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Institutionalising decarbonisation in South Africa: navigating climate mitigation and socio-economic transformation

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ABSTRACT

Strong climate institutional governance is necessary for countries to meet their international climate mitigation commitments. This article shows that while South Africa steadily created climate institutions up to 2011, these failed to take hold in the following years. Also, despite the systemically critical energy sector dominating the emissions profile, these climate institutions had no purchase over it. This situation is largely due to South Africa's political economy of energy, which gave powerful actors the sustained ability to block meaningful institutionalisation of decarbonisation in the energy sector. As a result, South Africa's climate institutions play few of the roles expected for successful institutionalization of climate action, with energy institutions instead playing a shadow climate governance role. This case suggests that conceptions of climate institutional governance in countries where single sectors dominate in emissions and power must accommodate the roles of institutions affecting climate outcomes despite this not being their primary objective.

KEYWORDS South Africa; climate institutions; minerals-energy complex; just transition; socio-economic transformation

The Paris Agreement on Climate Change breaks with most international treaties in focusing primarily on national ambitions to be achieved through national institutions (Falkner 2016). Emerging powers, including South Africa, have been at the centre of this shift from top-down to bottom-up approaches, insisting that their national development ambitions must shape any international commitments to greenhouse gas (GHG) emission mitigation (Nelson 2016). Wherever climate institutions are found, at the international or national level, there are difficult governance challenges to be solved. Yet, there is little literature about the origins and functioning of national

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climate institutions, as opposed to policies, and even less about such institutions in developing countries like South Africa.

What is a climate institution? As an introduction to this special issue notes, the answer is not obvious. Both words in the phrase introduce potentially divergent understandings. The academic literature on institutions has long been divided. A narrow view identifies formal, especially governmental, agencies and organizations as the most relevant institutions. This is countered by a broader understanding of institutions as decision-making centres and locations of authority of various kinds (Ostrom 2010, Carlisle and Gruby 2019), captured in concepts like polycentricity, which is increasingly used in the context of climate governance (e.g. Jordan *et al.* 2018, pp. 8–9). Here, we follow the focus of the special issue, on the role of the state in mediating polycentric climate governance (Dubash 2021).

Similarly, are climate institutions those with specific aims and mandates to act on climate issues or are they the broader set of institutions whose actions have an impact on climate outcomes? Our exploration of the institutions that are important for shaping climate governance in South Africa over the past 25 years suggests that, in this arguably extreme case, an appreciation of the latter is critical to understanding the process of institutionalising climate considerations more widely (Dubash 2021). As such, we suggest that theories of climate institutional governance must be capable of considering how climate considerations are layered onto institutions that do not have climate as their primary objective – and which may even have anti-climate orientation – which we call 'institutionalising decarbonisation'. A deep re-orientation of institutional structures in key areas must be within theoretical reach.

The introduction to this special issue also identifies three key governance challenges for any climate institutions that emerge (Dubash 2021). Here, we describe them and sketch how the South African context may modify how they are approached. An overarching theme is that deliberate South African institution-building in the climate arena has often reflected the narrow conception of what climate institutions might be – creating isolated government institutions with narrow, climate-constrained mandates – that then fail to meet the governance challenges and thus have little purchase on actual climate outcomes.

The first climate governance challenge is that climate institutions must somehow cover the scope and scale of the climate problem itself, which is notoriously multi-faceted and long-term. Traditional views of climate governance foreground the importance of strategic coordination across the many sectors influenced by climate change. Centralising institutions and economy-wide measures are seen as critical solutions to this coordination problem (Candel and Biesbroek 2016). Conversely, governance concepts like polycentricity stress that a system of multiple and partially overlapping

institutions can provide more resilient approaches to governing a problem of the scope and scale of climate change (Carlisle and Gruby 2019). We argue that South Africa's political economy challenges these common understandings. Economic power and responsibility for greenhouse gas (GHG) emissions in the country are concentrated to an unusual extent in a small number of fossil fuel-based actors (Baker *et al.* 2014), with 84% of historical emissions in the energy sector. Thus, addressing the scope and scale of climate change is mostly about reorientating a single, very-important economic sector dominated by a few powerful actors.

The second climate governance challenge is that climate institutions must be able to set and meet targets that are ambitious enough to achieve a decarbonization transformation. This is difficult for any country and made more challenging by the concentration of emissions and powerful actors in the South African energy sector, as well as by the country's particular history of racial exclusion.

The first two challenges generate a third, that of structuring interest politics in ways that reinforce future climate action (Mildenberger 2020). A growing research agenda examines how interest politics can set a path dependency that reinforces the status quo or reorientates towards climate transformation (Lockwood *et al.* 2017, Stokes 2020). Achieving this typically requires some combination of compelling narrative construction (Jinnah 2017) and/or motivating the willing participation of potential climate losers and other powerful actors. In South Africa, this challenge is again primarily confronted in the energy sector.

Beyond looking at the outcomes of climate institutional governance, this special issue project also examines how this governance evolves, tracing path dependencies and critical junctures. These are shown here in three historical stages in South Africa. Following the framework of this special issue, we note the impact of several major historical sources of continuity, in national bureaucratic configurations and dominant interest structures (Lockwood *et al.* 2017, Mildenberger 2020) whose roots lie in the country's colonial and apartheid past. For setting off critical junctures and spurring national action on global concerns, international agenda-setting processes were often important (Frank *et al.* 2000). At the same time, the powerful actors in the African National Congress (ANC), including national presidents, were playing a two-level game (Putnam 1988). Even as they asserted the country's moral authority abroad, promoting climate action, they have been engaged in more complicated struggles within the country. As elsewhere, framing processes offered meanings and causal analysis to political participants, shaping narratives that can motivate a strong role for climate institutions – or not (Jinnah 2017).

The article is based on field research since 2013 by both authors; we conducted nearly 50 open-ended interviews with members of South Africa's energy

and climate communities. Expert interviewees were based in relevant government agencies, non-governmental institutions, and industry sectors. One of us could also add insights from her long-term experience as a South African climate mitigation policy practitioner. Government documents help to supplement the information from these primary sources.

Climate change in South Africa: a background

The overwhelming majority of South Africa's national GHG emissions come from the energy sector, with coal-based electricity and heat production accounting for almost half of those (see Figure 1). The electricity utility Eskom, a vertically integrated state-owned entity, still has a near-monopoly on electricity generation. Sasol, a synthetic liquid fuels company, contributes about 11% of the emissions. Between them, these two powerful actors have been responsible for more than half of South Africa's GHG emissions. On the other side of the equation, 28 firms in the Energy Intensive Users Group consume 40% of the country's electricity supply.[1]

Collectively, these actors are central figures in a national political economy termed the 'Minerals-Energy Complex' (MEC), which was initiated in the colonial years and entrenched during apartheid (Fine, Ben and Zavareh

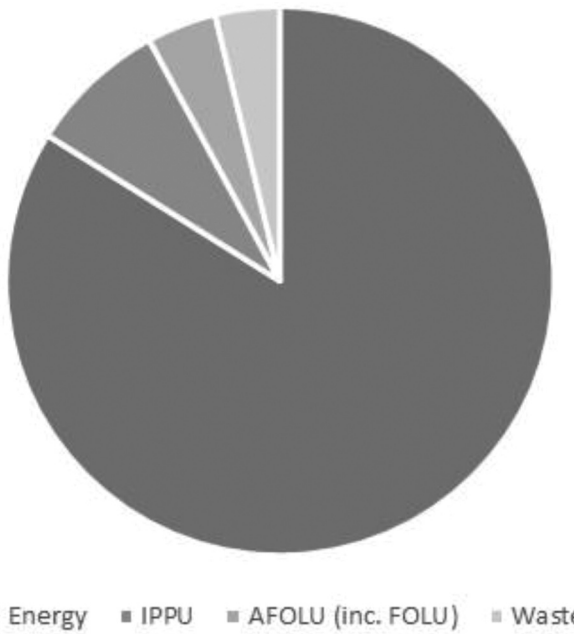

Figure 1. South Africa's net 2015 greenhouse gas emissions (Department of Environmental Affairs 2019).

Rustomjee 1996). The MEC favours large industry and cheap large-tech energy for exploiting the country's mineral wealth, powered through coal and some nuclear technologies. It is concentrated in pockets of the ANC, government, the energy and mining sectors, the military and heavy industry.[2] The monopolistic electricity sector structure was legitimated post-apartheid by its ability to advance the objectives of racial transformation and redistributive development (Ting and Byrne 2020) with a dual developmental mandate of powering the energy-intensive economy and electrifying previously disadvantaged areas. As state-owned entity, Eskom has been central to balancing the interests of state and business within the MEC, as well as the interests of Labour and factions within the ANC itself. Presidential powers are impacted by what they do with energy institutions. As with most things South African, the MEC is racially profiled: black Africans participated historically only as 'cheap and unskilled labour' (Trollip 2020, p. 28). Post-democracy, a black political elite gained access to rent-seeking in the electricity and coal sectors (Trollip 2020). Whilst we acknowledge the MEC's ongoing evolution in the South African economy (Ting and Byrne 2020), we use it in this article to highlight the country's very particular energy path dependency.

Given the dominance of the liberating ANC party since democracy in 1994, climate change has not been an electoral issue in South Africa. Instead, climate change is tackled inside the party leadership circle and bureaucracy, including Eskom. Interest structures, and especially the ANC's historic ties to the labour movement, are influential in those sites as well as in specific consultative and planning institutions like the National Economic Development and Labour Council (NEDLAC) and the National Planning Commission (Beresford 2016).

South Africa's colonial and apartheid history has resulted in critical needs for poverty and inequality alleviation that still depend on racial transformation of the economy. As one of the world's most unequal countries, this inequality is racially profiled and replicated throughout its energy sector (Hochstetler 2021). So, whilst racial transformation and equality are not always central components of climate politics, they are in South Africa. Exacerbating this situation is the deep ideological divide around the choice of economic model to achieve this transformation. Unresolved at the time of the country's democratic transition, the division continues to fester and confound South Africa's progress. In a perverse version of these imperatives, the Zuma administration (2009–2018) used the domestic demands for racial transformation as part of a cover for a state capture project that targeted national energy institutions for patronage and personal profit (Chipkin, Ivor and Mark Swilling 2017, Trollip 2020).

Three historical stages of climate institutions: international impulses, national initiatives, and motivating frames

This section of the article traces the development of South Africa's climate institutional governance over time. After an early and ambitious phase of building climate institutions that was prompted by international negotiations (2005–2011), resistance from domestic actors with vested interests in the burgeoning state capture endeavour stymied advances in institutionalising decarbonisation in a second phase (2012–2018). A change in government in 2018 enabled a renewed societal initiative to seek a transformative transition in the energy sector and beyond. Climate institutions themselves are still incipient, but the just transition framing together with the competitive economics of renewables offer a first real possibility of institutionalising decarbonisation in the critical energy sector.

Stage 1: international impetus (2005–2011)

International processes

Early international climate negotiations unfolded alongside South Africa's democratic transition, and thus represented one of the first opportunities for South Africa to move from an international pariah to a 'responsible' international participant, albeit one that also newly claimed the status of 'developing country' (Masters 2011). The frame for this period is observed in a quote from the Department of Environment, which accepted the country's 'moral as well as legal obligations . . . to contributing its fair share to the global GHG mitigation effort' (Department of Environmental Affairs 2011a, p. 24).[3] South African unions joined some of the first international labour discussions that spoke of just transitions, in 1999, where a just transition was identified with decent work, poverty eradication and environmental sustainability (Stevis *et al.* 2020, pp. 12–13). However, in the classic fashion of the two-level game, these international proclamations lacked a strong domestic counterpart.

The international process motivated the first steps to building climate institutions. The primary climate institution in this period was the Department of Environment, which created an early stakeholder consultation platform, the National Climate Change Committee, in 1994. In this stage, its climate action closely followed international timetables and frames, as did its bureaucratic organization. For the first decade, the Department had only 1.75 staff working on climate change, but a specialist international negotiating unit was added in 2004 with three times more staff than the domestic policy unit (Department of Environment, Forestry, and Fisheries, 2019). In 2005, a Chief Directorate for Air Quality Management and Climate Change was added, becoming increasingly technocratic and expertise-oriented (Chandrashekeran *et al.* 2017).

The long term mitigation scenario planning process

This increasingly technocratic focus allowed the Department of Environment to start addressing the target-setting challenge. It compiled a first emissions inventory in 2002, a climate change response strategy in 2004, and included 600 participants in a 2005 'Climate Action Now' conference that really launched its climate agenda (Lukey 2020, pp. 4–6). With a Cabinet mandate, the Department also invited scientists, civil society, labour and business – even Eskom – to launch an evidence-based Long-Term Mitigation Scenario (LTMS) planning process, conducted in 2006/7 (Raubenheimer 2011). The report revealed that, contrary to dominant thinking within the country at the time, South Africa had a significant role to play in mitigation.

Cabinet confirmed these findings by announcing a GHG 'peak, plateau and decline trajectory range' to 2050 (Van Schalkwyk 2008). In a surprise announcement in Copenhagen, President Zuma committed to this trajectory internationally, strongly indicating climate ambition despite the fact that a consultative climate summit earlier that year had not found consensus on key issues like the country's energy mix or a carbon tax (Lukey 2020, p. 12). Nonetheless, this position was reiterated at the Conference of Parties South Africa hosted in Durban in 2011. Post-LTMS, an Inter-Governmental Climate Change Committee was established in 2008 to co-ordinate across the levels of government. Cabinet also approved an Inter-Ministerial Committee on Climate Change in 2009 to coordinate the national bureaucracy (Giordano *et al.* 2011). Together with the long-standing National Climate Change Committee, these bodies produced the 2011 National Climate Change Response White Paper.

This apparently smooth advance is difficult to understand in the South Africa we have described, but the critical juncture of the LTMS process arose from different locations. The LTMS itself arose from an internationally oriented policy window, engineered by policy entrepreneurs in the Department of Environment (Tyler and Torres Gunfaus 2017). The Department's international negotiating team was well led,[4] capacitated and forward thinking, and connected to a network of strong domestic research institutions (Raubenheimer 2011). In addition, the ANC afforded political legitimacy through a progressive declaration on climate change at its National Conference in 2007, following the party's moral tradition in international relations and pressure from its African neighbours (Masters 2011). A national red-green coalition of labour and environmentalists led their international counterparts in pressuring governments for more climate action at the Durban conference (Cock 2012).

Renewable energy

Domestic-facing policies, though, never matched up to the international-facing ones. In particular, the need for transformative changes in the energy sector was not made visible. A 'status quo' approach predominated, with a background assumption that 'a radical change of the socio-economic and

political chessboard is not necessary and that market forces and business will drive the change' (Forti 2013, p. 3). The LTMS was presented as a 'policy informing' rather than 'policy prescriptive' exercise, so MEC participants did not anticipate early implementation (Tyler and Torres Gunfaus 2017). Its findings did not highlight the need for an energy transition and redistributive development, nor that there would be losers.

South Africa did, however, begin taking some initial, hesitant steps toward renewable energy in this stage. A new Renewable Energy Independent Power Producers Procurement Programme (REIPPPP) allowed private generators to bid in competitive auctions to supply renewable energy to the national electricity grid (Hochstetler 2021, pp. 47–48). In South Africa's first long-term electricity plan developed outside of Eskom, the Integrated Resource Plan (IRP) 2010, costly renewable energy was included because of what it could contribute to South African industry and skills development (Department of Energy 2011, p. 8). Bidders in the REIPPPP were judged on both cost and what they could contribute to South Africa's economic transformation through local content used, jobs and ownership shares for black South Africans, and other benefits offered to local communities (Tait *et al.* 2013). The IRP 2010 included a carbon constraint allocating a grandfathered portion of the Peak, Plateau and Decline trajectory to electricity generation, and noted that the new nuclear and renewable energy in the plan would help South Africa meet its climate mitigation obligations.

However, there was no institutional mechanism where climate and energy domains were engaged on an equal footing. The IRP process itself was institutionally disconnected from the climate process, with major roles played by Eskom and the Energy Intensive Users Group (Department of Energy 2011).[5] Exactly concurrently with the LTMS, the REIPPPP, and Zuma's Copenhagen Pledge, Eskom was finalizing plans to build two of the world's largest coal-powered plants, revealing how little the utility had been influenced by the climate agenda. The government's preferred low carbon technology at the time remained nuclear, aligned with the MEC's large-tech mining fundamentals.[6] This conveniently also fit with Zuma's preference for a large nuclear deal with Russia, which he pushed throughout his administrations (Chipkin, Ivor and Mark Swilling 2017). The prominence of Eskom in all these plans reflected its role both in intra-ANC politics. As the patronage network made inroads, the institution rapidly weakened, driven by extractive management, unsupportive tariffs, increasingly precarious electricity supply, and the costs of the two coal mega-projects.

Climate institutions had little influence over these energy decisions. Notably, the Inter-Ministerial Committee on Climate Change did not include the Ministry of Energy, Treasury, or Eskom, three of the most powerful and mitigation-relevant governmental actors (Giordano *et al.* 2011, p. 18). This was an institutional manifestation of energy policy and plans unfolding

according to their own logics, quite independent from climate logic. This institutional configuration had implications beyond the energy sector. Treasury had been developing a carbon tax since 2006, driven primarily by its constitutional mandate over tax policy and international developments in the environmental pricing arena as opposed to developments in climate policy.[7] As a result, none of the initiatives of this period offered an economy-wide perspective that could bridge climate and energy issues, create equitable transformation, or permeate path-dependent energy sector logics.

Stage 2: national initiatives (2012–2018)

In Stage 2, even the uneven progress of Stage 1 was largely halted. Different departments drew on their own networks and cognitive maps to present alternatives for implementation of the Stage 1 policy positions, but little progress was made in unsettling energy sector logics. The Inter-Ministerial Committee went undeveloped, and the carbon tax inched through many periods of revision. The MEC actors showed less coordinated action at this stage, but all found different ways to challenge climate action. The unpredictable Zuma administration drew on narratives such as green economy and equitable transformation in its effort to retain broad appeal and obscure its main focus on rent extraction. Retrospectively, the assertion can be made that the stage's main organizing theme was Zuma's state capture project to privately gain from Eskom's building of nuclear power and coal procurement, but this was not always apparent in the moment (Chipkin, Ivor and Mark Swilling 2017, Trollip 2020).

Climate policy implementation flounders

The formal climate institutions created in Stage 1 left a political vacuum in Stage 2. After supporting South Africa's hosting of the Durban Conference of the Parties, the Inter-Ministerial Committee appears to have ceased operating. In its stead, the Department of Environment used bilateral meetings and regular Cabinet processes to advance the climate agenda through receptive line ministries. These were important, but the climate agenda lacked the energy centrepiece needed for effective action given the disengagement of the energy ministry.[8] The Inter-Governmental Committee continued to hold some meetings after 2011, but with low-level participants who did not have the remit to take decisions.[9] South Africa's biennial reports to the UNFCCC continued to report on the existence of these climate institutions without any record of their actions (e.g. Department of Environmental Affairs 2017).

The timeframes for policy implementation set out in the 2011 White Paper were therefore not met. Treasury continued to work on its carbon tax independently of the Department of Environment's 'command and control' carbon budgets. The existence of two unaligned economy-wide mitigation instruments allowed the MEC to delay and weaken the tax in

this stage.[10] The Energy Intensive Users Group called the prospect of a tax a 'looming Sword of Damocles for investors', noting that it made little sense in South Africa where no electricity options existed outside Eskom, a position supported by the Department of Trade and Industry against its fellow ministry.[11] As a regulated utility, Eskom would just pass the tax through to consumers (Rennkamp 2019).

As before, the Department of Environment was most successful in continuing to meet its international obligations: reporting to the UNFCCC, updating its GHG emissions inventories, and preparing a Nationally Determined Contribution (NDC) for the 2015 Paris Agreement. The NDC was notable for committing to an absolute economy-wide emissions reduction target range, although this again came without societal consensus and minimal implementation.

3. *The electricity sector*

Load-shedding after 2007 and the resulting sharp rise in electricity prices caused Eskom to renege on its dual developmental mandate of Stage 1. Questions about the right generation mix and particularly who would build it – Eskom (coal and nuclear), or independent power producers (renewables and some coal) – echoed the underlying ideological differences around South Africa's model of economic development. They set off a political conflagration that dominated this stage, erratically fanned by the state capture project, and wholly out of the control of climate institutions.

The IRP of Stage 1, which represented an 'all-of-the-above' strategy, calling for more renewables, nuclear- and coal-based electricity, was meant to be updated every 2 years. However, Stage 2 saw repeated new drafts that could not muster enough political support for adoption (Hochstetler 2021, pp. 46–47). Each of these drafts included dramatically different estimates for the quantities of different kinds of electricity needed. At the heart of the issue was the question of who would build it, with proponents for each technology claiming publicly that their choice responded to the growing pressure for redistributive economic transformation, although rent-seeking was also a major driver.

During this stage, the REIPPPP developed in ways that reflected the underlying ideological divisions. There was a stunningly quick drop in prices, following both global developments in renewables pricing and the high levels of competition in South Africa's auctions (Bayer *et al.* 2018). For price-sensitive actors like the Energy Intensive Users Group, this development started to transform their orientation to renewable energy.[12] In 2014, the REIPPPP also delivered 84% of South Africa's total foreign direct investment, drawing positive attention from the Ministers of Energy and Economic Development, but alarm from Eskom.[13] However, even as costs

dropped, the REIPPPP failed to deliver a black-owned renewable energy sector, with international firms increasingly likely to win the auctions (Bayer *et al.* 2018, pp. 320–321), and it was correspondingly viewed as an 'exclusive club'.[14] While winning bids were required to create jobs for South Africans, the labour movement wanted public sector jobs in electricity and debated the gains (Cloete 2018). Despite a promising start, the incipient manufacturing industry was undermined by infighting and increasing uncertainty over the programme's future after 2015 (Hochstetler 2021, pp. 121–124). Those involved in the state capture exploited these weaknesses and used the inflammatory rhetoric of 'White Monopoly Capital' to further turn organized labour against the technology (Chipkin, Ivor and Mark Swilling 2017).[15] Ultimately, Eskom simply refused to sign contracts with winners of the fourth REIPPPP round from 2016.

State capture deepens coal path dependency

During this stage the Zuma administration increasingly focused on utilising the country's coal resources for illegal rent extraction, exploiting the weakness of the electricity sector's monopolistic institutional form. Extensive documents and testimony have since shown that a small group around Zuma had personal interests in the looting of Eskom, with facilitators inside the institution (Eberhard and Godinho 2017).[16] Other state capture arrangements were built around coal supply contracts (Trollip 2020, p. 19). The Zuma administration, Eskom, and organized labour all continued to support the monopolistic model for the electricity sector during this period, touting expensive nuclear power,[17] albeit for different underlying reasons.

The most effective resistance to state capture in the energy sector came from civil society groups, who were able to use court cases to temporarily halt nuclear and coal projects, often on procedural grounds (Hochstetler 2021, pp. 51–53). The Life After Coal Campaign cast its efforts in the language of just transition, echoing early efforts by the labour movement.

Due to the state capture project, the Presidency, Cabinet, Parliament and NEDLAC, together with the ANC itself, were tremendously weakened and distracted in Stage 2. None of these institutions championed decarbonisation from a strategic and systemic perspective, hampering both the Department of Environment and Treasury, which relied on them for policy legitimation[18]. Climate institutionalisation continued to be championed most consistently by the politically weak Department of Environment. Meanwhile, the systemically critical energy sector remained anti-mitigation. Given the lack of an effective Inter-Ministerial Climate Committee during this stage, together with the deeply entrenched carbon-intensive logics of the energy sector, this state of affairs is unsurprising.

Stage 3: motivating frames (2018-present)

The third stage of climate institutionalisation began when Cyril Ramaphosa managed to best Jacob Zuma to secure the ANC Presidency in 2018. Ramaphosa, in power by a slim margin, inherited an ANC still largely beholden to the state capture lobby of the Zuma era, and a suite of eroded national institutions, chief among which was Eskom. He immediately set to work shoring these up. Whilst Ramaphosa regularly pronounces a supportive position on climate change and is slowly dismantling the state capture project, his re-combining of the Departments of Mineral Resources and Energy and appointment of a coal enthusiast as minister have undermined his ability to implement his own rhetoric. His political fragility is a feature of his presidency, acting as a profound constraint on energy sector reform. Internationally, he continued to advance the ANC's ambitious position on climate change (e.g. Ramaphosa 2019), but with the usual different emphasis for a domestic audience.

Signs of progress on developing climate institutions

In this stage, Treasury's dogged efforts finally resulted in a weakened version of the carbon tax (mid-2019). The Department of Environment released a draft Climate Change Bill for public comment in 2018 (Department of Environmental Affairs 2018). The draft (re) establishes the Inter-Ministerial Committee on Climate Change, but with the crucial inclusion of the Energy, Public Enterprises (Eskom's stakeholder) and Treasury Ministers in the quorum. Mechanisms are identified to take on the climate change co-ordination role at the Provincial and Municipal level. The Bill has yet to be promulgated, delaying its implementation. Still, it would be the first time that a formal climate institution includes the critical energy sector directly. In 2020, the Department also published a Low Emissions Development Strategy as required by the international policy process, indicating ambition to set a net zero carbon target for 2050.

Electricity, Eskom and renewables

In the energy arena, Eskom was forced to sign the outstanding REIPPPP contracts soon after Ramaphosa won the ANC presidency. An updated version of the IRP was finally adopted in 2019, including significant renewables generation as Eskom's coal fleet retires (Hochstetler 2021). This is a win for institutionalising decarbonisation, linked to the plummeting cost of renewables and storage. Nevertheless, the fossil fuel path dependencies remain: the IRP 2019 simultaneously includes new coal and nuclear at a cost premium, and little has been done to support the requisite institutional

reform in the sector to realise the renewables opportunity. Eskom itself received a new Chief Executive at the end of 2019 who has assertively pushed a reformist and green agenda, arguing that both are required to restore security of supply at least cost to the economy. De Ruyter's approach is increasingly oppositional to the Energy Department's anti-reformist stance and dogged pursuit of nuclear and gas that the energy regulator echoes. Thus, even though the energy sector is now to be represented in the Inter-Ministerial Climate Change Committee, this is no guarantee of the sector's decarbonisation.

The rise of multi-centric climate governance

Outside of government, Phase 3 has seen a marked increase in energy-climate related activity. In the courts in 2020, the Life After Coal campaign successfully overturned the Department of Environment's environmental authorisation of a new coal-fired power plant.[19] In the same year, municipalities won the right to generate their own power as opposed to relying on Eskom. Increasing concern around the environmental, social, and governance profiles of investor portfolios has prompted an acceleration of both domestic and international financiers moving away from fossil fuels.

These initiatives demonstrate an increasingly complex and multi-centric governance of climate-related issues. It is, however, not clear how far the combination of such interventions can go in the absence of an enabling energy policy and institutional forms. It is also even less clear that they will deliver on South Africa's all important social and racial transformation agenda.

The rise of the just transition narrative

That said, Stage 3 has also seen the meteoric rise of the just transition narrative in South African policy circles, particularly in the electricity sector.[20] This is significant because the narrative is strongly located in energy; is primarily about the domestic objective of redistributive development; and can position climate action as the co-benefit to this. Organised labour is credited with taking the term into Ramaphosa's 2018 Job's Summit, hosted by NEDLAC, which had been experiencing a comeback as a relevant consultative body for primarily business and labour.[21] The Summit proposed a Presidential Co-ordinating Commission on Climate Change 'to coordinate and oversee the Just Transition, including how to maximise the opportunities for jobs' (Republic of South Africa 2018, p. 42). A National Planning Commission consultative conference mid-2019 endorsed the Presidential Commission to drive this (National Planning Commission 2019), and an

updated draft of the Climate Change Bill emerging from NEDLAC in 2020 included the Commission as an advisory body comprised of both government and social stakeholders. Commissioners were appointed late 2020.

Taken together, developments in this third stage are both promising and unconvincing in equal measure. Whilst the National Planning Commission and NEDLAC Agreements have generated implicit decarbonisation frameworks and advisory bodies based on the just transition narrative with broad support, they continue to be countered by a status quo coalition of stronger institutional form: vested interests in coal and nuclear power continue to resist change, together with path-dependent thinking in the Department of Energy, NERSA and (to a lessening extent) Eskom. As a result, energy policy and regulation are yet to be influenced by the mitigation agenda, even in its just transition guide. The expanded composition of the new Inter-Ministerial Committee of the Climate Change Bill is significant. If politics within the ANC were to shift so that that these key individuals might be committed to decarbonization, this would open the door for climate institutionalisation in the country's key emitting sector. Until such a time, however, the redistributive transformation priorities of labour and society appear beached on a path dependent energy policy, reinforced by a regulatory and institutional form that is not keeping pace with the technological energy transition, climate imperatives and the reality of Eskom's weakened state. The new and potentially productive just transition narrative lacks the institutional vehicles – and leadership – with which to turn it into reality.

Synthesis: South African climate institutionalisation in form and function

In this section, we use the observations just outlined to draw out the comparative implications of the South African experience. Climate institutions are still clearly evolving, but we can conduct an initial evaluation of how well they fulfil the basic climate governance functions addressed in this special issue. This will yield insights pertinent to both South Africa's decarbonisation challenges and the comparative varieties of climate governance.

South African proposals for purpose-built climate institutions have typically involved coordinating bodies with representation from existing governmental institutions. The inter-ministerial proposals in the 2011 White Paper and in the 2018 Climate Change Bill both have this form of horizontal coordination between national departments, while the inter-governmental body of 2008 included different levels of government. The institutions functioned well enough to produce the White Paper itself, but no such bodies are currently operating effectively, leaving most climate action by default to the Department of Environment. This department has often followed the expectations of international climate negotiations rather than domestic processes, judging by the timing and nature of its initiatives. Whilst South Africa has

always had climate institutions and processes that consult relevant stakeholders, this consultation rarely generates consensus on paths forward, but rather exposes deep disagreement on the desired speed and scope of climate action Figure 2 shows these formal climate institutions in graphical form.

However, what is clearly evident in the discussion of the stages above is the role of the dominant energy sector and its institutions, which have successfully resisted meaningful decarbonisation throughout the period. Ting and Byrne (2020) used the Multi-Level Perspective of the socio-technical transitions literature to describe the South African electricity space as comprising an MEC-based incumbent regime. It is engaged in a contestation of power with low carbon niches, which plays out in the multi-dimensional institutions of its 'selection environment'. This environment is, in turn, stacked towards the incumbent regime. Energy institutions can therefore be understood to be playing a kind of shadow climate institutional role, and as such are an important vantage point for evaluating institutional configurations pertinent to decarbonisation, including the role of the country's socio-economic transformation objective. The full suite of institutions affecting South Africa's climate outcomes is depicted in the figure below.

Turning to the governance challenges, the first is to have institutions that effectively grapple with the scope and scale of action needed to mitigate climate change. At first glance, things look promising. South Africa's co-ordinating climate institutions were able to undertake important economy-wide initiatives over the decades, developing the Peak Plateau and Decline trajectory and proposing a full policy suite: two economy-wide instruments

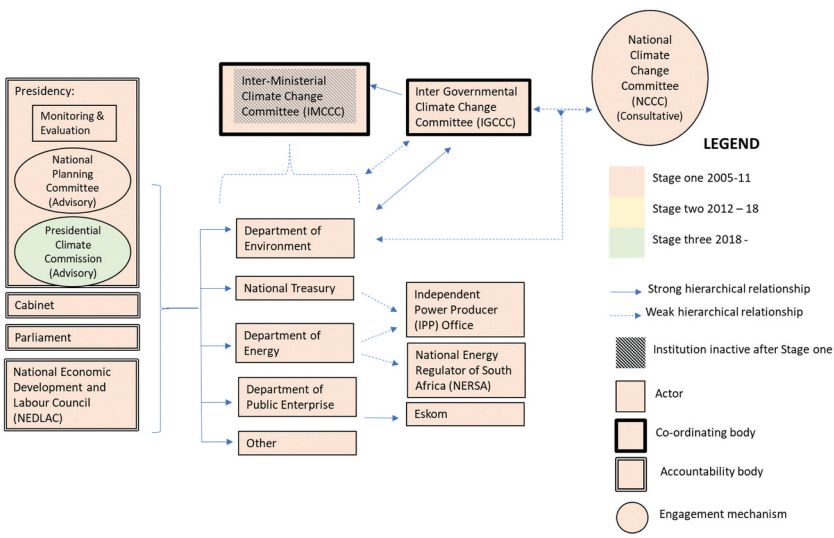

Figure 2. Institutions affecting climate outcomes in South Africa.

and flagship programmes in various key sectors. The Department of Environment has ramped up its capacity significantly over the past decade to respond to the climate change agenda. As such, South Africa is both ambitious and unusual as a developing country.

However, a closer look reveals that this institutional form is a necessary but insufficient response to the governance challenge of scope and scale. Limited in its political clout due to the extensive reach of the MEC regime's power, South Africa's institutional co-ordination across government is superficial. Instead, different departmental efforts are subjected to deep mutual mistrust. Treasury and the Department of Environment have two different economy-wide measures reflecting their radically different cognitive orientations, and have not been able to reconcile them. Even more critically though no climate institution has yet been able to impose losses on the electricity sector incumbents or govern the country's inevitable energy transition. South Africa's climate institutional form is therefore one that can deliver high level, internationally impressive targets and trajectories, but, upon scrutiny, is revealed to be powerless over the country's main emitting sector. For countries like South Africa where emissions are concentrated in one systemically important, powerful, and resistant sector, it may be that the scope and scale of governance challenge is really about overcoming the resistance of this most important sector.

The domination of the energy sector also affects the second governance challenge of climate institutions, which is whether they can strategically set the stage for transformative change. In the South African case, this transformative change must take the form of redirecting the energy sector away from fossil fuels. South African institutions began the crucial task of setting evidence-based goals in 2007, with the LTMS planning exercise. Whilst a derivative of these goals was subsequently embedded in energy planning, the LTMS documents themselves downplayed the structural changes that would be required to actually follow them. Even with an agreed roadmap, the struggles of the second stage were about the difficulty of achieving consensus around those and related goals.

Ironically, some of the most important steps toward climate transformation have come from larger energy sectoral dynamics outside either national or international climate dynamics. For example, the global cost maturation of wind and solar power helped to stall South Africa's nuclear aspirations, undermining the rationale for Eskom as a large monopolistic utility (Bischof-Niemtz and Creamer 2019). State capture has also helped to accelerate Eskom's demise (Chipkin, Ivor and Mark Swilling 2017). Ting and Byrne characterise this as a growing contextual discontinuity of the incumbent regime whose institutions, notwithstanding these exogenous changes, have remained anti-mitigation. The technical capacity for planning transformation still outstrips the ability to institutionalise decarbonisation in energy, including the political

follow-through that would embed technical plans in an appropriate political narrative.

The third challenge, that of mediating the politics of climate action, is entwined in the just transformation of the country's political and economic relationships, and unsurprisingly also plays out within the energy institutions. In the first stage, path-dependent energy institutions operating within the sector's regulated monopolistic institutional structure prioritised low-cost electricity and redistributive development objectives above those of climate mitigation by expanding coal infrastructure. In the second stage, Zuma utilised the racial transformation agenda for his own ends, in the process perversely up-ending both Eskom's redistributive development and its low-cost electricity mandate. In stage three, the long shadow of Zuma's exploitation of the racial transformation objective, together with the ongoing activity of the rent-seeking faction in government and unresolved differences around economic development models, hamper sectoral reform and cast suspicion over international renewable investors. Weak as it is, Eskom still holds its monopoly position despite its inability to finance the cost-competitive new generation capacity so desperately required to deliver on its developmental mandates. Nominally, climate institutions have been able to do little in mediating any of these political debates.

Taken as a whole, then, all three of South Africa's climate governance challenges are ultimately dependent on re-orientating the institutions of the dominant energy sector towards decarbonisation. As such, the South African case offers some caveats to any easy assumptions about the virtues of either coordinated or polycentric governance. With a resistant regime in a sector that dominates emissions, decarbonisation must be institutionalised in that sector, and climate institutional form itself may be less decisive. Ting and Byrne's (2020) analysis suggests that the incumbent regime's growing contextual discontinuity, together with the balance of power between the regime and the low carbon upstarts, ultimately determine the pace of institutionalising decarbonisation in the energy sector. This is no linear, staged climate governance progression then, but rather an ongoing push and pull between incumbent regimes and niches in the all-important emissions dominant sector, confounded by entirely non-climate related occurrences such as state capture.

Conclusion

After a promising start, South Africa's climate-orientated institutions have never managed to develop much influence over the country's overwhelmingly dominant emitting sector: energy, based on coal. Insights into the evolutionary path of this institutional form are provided by the explanatory factors described in the introduction to this special issue. South Africa's

penchant for taking a high-profile moral stance in international environmental negotiations together with intractable domestic energy politics led to an unsuccessful navigation of Putnam's two-level game. National bureaucratic characteristics contributed to weak and incompatible economy-wide mitigation instruments. And only in the third stage has there been promise of an appropriate framing narrative to start to address the final and most significant factor – South Africa's long struggle to mediate the politics of energy and climate. The net result is a weak set of formal climate institutions, and poor progress on institutionalising decarbonisation in the systemically important energy sector.

In terms of the challenges of climate governance, the country has a strong technical capacity for planning. This is most clearly demonstrated in the LTMS Planning process of 2006/7 which delivered an economy-wide decarbonisation vision and strategy that was ahead of its time. Yet these climate mitigation ambitions and plans have failed to embed in an appropriate institutional form that achieves traction in the energy sector. This is the key climate governance objective of countries where a single sector dominates emissions. South Africa's energy sector has a particularly complex political economy to navigate as the country's colonial and apartheid history has resulted in critical needs for poverty and inequality alleviation that still depend on transformation of the economy. The energy sector, and Eskom in particular, have been used to respond to this, albeit from within particular ideological perspectives. In a perverse twist, the Zuma administration used these same racial transformation objectives as part of a cover for a state capture project that targeted national energy institutions and confounded both the incumbent MEC regime's transition resistance, as well as the attempts of low carbon niches to gain traction. A 'just energy transition' narrative still struggles to find a foothold that can lead to real transformation.

In the South African case, therefore, questions around the form of climate-focused institutions appear to be a distraction from the main arena of climate institutional governance in the country, the energy sector. Here, an incumbent regime has been engaged in an ongoing battle with low carbon niche incursions, a battle that plays out across the sector's institutions – which are orientated towards maintaining the carbon-intensive incumbents. The South African case highlights the need for the concept of climate institutions to accommodate institutions that do not have climate governance as their primary objective, at least in instances where one sector dominates in emissions and power.

Notes

1. Interview with representative of Energy Intensive Users Group (EIUG) (2018).
2. Interview with representative of civil society 2 (2019).

3. This began as the Department of Environmental Affairs and Tourism (DEAT), until 2011, when it became just the Department of Environmental Affairs (DEA). In 2019, it was renamed the Department of Environment, Forestry and Fisheries (DEFF). For simplicity, we refer to all of these as the 'Department of Environment'.
4. Interview with representative of civil society 1 (2019).
5. Interviews with representative of Eskom (2014) and EUIG (2018).
6. Interviews with representative of the EIUG and the Industry Task Team on Climate Change (ITTCC) (2019); interview with civil society representative 2 (2019).
7. Interview with representative of National Treasury (2019).
8. Interview with representative of civil society 1 (2019).
9. Interview with representative of civil society 1 (2019).
10. Interview with representative of National Treasury (2019).
11. Interviews with representative of the EIUG 2 (2018) and representative of Academia 3 (2019).
12. Interview with representative of EIUG 1 (2018).
13. Interview with representative of civil society 2 (2019); representative of the renewable energy industry (2019).
14. Interview with representative of the renewable energy industry (2019).
15. Interview with representative of civil society 2 (2019).
16. E.g. https://www.scribd.com/document/390031857/Minister-of-Finance-s-Statement-at-the-State-Capture-Inquiry#download.
17. Interview with representative of civil society (2014).
18. Interview with representative of National Treasury (2019).
19. Interview with representative of Civil Society (2018).
20. Interview with representative of Academia 3 (2019).
21. Interview with representative of Academia 3 (2019).

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