

Original article

Mining coal while digging for justice: Investigating justice claims against a coal-phase out in five countries

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ABSTRACT

Coal has long been one of the fossil fuels underpinning the energy systems of many countries around the world. Because of its long-standing history, many actors have an interest in retaining the status quo. In this article, we explore the complexities of a coal phase-out in different countries. Drawing on empirical material from Germany, India, Mexico, Serbia and South Africa, we look at the way coal is represented in public debate. We do so by analysing the respective political arguments of key actors about coal phase-out in the chosen countries and analyse their inherent justice claims. Our research illustrates how state institutions, fossil fuel companies and other actors have contributed to framing coal as a formative factor of social relations and as an asset for development. Further, we find that there is considerable overlap of justice claims between global North and global South countries, even though actors from global South countries also invoke global inequalities and historical climate debt. Based on our results, we argue that policymakers must (a) critically interrogate justice claims and (b) consider injustices created by the status quo to ensure a Just Transition.

1. Introduction

The unfolding climate crisis makes drastic cuts in global greenhouse gas emissions an imperative. Nearly two-thirds of today's emissions stem from our global energy system and it is the sector where emissions have risen the most in absolute and relative terms since 1990 (Ritchie et al., 2020). The most carbon intense source of energy in the global energy mix is coal (IPCC, 2022; IPCC et al., 2014). Emissions from coal-fired power generation have more than doubled between 1990 and 2018 (International Energy Agency, 2019). However, to stay within 1.5° of global warming, nearly 90% of all coal needs to stay in the ground (Welsby et al., 2021). This turns coal into a defining factor in the struggle to stabilise the climate.

Against this backdrop, calls for a phase-out of coal in the near future have gotten louder in recent years (Welsby et al., 2021). Many scholars recognise that this question opens up a whole host of issues starting from energy security (Nolting and Praktiknjo, 2020) via questions of job

security (Kalt, 2021) to endangering cultural identities (Johnstone and Hielscher, 2017). This scholarly attention reflects public discourses on coal in which diverse actors voice resistance to a phase-out of coal. This resistance became evident at the COP26 in Glasgow in 2021 where the original ambition to find an agreement on a global coal "phase-out" was watered down to a "phase-down" (Arora and Mishra, 2021).

Calls for a Just Transition to mitigate the negative impacts of a coal phase-out have grown louder in recent years. The concept emerged and was popularised in the 1970s/80s in the US with chemical plant workers and local communities affected by environmental externalities, but it has been used in current days much more widely in the context of just energy transitions (Stavis et al., 2020). The original ambition of a Just Transition was to ensure that workers and their communities are not unproportionally affected by hardship that arise from new environmental legislation. Several researchers have recently turned to the concept of Just Transition to investigate the social problems related to low-carbon transitions and how to address them (Brandstedt et al., 2022;

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Gürtler et al., 2021; Heffron and McCauley, 2018; Jenkins et al., 2020; Swilling et al., 2016). This work highlights the importance of justice claims that are raised in the context of energy transitions and their implications for public acceptance.

In this article, we systematise arguments supporting the continued use of coal in a number of countries where it is still a central resource for the national energy mix and/or the dynamics of specific productive regions. Specifically, we focus on the cases of Germany, India, Serbia, South Africa and Mexico to explore how the support for coal activities is currently mobilised in different economic, social and political contexts. Three questions guide our analysis:

- 1) What are the main claims brought forth in favour of continuing the use of coal within the analysed cases?
- 2) How do justice claims differ between the cases, especially between global North and global South countries?
- 3) How can the results inform approaches to policy making for Just Transitions?

Existing research around coal-supporting narratives has largely focused on single country analysis (Curran, 2021; Jacob, 2017; Kalt, 2021; Trencher et al., 2019). Building upon those insights, we integrate a wider number of cases into a single study highlighting how the relatively central position of coal across different contexts creates “climate delay narratives” (Lamb et al., 2020) while producing specific challenges to achieve just transitions. With this analysis, we aspire to identify key issues that decarbonisation strategies must address, either by presenting counterarguments or by developing responsive policies, to gain public acceptance and democratic participation in designing alternative energy futures. Further, we seek to introduce a global South perspective into the scientific debate on coal phase-outs. Consequently, our findings are relevant to academics by outlining a research agenda and to policymakers by identifying points of conflict related to the transition.

2. Coal in the world

2.1. Coal's role in today's global energy system

Coal, the most carbon-intensive fuel currently used extensively in electricity generation, accounts for 35,25% of electricity generation globally in 2020 (International Energy Agency, 2022a). Phasing out coal is thus critical to limiting emissions that drive climate change. In 2020, total coal consumption was 7456 Mt globally. This figure resulted from slow growth during the pandemic, but the projections are for significant rebound as the economy recovers from pandemic losses. Most of the growth in coal consumption is taking place in China, India and USA (International Energy Agency, 2021).

Global coal trade in 2020 was 1 298 Mt, a drop of 11% from the record volumes in 2019. Traded coal made up 17% of global coal consumption and most of this trade was seaborne. Indonesia remains the world's largest exporter of coal (by weight) at 405 Mt with Australia following. China was the largest importer of coal in 2020 with 314 Mt with Turkey being the largest importer outside the Asia Pacific region with 40 Mt imported in 2020.

2.2. Coal phase-out & coal phase-down

Discussions about the necessity of a phase-out of coal have gained traction in recent years. For example, coal was first explicitly mentioned in the agreement of the COP26 negotiations in Glasgow in 2021. A coalition of 190 states committed to phasing-out coal power production by 2030 (or 2040 respectively for non-OECD countries) (IPCC, 2021). Notable exceptions from this list were the four largest producers of coal energy, namely, China, Japan, India and the US who together account for 75% of global coal consumption (Human Rights Watch (HRW),

2021). India and China lobbied to replace the term ‘phase-out’ with ‘phase-down’ in the final agreement document, which essentially means that although use of coal might increase in absolute terms for national ‘development’ needs, there should be a decline of coal as a percentage of the overall energy mix. Nevertheless, China and the US agreed to seize financing coal power projects in other countries and China has committed to phase-down power production from coal between 2021 and 2026.

In recent months, the unlawful Russian full-scale invasion of Ukraine has changed the situation in Europe. Several EU countries, amongst them Germany and Austria, are considering expanding coal power production because of decreased gas deliveries by the Russian aggressors. Plans go as far as the reopening of already closed power plants (see e.g., Lory, 2022) and fuelling them with domestically mined and imported coal. It is difficult to predict what further impact the war will have on the phase-out of coal, but it potentially adds further fuel to the fires (literally and argumentatively) of those who oppose a quick end of coal.

2.3. Background and status of coal in the national energy contexts

In situating coal phase-out in each of the case study countries, we first provide a brief overview of the status of coal (Table 1). We do this in relation to its role in the national energy systems, the history of coal in each country and future plans.

3. Methodology

Our analysis is based on a multi-country case study approach. We have drawn empirical data from five countries where coal is a central resource for the national energy mix and/or the dynamics of specific productive regions. These countries are Germany, India, Mexico, Serbia and South Africa. We selected the countries based on convenience sampling. Our research team includes citizens of all the selected countries, and we have native speakers of all the relevant languages present in the data. This sampling approach allows only for limited generalisability. Nevertheless, it still enables us to do two things: first, to identify a set of justice claims articulated against a coal phase-out, and second, to draw conclusions about differences between coal phase-out discourses in the global North and the global South. All countries we selected are - at least nominally - democracies¹ in which debates about a phase-out or phase-down of coal are taking place. This means that political debates in all countries need to acknowledge a variety of justice claims to show good democratic practice in designing policies (Dobson, 2000). We included data from 2019 to early 2022. However, in the case of Germany, we extended this period to start already in 2017. We did so to account for the discussion around the German coal phase-out which was suggested by the Commission on Growth, Structural Change and Employment in February 2019. Our data collection stopped shortly before Russia's unlawful full-scale invasion of Ukraine, which had implications on national discourses about coal phase-out, not least in Germany.

We started our data collection by identifying the main arguments against the phase-out or phase-down of coal through a scan of the main actors and documents influencing the public debate in each country. We did so by distilling the arguments from a set of sources that have particular relevance to the discussions in the different countries and thus hold the power to influence the public debate. For each of the countries, we looked at a set of key-actors and, through an online search, identified

¹ According to the Economist Democracy index, these countries are ranked as follows: Germany (15), India (46), Mexico (86), Serbia (63), South Africa (44). Only Germany counts as a “full democracy”, South Africa, India and Serbia count as “flawed democracies”, and Mexico as a “hybrid regime” (i.e. hybrid between democracy and an authoritarian state).

Table 1
Overview of the past, present and future of coal for electricity in the 5 case study countries.

Country	Present Percentage (%) of coal in current electricity generation	Percentage change in electricity generation from coal in 2020, relative to 1990.	Historical development First instances of (commercial) coal mining in the country	Major coal producing regions	Future Phase-out plans
Germany	24	-53,9	18th century	Rheinisches Revier, Lausitzer Revier, Helmstedter Revier, Mitteldeutsches Revier,	Phase out by 2038 Compensation for regions and companies affected
Mexico	4	+16,8	19th century	Municipalities in Coahuila Sabinas, San Juan de Sabinas, Múzquiz, Juarez, Progreso	No explicit phase-out of coal, but commitments to increase clean energies in the national mix (35% by 2024) and a reduction of GHG emissions (50% by 2050)
India	70	+517,1	18th century	Jharkhand, Odisha, Chhattisgarh, West Bengal, Madhya Pradesh	No explicit phase-out of coal. Aims to meet net-zero emissions by 2070 and to meet fifty percent of its electricity requirements from renewable energy sources by 2030.
Serbia	70	-6,2	19th century	Kolubara basin, Kostolac basin	No explicit phase-out of coal but the country foresees a 9.8% reduction in emissions compared to 1990 levels by 2030 (equivalent to a 15% increase in emissions at the time of the commitment.)
South Africa	88	+34,7	19th century	Limpopo province, Mpumalanga province, KwaZulu-Natal, Free State	No explicit phase-out of coal. By 2030, decommission 35 GW (of 42 GW currently operating) of coal-fired power capacity and supply at least 20 GW of the additional 29 GW of electricity needed by 2030 from renewables and gas

Data on% coal in current electricity generation sourced for Germany from Statistisches Bundesamt (Statistisches Bundesamt, 2022), for Mexico from the Global Electricity Review, 2021 (Jones, 2021), for India from the IEA India Energy Outlook 2021 (International Energy Agency, 2021), for Serbia and for South Africa calculated from the IEA electricity information (International Energy Agency, 2022b). Data on percentage change in electricity generation from coal in 2020, relative to 1990 calculated from IEA country profiles.

data, such as grey literature, speeches, interviews, videos, etc. pertaining to the phase-out of coal. We used the following list to identify actors and data:

- 1 If there has been a decision to phase out coal in the country, we start two years before the decision. Else, we start with the current debate.
- 2 When we collected data, we looked at sources in the following order:
 - 1 If applicable: commissions on coal phase-out or energy/climate commissions
 - 2 Main government sources (prime minister/president; ministries concerned with energy, climate, mining, environment or work)
 - 3 Companies involved in energy production from coal
 - 4 Companies involved in coal mining
 - 5 Labour unions involved in the coal industry
 - 6 Other relevant voices (non-unionised coal workers, local populations in coal regions, regional and local politicians. *Non exhaustive but illustrative showcase* of narratives in media, civil society reports)

In total, we looked at 81 arguments made by a variety of actors in the five countries (see Table 2 for an example). The justice dimensions of many of the arguments we encountered are implicit and need to be teased out in the analysis. Our approach does not aim to present a comprehensive analysis of the discourses in the different countries. Instead, we want to provide an overview of the dominant arguments to highlight how justice claims in favour of coal are being constructed in different contexts. For each of the actor groups, we collected arguments from the data until we reached the point of theoretical saturation (Bryman, 2008). After the collection of arguments, we distilled the inherent justice claims of the arguments. These were then categorised according to where (countries) these claims were made, the scale they appeal to (local, regional, national), what institutions and actors have made them and the themes that emerged from each argument (is it technological or developmental etc.). We analysed this data through the framework of climate delay developed by Lamb et al. (2020) (see section

below). This enabled commonalities and differences between the arguments made in the different countries to become visible (Table 2).

4. Theoretical framing

In this section of the article, we describe the different theoretical concepts that are relevant to our research process. These concepts are useful tools for our analysis of the empirical materials from the five case studies. The main bodies of theory that we draw on are discourses of climate delay, scalar interactions and theories of justice in relation to climate change and energy transitions.

4.1. Discourses of climate delay

Lamb et al. (2020) identified common climate delay discourses and developed a typology of the logic underpinning these discourses (Fig. 1). This typology identifies four broad categories: (1) discourses that **redirect responsibility** for action; (2) that push **non-transformative solutions**; (3) that **emphasise the downsides** of action; or (4) that **surrender** to climate change. This paper expands and nuances this understanding of delayed decarbonisation in the context of coal as a specific socio-technical system and sets in conversation with two additional concepts, namely justice and scale (see below).

Table 2
Example of data collection matrix.

Argument/ claims	Example: Coal is a blessing/resource that should be utilised for Economic Empowerment
Category of climate delay	<i>Emphasize the downsides</i>
Where	South Africa
Scale	National
Theme	Developmental
Institutions/ Actors	Government (Mineral Resources, Planning), Business (Minerals Resources Council)
Documents	Mining Charter, National Development Plan 2030,

Specifically, we map here:

- Who is saying something?
- Which delay category do they appeal to?
- Which justice dimension do they invoke?
- Which scale do their claims refer to?

We acknowledge that the “discourses of climate delay” framework has predominantly been applied in a Western and global North context. We are also aware of the polemic undertone of the framework and its accompanying material. This brings with it the danger that all arguments against any form of rapid decarbonisation might be categorised as “delay discourse” and consequently get disqualified irrespective of the potential validity of these arguments. In this research, we attempt to free ourselves of this polemic baggage and treat the framework first and foremost as a mapping tool without far reaching normative implications. We argue that this is possible because even in the original framework most categories are not just fake arguments that aim at delaying climate action per-se. The different discourses of climate delay do not aim to delay action on climate as an end in itself, but rather they serve the purpose of protecting particular (often material) interests, some of which might indeed be justified. Many of the existing categories of the framework have an inherent justice dimension by e.g., appealing to the principle that unnecessary burdens should be avoided if a political goal cannot be reached (*change is impossible*) or that one should not take advantage of others’ effort (*free riding*) or that we need to balance different policy goals (*emphasize the downsides*) in political conflict. Consequently, we refrain from delivering normative judgements when collecting and categorising the different judgement claims here (Fig. 1).

4.2. Scalar interactions

Another element that becomes relevant to the study of debates about coal phase-outs is how scale is engaged and invoked in different claims. The concept of scale is seen as a way of ordering social relations as well as non-human parts of the environment (Smith, 1992). Different types of scales are defined such as spatial, temporal, jurisdictional and institutional and each of these scales has different levels within. For example, a spatial scale (such as global, regional, and local levels) can interplay with a jurisdictional scale (such as local, provincial, national and international government levels). Within scalar research, we identify that there are interactions between levels in a scale as well as between scales themselves. For instance, responsibility for decision-making that relates to coal phase-out may be taken by the local government deciding on local road infrastructure; regional or provincial governance may be responsible for economic development in the region and national government may be responsible for mining permits and carbon emissions. Andonova and Mitchell (2010) recognize that environmental governance has been dramatically rescaled and become increasingly complex and interconnected with respect to the level at which it takes place, the range of actors engaged in it, and the linkages between it and nominally non-environmental issues. As we will highlight in our discussion, this adds complexity to justice claims in the energy transition (Gürtler et al., 2021).

4.3. Justice claims in the coal phase-out

The last theoretical lenses that we use to interrogate arguments for maintaining coal-based activities is justice. Here we consider what

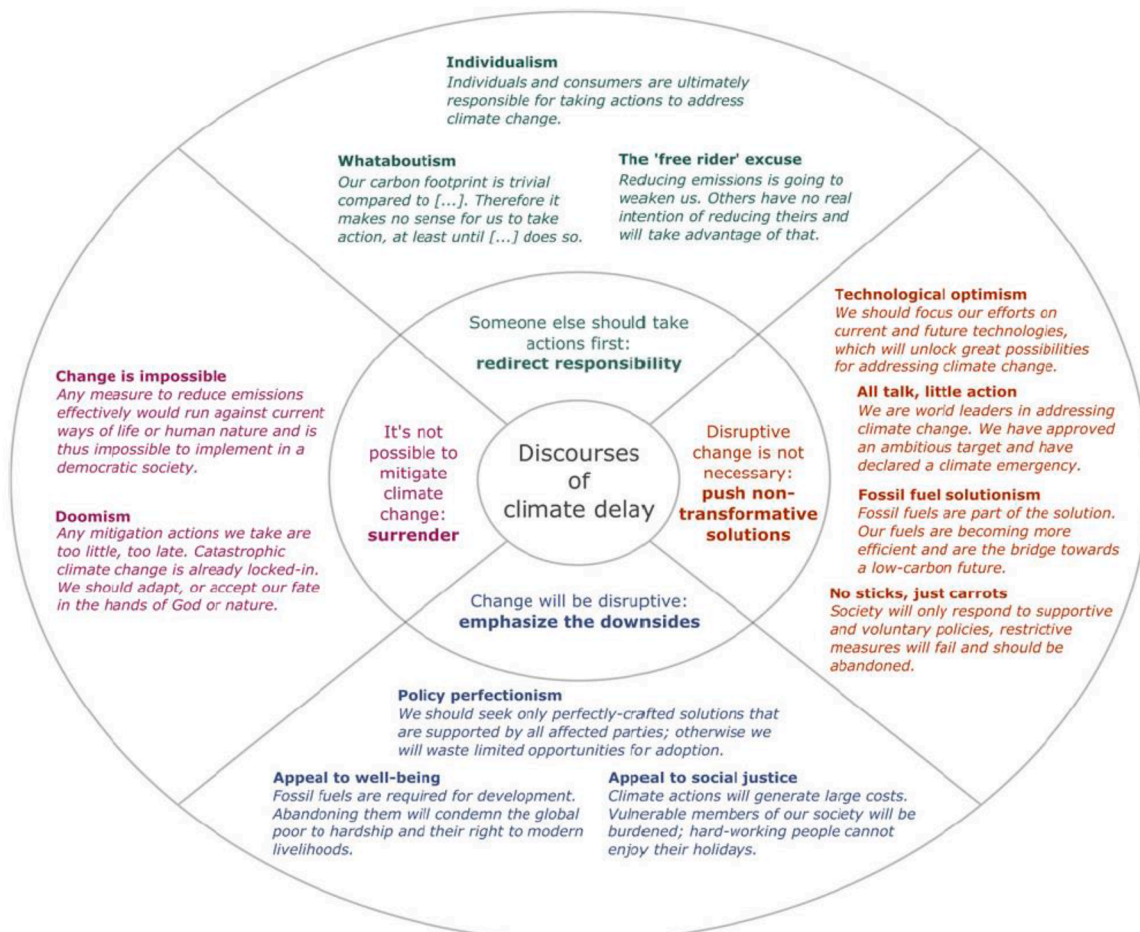


Fig. 1. discourses of climate denial taken from Lamb et al. (2020).

justice claims underlie resistance to a coal phase-out and how these claims allude to calls for fairness and equality (Muttitt and Kartha, 2020). Some of the justice questions that come up are: how can we understand and foster justice when considering past, present and future energy access and production - energy for whom and at what cost? Claims for the maintenance of coal and against a coal phase-out may relate to the distribution of impacts; the procedures by which such decisions are made and whose claims are recognised in the decision-making process (McCauley et al., 2019). These claims may relate to different scales - local employment or global climate change and refer to different institutions and jurisdictions.

Additionally, the notion of transitional justice is relevant to this study of coal phase-out (Klinsky, 2018). It refers to claims to fairness that come up in the energy transition and coal phase-out process. Implementing transitional justice may include a wide range of policies in order to redress injustices caused by a coal phase-out. However when considering transitional justice, the legitimacy and moral grounds of different claims must be interrogated such as the right to extract or the so-called process of grandfathering which may lead to coal lock-ins (Ackerman et al., 1999).

5. Results

In the following, we will present the prevalent arguments against a phase-out of coal in the five different countries. We will proceed country by country and link our results to information from the background Section 2.3.

5.1. Germany

Amongst the countries we investigated, Germany holds a special position. This is because the phase-out of coal has already been set for the year 2038 by the Commission on Growth, Structural Change and Employment, which published its report in 2019. This means that we technically have two data sets for Germany, one from the pre-decisions discourse and one from the post-decision discourse. Not surprisingly, the pre-decision arguments feature much more prominently in our data.

Many of the German justice claims in the debate focus on *emphasising the downsides* of a coal phase-out. A recurring argument is that coal is the main source to ensure energy security in Germany. Both the German government (chancellor and minister of economics) and coal companies raise this point in pre-decision times. However, the argument is still raised by coal companies in post-decision times as a response to calls from researchers and social movements like Fridays for Future for an earlier phase-out date than 2038. The justice implication of this argument stays somewhat implicit. However, the actors refer to the need of ensuring supply to enable the required structural changes in the coal producing regions. The causal link between national energy security and regional structural change remains unclear. A second pre-decision argument against a coal phase-out is affordability. The national government as well as companies argue that a phase-out of coal would lead to higher energy prices for consumers in the whole country. This would eventually put an unacceptable economic burden on citizens in general and poorer households in particular, which would be unjust. In the run-up to the decision on the phase-out, several actors stressed the importance of coal for the economy. While energy companies mainly stressed the importance of coal for certain (disadvantaged) regions, the national government underlined the importance of coal for the national economy. How this importance of coal for the national economy actually plays out in concrete terms stays, however, vague. The claim nevertheless appeals to social justice by referring to the disadvantaged regions who should not be subject to further economic hardship.

In line with *fossil-fuel solutionism*, companies argue that the economic benefits provided by the coal industry are essential to enable the transition to a renewable energy system. This claim comes up both in our pre- as well as in our post-decision data. The central argument is that it

requires an orderly process to transition from one economic activity to another and that this orderly transition would be impossible without the economic benefits provided by coal. Jobs and livelihoods are often repeated reasons against the coal phase-out. It is mainly articulated by companies involved in coal and regional politicians. In essence, it underlines that the sector provides jobs and livelihoods for many people. The claim is often accompanied by concrete numbers of people employed in the sector. E.g. LEAG, the company that runs the Lusatian mines and power plants referred in 2019 to “8000 direct and 16,000 indirect” jobs related to coal mining in the region. The company lists only 7000 jobs on their homepage in 2023. Statistics released by the coal sector claim that in 2022 17,216 people were employed by the sector in Germany, down from 20,336 in 2019, the year the phase-out compromise was reached (Statistik der Kohlenwirtschaft, 2023). However, these numbers must be taken with a grain of salt. Both industry and politics have applied very generous methodologies when counting employment, e.g., including workers who work on the remediation projects of closed open pit mines (Staudt, 2018).

A pre-decision claim is about return on investment. An early coal phase-out would lead to hardship for the companies involved in the sector. In particular, the companies argue, the long-term planning processes for open pit mines which might work with decade-long time horizons make a rapid phase-out particularly damaging to the companies. One of the coal companies warns in the post-decision debate that an earlier and rapid phase-out would inflict damage to the German and European energy system. This claim is not further substantiated, and the nature of this damage remains entirely unclear. In post-decision times, an entirely new argument against an even earlier coal phase-out emerged which falls into the *emphasis the downsides*: Faced with protests by Fridays for Future demonstrators, coal companies stressed the necessity of upholding the rule of law and honouring the compromise the commission had reached. The justice dimension of this argument centres around the principle of legitimate expectations, e.g., the idea that it is unjust if one makes plans and investments based on good faith and these plans suddenly become forbidden and investments worthless (Brown, 2017).

In summary, the claims from the German debate display no *surrender* and no *redirect responsibility* narratives. In connection with *redirect responsibility*, it is worth noting that prior to 2015 e.g., the union IG BCE used to frame German and even European emission cuts as ineffective in face of Chinese emissions growth rates. However, it appears that the Paris agreement has thankfully eliminated such arguments from the German debate. Surprisingly, also a push for non-transformative solutions (e.g. Carbon Capture and Storage or Carbon Capture and Usage) is not present. This means that nearly all claims fall into the category of *emphasize the downsides* which reflects a general social acceptance for a (n eventual) coal phase-out by all relevant actors. Within the category of *emphasize the downsides*, all subcategories (social, developmental and policy perfection) are present. However, the German data also introduces one new subcategory: *the rule of law*. The *rule of law* subcategory is particularly interesting as it came up after the phase-out date was decided. The fact that coal companies defend the decision possibly indicates that the compromise constitutes a good deal for the companies who are allowed to continue using coal until 2038 while also receiving generous compensation payments. Finally, the reference to disadvantaged regions is a reoccurring theme in the German case.

5.2. India

Similar to the other middle-income countries, there is a strong focus on the developmental benefits of coal in India. Social benefits include electricity access and lowering the cost of energy for households as well as jobs. With a growing population, much of India's narrative is focused on the needs of the population and the impossibility of meeting these needs without coal (Roy and Schaffartzik, 2021). This also ties into energy security for the nation and its development. The central justice

argument here is that Indian citizens and the country have a right to develop, especially as India is a country with lower living standards and very low per-head emissions in international comparison.

Economic benefits were also highlighted in terms of revenue generation from privatisation. This was a slightly contrasting narrative from those found in Mexico and South Africa which emphasised public investment in coal.

The Environmental Ministry also justifies the continued growth in coal as a result of approvals already given and commitments to uphold these decisions. This is similar to the *rule of law* discourse in Germany and reflects the justice principle of legitimate expectations (Brown, 2017). To a lesser degree there is a narrative of technology optimism regarding clean coal technology.

In summary, coal in India is framed as a requirement in the face of energy needs of the population. This suggests a discourse of surrender as *change is impossible*. The narrative is less about the losses that will come from a transition away from coal and more about the potential benefits coal might bring to the nation in the future. To a lesser extent, the *emphasize the downsides* narrative is brought up in terms of rising cost of energy and employment. There is also a push for *non-transformative solutions* with clean coal technologies.

5.3. Mexico

Within our sample, Mexico is positioned as a middle-income country (and OECD member) whose coal sector is relatively small in terms of its participation in the national energy matrix. However, coal has been central to the contemporary history of the country and the economic profile of Coahuila, a state that holds 95% of the national coal reserves. For the coal sector, several concerns were raised by communities in Coahuila -particularly older generations- whose livelihoods depend on the continuity of mining and processing activities.

At a national scale, pro-coal measures have been particularly justified after the shortcuts in electricity supply derived from the Texas climate-energy crisis triggered by an unprecedented storm during 2021, which led to temporary cuts of up to 75% in fossil gas exports from Texas to Mexico. This event resulted in the reactivation of two coal power plants in Mexico and a consequent narrative that Mexico must produce energy independently with coal being part of that strategy. As such, discourses at national level largely *emphasize the downsides* of phasing out coal by *appealing to well-being* through securing electricity supply for the nation. These measures have encounter strong criticism from different actors supporting the need of strong climate policies. However, official discourses counter such critiques by *redirecting responsibilities* to major coal consumers and polluters such as China and the United States (Mariano, 2022). With such statements, Mexico reinforces the narrative that the national carbon footprint is relatively small compared to other economies and therefore there is no justification to jeopardise the developmental aims of the country.

Discourses mobilised to regional audiences in Coahuila are aligned with national ones, yet tend to further *emphasize the downsides* of fuelling *disruptive change*. As such, discourses from the president and some national representatives favour the idea that coal should be used throughout the remaining lifetime of coal power plants and until the reserves in Coahuila are depleted (estimated 90 years). Following an anti-neoliberal discourse, the President has stated that Mexico will recover its public energy facilities without violating any climate law. By ensuring that publicly produced electricity will be dispatched, the government will promote the purchase of coal, thus helping coal producers and the continued development of the coal region (Mariano, 2022; *Presidencia de la República*, 2020).

Similarly, national representatives delivering speeches in the State of Coahuila, have emphasised that the country should continue the extraction and usage of coal, otherwise Coahuila's coal region will disappear (Zerrega, 2019). The governor of the state has similarly stated that "people of the State of Coahuila have strongly contributed to the

progress of this country, by working hard and fighting for their rights" (*Presidencia de la República*, 2020). In line with the official narratives *appealing to social justice*, one of the main union leaders in the coal sector has stated that coal-powered plants should continue working because it is the source of jobs for many people (Guardiola, 2017). However, it is worth noting that young generations of Coahuila are trying to look beyond the coal dependency and imagine alternative futures than those experienced by their grandparents and parents (Ballesteros, 2021). The arguments in favour of progress and development might resonate with these new generations who are also experiencing the loss of their families in the recent major accident at the Pinabete coal mine (Vega, 2022).

Summarising the Mexican case, we find that justice claims differ between the national and the regional level. On the national level, we find the *redirect responsibility* discourse, which appeals to the principle that rich nations should decarbonise first. On the regional level, the right to development is invoked.

5.4. Serbia

In Serbia, most of the claims made in favour of delaying a coal phase-out *emphasize the downsides* with a focus on jobs, quality of life for citizens, energy security and the economy (locally and nationally). Considering that Serbia relies mainly on coal for its electricity production, there is a very strong call that the country cannot stop relying on coal in the next 2–3 years. These arguments are made by the President of the country down to local citizens and workers of coal mining areas. The President of the country, Aleksandar Vučić, has been vocal in this argument in international climate negotiations; in meetings with coal workers and mining companies using emotive language to *emphasize the downsides* of coal phase-out. Further arguments emphasising the downsides of a coal phase-out have been put forward on the national level by officials from the Ministry of Mining and Energy. On that note, the claims are articulated in such a way that they elucidate job security issues, suggesting that coal miners, as well as other miners, have been in that sector for generations. Thus, it is often insinuated that the miners lack professional skills that could be used in sectors other than mining, making the energy transition more problematic due to the question of what to do in terms of jobs with those who are currently employed in the mining sector. This turns the arguments into social justice claims.

In a *push for non-transformative solutions*, a set of claims relate to technology optimisation and green growth. Whilst on the one hand there are claims that coal cannot be phased out in the short term; a second set of arguments suggests that with the right technology coal can have a lifespan that would continue even after 2050. Such arguments are frequently given by government officials. Nonetheless, the arguments suggesting the right technology remain undeveloped in practice and vague in discourse. The inherent justice claim here is that a costly and burdensome phase-out is unnecessary and it would, thus, be unjust to impose these costs on the nation in general and communities involved in coal in particular.

Additionally, in practice, a new thermal power plant is close to being finished by the end of 2023, which also indicates little dedication to an energy transition and coal phase-out. Different actors adjust their narratives, according to the situation they find themselves in. For example, when speaking to mining workers, job security is promised, and coal is still presented as the most important energy source needed for the country's development and energy security. In dialogues with EU officials, the Serbian government tends to present itself as an actor dedicated to decarbonisation, ready to work on investments in the energy sector to increase renewables to meet EU requirements as well as on building strategies to ensure a just energy transition. Yet, our research has shown that Serbia's policy landscape lacks acknowledgement of energy transition as an element that has and will have a major impact on the economy and labour market of the country.

To summarise, in Serbia we see that the coal phase-out is mainly hindered by claims that change will be *disruptive* as it has too many

downsides, which arguably justifies the lack of incentive in creating a policy landscape needed for just energy transition in practice.

5.5. South Africa

The majority of claims made against a coal phase out explicitly *emphasized the downsides* of change and how it will be disruptive as a main reason to avoid phasing out coal. This was articulated at different scales (national, regional and local), by banks, national government, and mining businesses. The disruptions noted related to energy security; social justice through job loss; and economic implications at both local and national levels. Additional claims articulated by some trade unions motivated against disruptive change that was not transformative, calling for either radical transformative change that prioritises workers' rights, or no change at all, thus, representing a case of *policy perfectionism*. These were not fundamentally against a coal phase-out, but in practice are against it because of the way it is being carried out in South Africa (privatising and procuring independent rather than state run renewable energy, etc.).

Yet another group of arguments implied that disruptive change should not be required of developing countries, thus, reproducing the *redirecting responsibility* of the framework. Banking on an anti-imperialist agenda, the claim stresses the unfair character of *global inequalities*, thus, creating a new subcategory for the framework. Interestingly, this claim was made by the Ministers of Environment and Mineral Resources and speaks to the justice principle of differentiated responsibility at the international level. The Minister of Environment also mentioned stranded assets thus showing a focus on economic interests based on the justice principle of legitimate expectations. These emphasised a continuation as the "unemotional" choice for South Africa, and framing activists as "emotional" and spouting "rhetoric". The Minister of Mineral Resources at a coal indaba (a coal conference or workshop) went further to suggest that government pursuit of international finance was motivated by "greed" for international climate finance rather than the country's best interests. Closely following this line of argument were claims that disruptive change is not necessary because of technical solutions (clean coal technology, CCS, etc.), thus, pushing *technological optimism*. This was also articulated by the Department of Mineral Resources and Energy and mining businesses as well as the National Union of Mineworkers. A common thread in the many claims was the lack of alternatives to coal mining, either that were "rational" enough or that were transformative enough to justify disruptive change. Here the justice claim rests on the principle that a disruption with insufficient effects should be avoided as it would impose undue burdens on miners and their communities.

Most of the arguments in the South African debate related to the category of *emphasize the downsides* for society, economy and energy security. This is not surprising for a middle-income country that is reliant on cheap electricity to attract foreign direct investment. This came across in comments from both local and national levels with the local concerns expressed in relation to closure or expansion of specific mines. The developmental argument was also extended to the *redirect responsibility* category to other, more "developed" countries. Perhaps the most interesting finding for South Africa was trade unions whose position called for radical transformative change and a just transition. However, in making this argument for systemic change and demanding much more radical climate action they suggest that the current state-owned system would be better to maintain than a privatised system and thus seemingly support the status quo in an all or nothing transition argument. Counterintuitively, this call for exclusively radical changes to the coal sector and rejection of incremental change aligns with the *policy perfectionism* argument.

6. Discussion

In the following we discuss our results in four ways. First, we focus on the nature of the discourses of climate delay we found and reflect on the

analytical framework. Second, make suggestions on how to introduce a global South perspective into the framework on analytical framework. Third, we turn to the implications our results have for thinking about justice in the coal phase-out. Fourth, we revisit the concept of scale and raise justice implications that are caused by scalar complexity.

6.1. The nature of discourses of climate delay

While we found claims banking on all four main categories of climate delay, our results show that most claims fall into the category of *emphasize the downsides* and *push for non-transformative solutions* of the Lamb et al. framework. We want to stress again that we do not aim to pass judgement on the validity of the justice claims we categorised here.

We did not find any indication for outright climate denialism; however, the case of India showed a discourse that is coloured by the *change is impossible* narrative. This reflects a global trend, which has made it increasingly difficult to sell straightforward denialism (Cann and Raymond, 2018). Most of the claims made were from the expected actors such as the Ministries responsible for energy and mining; and workers unions but discourses of climate delay were also presented at the highest levels of government including the Presidents of the countries. An extreme case is the Environmental Ministry in South Africa which made claims *emphasising the downsides* of a coal phase-out (instead of highlighting climate, health or environmental benefits as one would expect of this portfolio).

There is only one instance where we found actors mentioning shareholder value explicitly (India). There has been an implicit reference to shareholder value in the German debate where one of the companies claimed that an early coal phase-out would have "negative consequences for the company", however, the interests of investors do not feature clearly in our data, even though, we found claims related to stranded assets in the data for South Africa and Mexico. At the same time, we found ongoing discussions about the (desired) ownership structure of the coal sector. Like South Africa, an interesting facet of the discussion in Mexico relates to the problems with privatisation of parts of the energy system and the need to maintain public sector investment and involvement in coal. This question has profound implications for what policies can do "to" the coal sector. And it very much defines who pays and who benefits from the status quo and/or transitional policies.

Claims referring to procedural justice were not particularly visible. and the need to uphold the *rule of law* came up in Germany and India where appeals to procedural justice and related legitimate expectations were used to defend the status quo of ongoing coal use (in the case of Germany until 2038) and thus forming a new subcategory in the *emphasize the downsides* category (Fig. 2). In Germany, the legally binding character of the compromise on the phase-out of coal was invoked in post-decision time to counter demands for an earlier end to coal. Ironically, this argument was presented by one of the coal companies (LEAG) who previously had attacked the legitimacy of the coal commission that negotiated the compromise. In the case of India, the government invoked the importance of upholding the rule of law to justify that already issued permits for coal producers could not be withdrawn again. In both cases, violating existing laws is portrayed as an unreasonable transitional cost. Based on the two cases we suggest adding a new subcategory by the name of *rule of law* to the framework's *emphasize the downsides* category.

6.2. Adding a global south perspective

While the Lamb et.al. framework was mainly developed for a global North context, we found it useful for the analysis of cases from the global South, even if the context requires adjustment to make the framework more encompassing. Based on our analysis we suggest two new subcategories to the framework.

First, in the context of Mexico and South Africa, we found a number of claims related to the *redirect responsibility* category. Different actors



Fig. 2. Our suggested addition to the framework developed by Lamb et al. (2020). New sub-category “The rule of law” in brown added to “Emphasize the downsides” category.

direct responsibility to mitigate climate change towards countries with higher emissions and greater financial means. By pointing at low domestic (per-head) emissions, actors in these countries derive a right to emit more from existing *global inequalities* (see Fig. 3).

Second, the South African case produced a second distinct argument from a global South context. The argument rests on the explicit reference to historical carbon debt and the common but differentiated responsibility to first demands action from rich nations who have

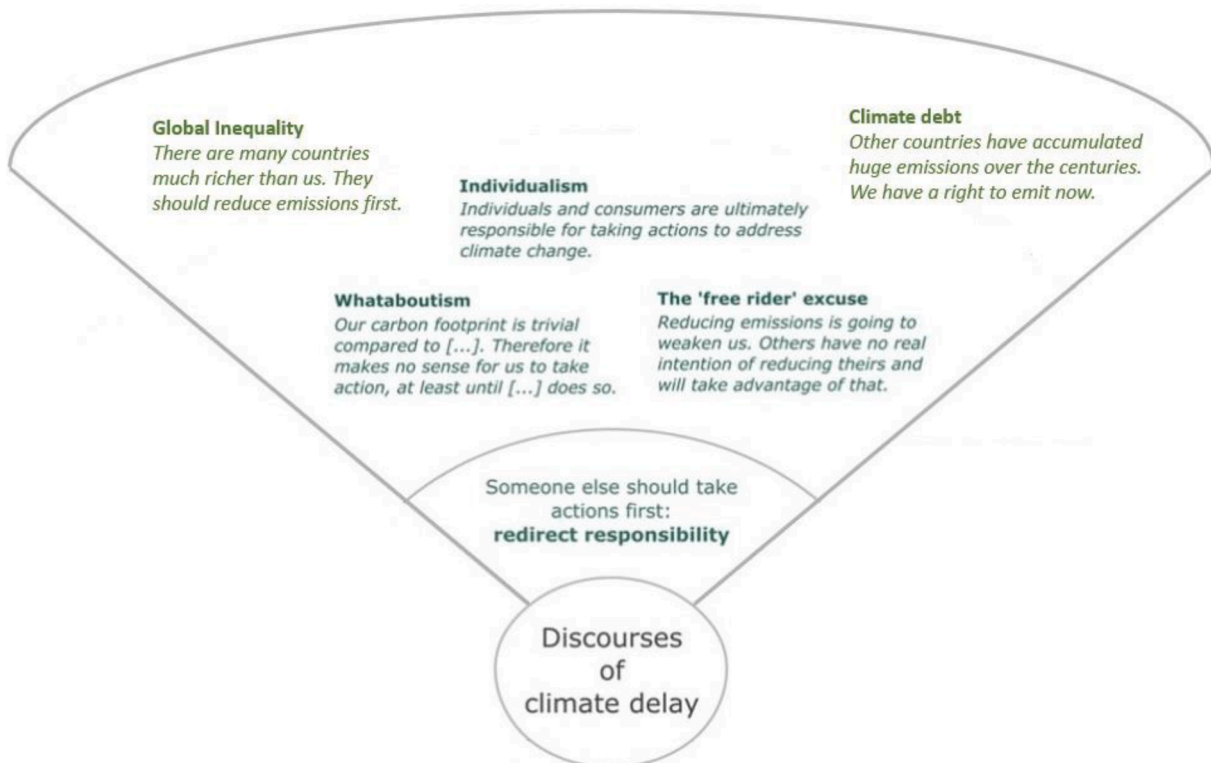


Fig. 3. Our suggested addition to the framework developed by Lamb et al. (2020). New sub-categories “Global Inequality” and “Climate debt” in green added to “Redirect responsibility” category.

contributed much more to climate change in the past. Therefore, we suggest adding a new subcategory by the name of *invoking global carbon debt* to the *redirect responsibility* part of the framework (see Fig. 3).

Both new subcategories are embedded in discourses that problematise global inequalities and they appeal to notions of global climate justice and anticolonial critiques. As mentioned before, we do not aim here to pass judgement on these claims. However, the two new subcategories stress the need to investigate justice claims against a coal phase-out in their respective context. By that we mean that these claims do not exist in a social vacuum. Instead, researchers, activists and politicians alike must consider entanglements in historical injustices when engaging with justice claims against decarbonisation policies (Fig. 3).

6.3. Implications for just transitions

We need to contextualise our findings to work out their importance for policymakers. First, it is worth noting that we did not find any indication for outright climate change denialism. This is a positive sign as it shows that debates between powerful key actors in the investigated countries avoid such lows. It also suggests that science illiteracy is not a serious hurdle on the road to a Just Transition.

Nevertheless, coal is a contested source of energy with a variety of interests attached. The data shows how these interests are framed as justice claims in the public debate. This leads to a situation where decisions on the status of coal are necessarily political. Our data shows that most of the claims made are about material wants and needs based on our current understanding of society. Invoking such wants and needs is an attempt to create legitimacy, and, in extension, public acceptance for coal energy. However, even when something is justified when placed in a specific context, it can be unjustified from a different point of view (Brandstedt et al., 2022). As an example, employment is certainly an important and legitimate claim in a national context but if the employment of a small number of coal workers is dependant on vast emissions, it might be illegitimate in a global (climate justice) context.

When analysing our data through different dimensions of justice, we found that most claims appeal to distributional justice. We found a very strong focus on workers and communities who will be worst affected by the coal phase-out. This suggests a social justice angle in the arguments. Whether this is followed through in reality is hard to say. It, however, shows that these justice claims can, in theory, be addressed by ambitious social policies that centre on the needs of workers in the coal sector and their communities.

Against our expectations, our empirical material did not produce many claims regarding the loss of identity that a coal phase-out would entail for miners. E.g., this claim was part of the wider discourse in Germany (Buchholz, 2021), however, it seems that it was mostly identified as a problem by left-leaning actors such as foundations and think tanks (e.g. the Green party or the Rosa-Luxemburg foundation). Previous research also showed that this has been a topic discussed amongst miners themselves. To a lesser extent, actors link coal to the identity of coal producing regions as is the case of the Mexican State of Coahuila. This discrepancy between the claims raised by workers and the actors we analysed for this research hints that workers' interests are not necessarily a central consideration of opponents of a coal phase-out in the different countries. Policy makers should engage with the "soft" aspects of the Just Transition concept to address this oversight and gain acceptance for the transition amongst miners and their communities.

There is, thus, a need for moral choices to be made in the face of a warming planet. Greater attention should be paid to consequences of political decisions along different scales, in particular the transitional grievances that climate and energy policies may give rise to. The difficulty for society in general and policy makers in particular is now to decide which justice claims to prioritise. Here we turn to the concept of Just Transition and what it might offer to justice claims in the coal phase-out. There has never been a suggestion that a move away from coal is free of its downsides. Instead, there is an acknowledgement

through the Just Transition concept that trade-offs must be made. Put simply, Just Transition strives to alleviate social burdens that occur when environmentally damaging industries have to close. It mainly focuses on the most vulnerable actors in this context, namely, workers and their communities (Harrhill and Douglas, 2019; Newell and Mulvaney, 2013). Our findings indicate that the discourses of climate delay narrow the opportunity for a constructive and serious engagement with the possibilities of a Just Transition. Instead, they allow for the status quo to be maintained through arguments that a just transition to a low-carbon energy system is too costly, not necessary, not possible or an issue for someone else to deal with.

To achieve a Just Transition, policymakers must do two things:

First, it is essential that justice claims are critically interrogated. Part of this interrogation is to carefully scrutinise who makes claims and in whose name. For example, if mining companies claim to speak in the name of their workers, it is worth investigating if these companies have indeed acted in the best interest of their employees in the past. If shareholders, who made a fortune in the past, frame coal as an indispensable tool to deliver energy services, one should see if these needs cannot be met in other, less climate-damaging ways. This investigation can help to differentiate between genuine justice concerns that e.g., strive for global climate justice and pretextual claims made to protect particular interests of profiteers of discourses of climate delay.

Second, if we only focus on these – loudly articulated - downsides of a coal phase-out and uncritically accept them, we risk overlooking the upsides such a phase-out brings about. Apart from contributing to climate change, the status quo of ongoing coal extraction and combustion produces a number of negative impacts for people and the environment, ranging from the destruction of landscapes and settlements by open pit mines to air pollution causing roughly 34.000 premature deaths per year in Europe alone (Kushta et al., 2021). In face of these numbers, it becomes essential that a Just Transition process not only considers the potential justice violations a transition implies but that it also looks at those justice violations that the status quo enables, justifies and normalises. Put differently, a society will not achieve a Just Transition without holding those accountable who benefitted in the past without bearing a burden (e.g. incumbents in the energy market, shareholders). However, those opposing a (earlier) phase-out of coal benefit from a political status quo bias (Zhao and Luo, 2021) in the form of different discursive and ideological lock-ins (Buschmann and Oels, 2019; Kraushaar-Friesen and Busch, 2020). These lock-ins limit the range of what is politically imaginable or desirable. This is problematic in the context of the different cases we presented here, as all countries are nominally democracies where long-term societal change such as a Just Transition project ideally is ultimately dependant on public acceptance. Our results show that the majority of justice claims are in the category of *emphasize the downsides*. They refer explicitly to questions of distributional justice, which opens the door for overcoming resistance to a coal phase-out by policies of redistribution. This underlines the importance of a combination of a) policy packages that alleviate the burden on the most vulnerable who are affected negatively by the transition and b) the skilful crafting of a political narrative that can refute some of the justice claims that will inevitably be made by actors such as incumbents, by e.g., pointing at the societal benefits and justice gains that stem from eliminating coal from the energy system.

6.4. Revisiting scale

We found that many proponents of continued use of coal appeal to different scales. From a scalar point of view, the *emphasize the downsides* narrative was framed in terms of local, regional and national injustices, often referring back to energy security and developmental needs. Oftentimes, local or even individual energy needs are tied back to an agenda of energy security, thus, discursively jumping scale and embedding the citizen into a wider national context. Only once was this argument extended beyond national borders when a German coal

company mentioned “damage to the European energy system” as a negative side effect of a “premature” coal phase-out. The global scale was invoked in the context of a climate justice argument. Actors in India and South Africa used global climate injustices as a means to *redirect responsibility* towards more developed countries who have a) higher historical carbon debts and b) more financial means to implement climate friendly energy solutions. This approach shows how the principle of common but differentiated responsibilities (Stone, 2004) is invoked to perpetuate carbon intense energy systems.

This flexible use of scale can become a problem for Just Transition policy packages as they usually take a specific scale as their point of reference. For example, in the case of Germany, Just Transition policies (financial compensation) were mainly directed at involved companies and the Federal States where coal mining takes place. While these payments can potentially pacify local and regional opposition to a coal phase-out, they are not designed to address e.g. justice claims related to the negative impacts on the European energy system. Consequently, policy makers need to consider scale when designing and/or justifying their Just Transition policy packages.

7. Conclusion

In this paper, we have investigated the ways different actors in five countries make justice claims against a coal phase-out. We found that claims are invoked that relate to different scales from local via regional and the nation up to the transnational scale (Europe). Our analysis drew on the discourses of climate delay framework by Lamb et al. (2020). The framework served the purpose of this research well in that it helped to categorise different claims. Based on our findings we suggest expanding the framework by three new subcategories, namely, the *rule of law* as part of the *emphasize the downsides* category and the *global inequality* and the *climate debt* as part of the *redirect responsibility* category.

Overall, the disruptive impact of the phase-out was the most significant concern expressed in different justice claims. The justice claims often centred around social justice, such as loss of jobs, energy access and accessibility as well as economic benefits more generally. This reasoning does also not take into consideration the devastating socio-ecological impacts if we do not meet the goals of the Paris agreement. Whilst all the claims had a material basis, it is difficult to assess in the scope of this paper whether the rhetoric was for political reasons or real social justice concerns. Given the track record of some of the countries with social and environmental injustices and human rights violations, we can only speculate that it is for the former reason.

Regardless of the motivations against a coal-phase out, the paper shows that the justice claims stressing negative consequences at national and local levels seem to be pitted against the positive consequence of decarbonisation along scales. In order to navigate a just transition, there is therefore a need to go deeper into justice claims and their discursive justification and the question who makes trade-offs between them.

Declaration of Competing Interest

We report no conflict of interest.

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