only be approached via intermediaries, other NGOs that have longer-standing relationships with the labor force."

'Electricity mix': "[…] So is Eskom trying to get into renewables fully and at some point wants to be a fully renewable? - So we're not pursuing 100 percent renewable energy mix in any time soon. […]"

'Policy coordination': "So when we go into policy formulation, which departments have been involved in the past and current policy formulations? - So the relevant departments, DMRE, DPE, the treasury, and there are many more implicated, but it's primarily DMRE and DPE through Eskom that have had influence."

The following quote was used in the paper: "Do you have any solution for that in the short and medium term? - I don't know if it's a political will, then it's about leadership. There won't be any solution. Yeah, I think that's where you rely a little bit on civil society. To try and push, push, push, push, and then you also hope that as time goes on, people would understand the implications of business as usual, that it doesn't work."

Looking at all four quotes jointly, a common pattern emerges. The first quote prominently features the roe of the civil society and coordination with the government ("Labor", "NGOs"); the second discusses the electricity mix ("100 percent", "renewable energy"); the third describes the coordination of political actors for policy formulation ("Department of Mineral Resources (DMRE)", "Eskom", "influence"); the fourth brings together the civil society and political influence to explain how a coal transition could be brought about ("leadership", "people", "business as usual"). Overall, the interviewees thus explain reasons for coal plants, mentioning to a lower extend political actors and to a larger extend societal actors.

Indonesia

In Indonesia, the experts discuss coal mining, prices for electricity and coal, as well as the interests of the civil society. Below, we state the three topics with the largest contribution and documents with a large share of the respective topics.

'Legal & governance aspects of mining': "So these are positive impacts of coal mining. Do you have as well negative impacts? - I would like to say something like environmental impacts, but it is not directly related to the city or the province. That's all I think."

'Civil society': "And is this not beneficial, as well, to raise awareness of climate change? - Actually, we suggest that, but this is the area that I feel, that I've not been successful in this. People more - I think - how we could use the very simple language that people aware on that."

'Electricity mix': "But how would you keep the tariff low? - […] We need to refill the existing policy. What we can do to help PLN to reduce the cost. Maybe we can, for example, push PLN, don't use the old power plant, please make some improvement."

The three text items provide explanations for coal in Indonesia. The first and second target potential opposing arguments, e.g., environmental concerns ("impacts of coal mining", "environmental impacts") and climate change ("raise awareness", "not been successful"). The third touches upon an argument in favour of coal, i.e., financial incentives ("tariff", "costs"). Overall the interviewees debate reasons for coal, often financial in nature.

India

In India, aspects such as the electricity mix and reasons thereof including tariffs and interests of the civil society are discussed. The three topics with the biggest contribution for India are stated below with respective examples.

'Electricity mix': "Given the demand forecast, is that correct? - Only thing is we give some guidance on that. Given the demand forecast and what sort of plants should be built in the future. So if it there is a target of 175,000, then we said that is already going to supply some amount of energy. Only the remaining energy needs to be supplied by coal-based plants. All the other plants, Hydro whatever."

'Electricity tariffs & subsidies': "And those transfers will come from state budgets? - Government says, central government, central government. […] In electricity, it was cross subsidized, so they charge industrial consumers higher and agricultural consumers lower. Now what they are saying is that effectively you will still pay the same amount, except that it will not be cross subsidized by the industry."

'Civil society': "Yeah. But in terms of the different courts, like, on which requests are those courts acting mostly? - Yeah, so the courts are acting on civil society, civil society has been filing cases in the courts."

The quotes stated above show a focus in the interviews on the present and future electricity mix in India, and reasons thereof, including political targets and budgets. The first deals with the constitution of the electricity mix ("forecast", "target", "coal"). The second dives into financial issues related to coal ("state budgets", "subsidized", "consumers", "industry"). The third deals with the role of societal actors in changing the landscape for energy in India ("civil society", "courts", "filing cases").

Vietnam

Interviewees asked about the political economy of coal in Vietnam refer to policy planning and the relevant political actors, and finance. Vietnam has the largest share of all countries for the topic 'RE projects & finance' and 'Government planning'.

'Government planning': "So, we talk to people dealing with energy issues, they often say yes, the power development plan is basically, when you want the development of renewable energy project you really have to make sure that it's in the development plan. But what is its legal status of it is not a law? - A government plan. It's a kind of plan, prepared by MOIT, but it has to be approved by the Prime Minister. But it also became of some kind of legal document. But it would not be law. So it would not be passed by the National Assembly. […] "

'RE projects & finance': "So who is giving the loans for these solar projects? - Many sources. They have to find a commercial source. Not public loan. Maybe the international investors can find a way to feed the financial need."

'Policy coordination': "So you already lined out a little bit of what you are working on, maybe you would like to explain more in specific the topics you are working on right now? – […] So the department is supporting the Minister of Finance in undertaking the state responsibility in price management. So that means, we are responsible for all the policies drafting, all the related guidelines, and how to help the government implement their work related to price control."

The interviewees in Vietnam have a strong focus on energy policies, including the Power Development Plan, and finance. The three quotes above can be attributed to these two areas. The first and the third discuss how policies come about ("power development plan", "legal document", "responsibility", "policies drafting"). The second represents a focus on financial aspects important to power plant development ("loans", "international investors"). Ultimately these topics can be seen as an explanation for the deployment of coal. The focus here is clearly on the Power Development Plan, its implications, and the preceding coordination.

The Philippines

The interviews from the Philippines cover political and economic actors relevant to energy decision making, their coordination and the resulting energy plans and policies. Two categories contribute 77%, namely 'Electric power system' (40%) and 'Energy governance & markets' (37%).

'Electricity mix': "And what's the role then of the DoE in this at all? – […] So, they will monitor the compliance of the utilities for the RPS, they will monitor how competitive selection processes are being done by the utilities. And they award contracts for the power plants, before a power plant can be built or can get a supply contract with utilities, they have been a service contract with the owner."

'Government planning': "You mentioned that the DoE now, they are doing planning, they're doing the Philippine Energy Development Plan. Like there are different plans. The Philippine energy plan... - The Philippine energy plan, basically it's not a plan, it's just a projection. It's not really a plan. Yeah, we can say that it's a plan. So basically, it's a projection, supply and demand projection."

'Policy coordination': "Then I'm wondering who are the actors? Who, for instance, were the actors behind the policy formulation, and then who were the ones that are supposed to implement it but are lacking behind? - The renewable energy Law was by the law makers made from legislation, and the implement rules and regulations are to be developed by the National Energy Board. But they are just for recommendations, or whatever they come up, they submit it as a policy recommendation to the Department of Energy."

The three quotes above all delve into the relevant actors behind policy decision making in the energy sector. The first includes the industry and more technical details ("utilities", "competitive selection process", "owner"). The second specifically talks about the energy plans ("Department of Energy (DoE)", "Development Plan", "projection"). The third explicitly delves into actors relevant to policy making ("law makers", "policy recommendations", "Department of Energy"). These question-answer pairs represent a strong focus on actors and energy decision making in the coal-phase out debate in the Philippines – as reflected in the interviews.

Pakistan

The interviewees in Pakistan cover quite distinct aspects. These include actors and interests in policy making, the electricity mix, and technical issues on the supply and demand side of electricity. Pakistan has the lowest share of all countries for the category 'Actors & interests', and the largest share for the category 'Electric power system' of all countries. In the latter category, Pakistan has the largest share of all countries for the topic 'Energy infrastructure'.

'Electricity mix': "Sir, what according to you is the ideal energy mix? […] – We're aiming for 30% wind and solar and 35% hydro, that makes around 65%. Rest will include nuclear, and then LNG. These are the cleanest fuels. We'll have coal to some extent. […]"

'Policy coordination': "Do you think private sector is taken on board during policy making? - We try our best. Not to the extent that is needed, but private sector representatives are always a part of discussion meetings."

'Electricity supply & demand': "We shifted to coal when we were going through an energy crisis. But now we have energy in surplus, but now energy is expensive and we have transmission and distribution issues. […] - We have surplus supply but we have technical issues and we're unable to supply it. So I think the solution is to overcome these technical issues."

The three quotes point to quite distinct content covered in the interviews. The first discusses the electricity mix and shares of different technologies ("30% wind", "coal"). The second dives into the role of economic actors for policy making ("private sector representatives", "discussion meetings"). The third provides technical insights into the electricity mix ("surplus", "transmission", "technical issues"). Diving into large parts of the interviews one finds reasons for the electricity mix as a common feature. These relate to actors and their vested interests, as well as technical difficulties.