



## **TIPS FORUM 2023**

### **INDUSTRIAL POLICY IN AN ERA OF GLOBAL STRUCTURAL CHANGE: IMPLICATIONS FOR SOUTHERN AFRICA**

### **A JUST TRANSITION AND THE POLITICAL ECONOMY OF A GREEN INDUSTRIAL POLICY IN SOUTH AFRICA**

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## Abstract

In South Africa, the need to ensure a just transition to an inclusive low-carbon development pathway that generates jobs while reducing GHG emissions is of paramount importance. Yet, post-apartheid industrial and climate policies have achieved only limited success towards this end. In responding to this situation this paper asks: what factors have constrained a shift away from South Africa's unsustainable development pathway, and what actions would help drive a shift towards an inclusive low-carbon society? This paper draws on Mushtaq Khan's political settlements framework to analyse the historical political economy dynamics that have constrained effective policy implementation. The analysis shows how the high-emissions low-employment development path that emerged in South Africa over the 20th century was buttressed by a power configuration and a supporting set of institutions that have persisted in the post-apartheid era. We argue that in order to transition to an inclusive low-carbon society, policymakers need to consider the distributional impacts of their policies in light of the underlying political settlement and to structure their interventions accordingly. Following from this, a case is made for a carefully sequenced green industrial policy that builds supportive coalitions that incrementally alter the balance of power in favour of inclusive decarbonisation.

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## Contents

|   |           |
|---|-----------|
| <b>1. Introduction</b> .....  | <b>5</b>  |
| <b>2. Conceptual foundations</b> .....  | <b>5</b>  |
| 2.1. Minerals-energy complex (MEC) .....  | 5         |
| 2.2. Political settlements framework.....   | 6         |
| <b>3. Evolution of holding power over the 20th century</b> .....                                  | <b>8</b>  |
| 3.1. Industrial development over the 20 <sup>th</sup> century.....                                | 8         |
| 3.2. Structural inheritance and power holders at the dawn of democracy.....                       | 10        |
| <b>4. The post-apartheid political settlement and efforts to shift development pathways</b> ..... | <b>10</b> |
| 4.1. Transition and the making of post-apartheid economic policy .....                            | 10        |
| 4.2. Introduction of industrial and climate policy frameworks .....                               | 12        |
| 4.3. Policy in practice: misaligned and resisted by strong opposing coalitions .....              | 13        |
| <b>5. Changes in the balance of power and the possibility of a green industrial policy</b> .....  | <b>14</b> |
| 5.1. Increasing support for renewable energy .....  | 15        |
| 5.2. Remaining resistance to broader decarbonisation.....   | 16        |
| 5.3. Potential for a green industrial policy .....  | 17        |
| <b>6. Conclusion</b> .....  | <b>18</b> |
| <b>References</b> .....   | <b>19</b> |

## Abbreviations

|         |  |
|---------|--|
| AAC     | Anglo American Corporation   |
| ANC     | African National Congress  |
| BEE     | Black Economic Empowerment   |
| CTL     | Coal-to-liquids  |
| DFFE    | Department of Forestry Fisheries and Environmental Affairs         |
| DMRE    | Department of Mineral Resources and Energy                         |
| Escom   | Electricity Supply Commission                                      |
| Eskom   | Escom's name after 1987 (not an acronym)                           |
| GDP     | Gross Domestic Product   |
| GEAR    | Growth Employment and Redistribution                               |
| GHG     | Greenhouse Gas   |
| IDC     | Industrial Development Corporation                                 |
| Iscor   | Iron and Steel Industrial Corporation                              |
| MEC     | Minerals-energy complex  |
| NIPF    | National Industrial Policy Framework                               |
| NP      | National Party   |
| PCC     | Presidential Climate Commission                                    |
| PV      | Photovoltaic   |
| RE      | Renewable Energy   |
| REIPPPP | Renewable Energy Independent Power Producers Procurement Programme |
| Sasol   | South African Oil and Gas Corporation                              |
| SOE     | State-owned enterprise   |

# 1. Introduction

Nearly three decades after democracy, South Africa remains set on an unsustainable development path characterised by high rates of unemployment (currently at 32.9%) (Stats SA, 2023: 1) and high greenhouse gas (GHG) emissions, with South Africa ranked as one of the top 20 annual GHG emitters in the world and the largest emitter in Africa (Climate Watch, 2022). Consequently, calls have been made for a just transition that shifts the economy from high- to low-carbon activities while addressing socioeconomic needs and inequalities (Jobs Summit, 2018: 42; PCC, 2022: 7). However, while post-apartheid policies have been adopted in an attempt to restructure the economy towards inclusive low-carbon development, the effectiveness of these policies has been limited.

In this context, this paper explores two interrelated questions. The first question analyses historical political economy: what factors have constrained a shift away from South Africa's unsustainable development pathway? The second question seeks to identify possible ways forward by asking: what actions would help drive a more rapid shift towards an inclusive low-carbon society? In order to explore these research objectives, this paper draws on Mushtaq Khan's political settlements framework to examine how historically rooted institutional and power constraints have impacted policy formation and implementation.

The remainder of this paper proceeds as follows: Section 2 introduces the minerals-energy complex (MEC) as a useful concept for understanding South Africa's political economy and provides an outline of the political settlements framework as the core theoretical foundation for the analysis. Section 3 traces the emergence of South Africa's capital- and energy-intensive economic structure over the 20<sup>th</sup> century in order to identify the institutional and power configurations that support this structure. Section 4 shows how continuities in the post-apartheid political settlement have influenced economic policy formation and constrained the ability of climate and industrial policies to shift towards an inclusive low-carbon society. Section 5 considers how developments in the electricity sector are reshaping the balance of power in favour of renewable energy (RE) deployment and providing an opportunity for a green industrial policy that not only lowers emissions and creates jobs but builds supportive coalitions in favour of broader decarbonisation and more stringent environmental policies going forward. Section 6 concludes.

## 2. Conceptual foundations

The political economy of energy and decarbonisation in South Africa has been explained primarily in reference to the minerals-energy complex (MEC), a concept developed by Fine & Rustomjee (1996: 71) that describes the political economy dynamics that have shaped the unique form of industrialisation that has taken place in South Africa. While the MEC remains a valuable concept for understanding South Africa's political economy, this paper incorporates the MEC within a more explicitly institutional approach provided by the political settlements framework.

### 2.1. Minerals-energy complex (MEC)

The MEC describes an interrelated set of core industries spanning the mining, energy and resource-based manufacturing sectors that have historically constituted the industrial core of the South African economy. While these are typically considered distinct sectors, Fine & Rustomjee (1996: 79) argue that standard classifications obscure the highly interdependent nature of these sectors and fail to represent the strong economic linkages between them. One implication of this is that rather than industrialising away from primary production, South African manufacturing over the 20th century

remained inextricably linked to the country's natural resource base through energy-intensive beneficiation, smelting and refining processes that were in turn reliant on energy provided through the exploitation of South Africa's vast coal reserves (Fine & Rustomjee, 1996: 76). The MEC can also be understood in a broader sense as a system of accumulation whereby these strong sectoral linkages imparted a certain directionality to the economy as a whole. In particular, Fine & Rustomjee (1996: 103) argue that concentrated corporate ownership and the extension of this ownership across the financial sector reinforced the linkages across the MEC such that these industries had a disproportionate influence on South Africa's development that far exceeded their contribution to GDP.

Two structural characteristics of the MEC make the concept particularly useful for understanding the country's high-emissions low-employment development path. First, the high energy intensity of MEC industries is a key factor explaining South Africa's high GHG emissions since these industries have historically relied on an overwhelmingly coal-based electricity system. Second, the high capital intensity of these industries has constrained the labour-absorbing capacity of the manufacturing sector contributing to high rates of nation-wide unemployment. Beyond these structural characteristics, the MEC has also had a profound influence on the formation and functioning of industrial policy with a unique political and class configuration having constrained industrial diversification during the 20th century (Fine & Rustomjee, 1996: 147) and technological lock-in, institutional inertia and the presence of powerful vested interests having contributed to significant path dependencies in the post-apartheid era.

However, while path dependencies stemming from the MEC help to explain certain structural continuities in the post-apartheid era, a supplementary conceptual framework which places resistance to institutional reform at the centre of analysis can focus more acutely on the ways in which powerful groups have constrained effective policy implementation. Moreover, although the MEC provides an historically rich and empirically detailed account of the political economy dynamics that have led South Africa to its current unsustainability, it does not provide a theoretical framework for identifying workable pathways to a more inclusive low-carbon society. Since institutional resistance and identifying possible paths to sustainability are core objective of this paper, we turn to political settlements theory as the primary analytical framework for this analysis.

## 2.2. Political settlements framework

The political settlements concept originated in the work of Mushtaq Khan in the mid-1990s primarily in response to two confounding insights stemming from comparative institutional analysis: (1) institutions and policies that were effective in some contexts appeared to perform poorly in others; and (2) it was evident that similar problems across different contexts appeared to be effectively solved by quite different institutions and policies (Khan, 2018: 636). In providing an explanation, Khan (1995: 77) emphasises the need to shift attention beyond an analysis of the types of formal institutions adopted in a country to an examination of how the underlying distribution of power in society affects institutional performance. Specifically, Khan (2010: 4) argues that the balance of power which influences institutional performance and change can be understood in terms of a *political settlement*, which he defines as "a combination of power and institutions that is mutually compatible and also sustainable in terms of economic and political viability."

This definition reveals three key features of a political settlement: First, since institutions (i.e., rules affecting social interactions) entail the imposition of differential costs and benefits across society, they must be *compatible* with the distribution of power because if they are not, powerful groups will

leverage their influence to change them. Second, while slowly evolving over time, this configuration must also be politically and economically *sustainable* because if it is not, a 'settlement' will not be achieved as the ensuing contestation will ensure that such a configuration is not reproduced.<sup>1</sup> Finally, power is a critical component of a political settlement and is defined in terms of *holding power*, referring to the ability of actors to impose and absorb costs, and therefore to engage in and survive conflicts (Khan, 2010: 6). The sources of holding power are numerous and can be based on various elements including economic structure; income and wealth; ideologies and legitimacy; the right and ability to use violence; and perhaps most importantly, organisational capabilities (i.e., the capacity of actors to mobilise support, form coalitions and leverage social networks to their advantage) (Behuria, Buur & Gray, 2017: 515; Khan, 2018a: 640).

A core insight from this approach is that the relative power of different groups affected by a particular institution has a direct bearing on how that institution functions, with implementation likely to be more effective when it aligns with the interests of those with holding power, and conversely, less effective when it conflicts with those interests (Khan, 2010: 6). From this perspective, blocked or distorted policy implementation can often be explained by the existence of relatively powerful groups who see themselves as losing out from a particular policy and, as a result, strongly resist its enforcement. Consequently, assessing the suitability of specific policies requires identifying the particular configuration of power relevant for that particular policy domain as well as the distribution of societal costs and benefits implied by that policy (Khan, 2018b: 677). From a policymaking perspective, the political settlement can therefore be thought of as an exogenous variable constraining the types of policies that are viable in any given context and should therefore be a key consideration in their design.

Importantly, while the nature of the political settlement can be seen as constraining the range of options available to policymakers, it is far from deterministic. Agency remains key, not only from organisations who are always trying to leverage their power to influence the form and functioning of institutions, but also from policymakers who must understand and navigate the complex mix of interests and power in society in order to design policies that are enforceable given the nature of the existing political settlement. Additionally, while political settlements are by definition relatively stable, Khan (2018b: 676) notes that they are always undergoing a process of evolution with shifts in the balance of power taking place as a result of political mobilisations and other incremental changes such as technological innovations and market disruptions that can lead to the decline of old industries and the rise of new ones. These gradual changes in the balance of power present opportunities for the adoption of new institutions with distributional feedbacks that alter the political settlement in such a way that previously unworkable path changes may become viable.

The concepts outlined in the political settlements framework above are particularly useful when analysing the factors that have constrained moves away from South Africa's capital- and energy-intensive status quo. The centrality of holding power focusses attention on the ways in which powerful groups and coalitions such as those within the MEC have resisted certain policy reforms as well as how changes in the balance of power are creating new opportunities for institutional reform. Additionally, by emphasising the policy constraints implied by the political settlement, the framework helps to

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<sup>1</sup> It is important to note that a 'settlement' in this sense does not refer to a formal agreement reached between groups of elites. Instead, it refers to the relative stability that comes to characterise a social system when a country's institutions are broadly aligned with the distribution of power. In South Africa, the political settlement therefore does not refer to the formal compromise reached between negotiators in the country's transition to democracy in the 1990s, but instead refers to the balance of power that preceded and succeeded the transition and shaped the terms of debate and the ability of contending groups to have their interests met.

identify which institutional interventions are more or less likely to succeed as South Africa seeks to move onto an inclusive low-carbon development trajectory.

According to Behuria, Buur & Gray (2017: 525), conducting a political settlement analysis first requires an historical assessment of the evolution of holding power of relevant organisations combined with an examination of periods of political rupture and contestation. This mapping of the distribution of power can then be used for policy-relevant analysis by identifying both how the implementation of particular policies has been distorted in the past, and for identifying which policies are likely to be most effective going forward given the likelihood of such distortions (Khan, 2018a: 648). A further objective that has attracted less attention in the literature, is to identify implementable policies or interventions that are more likely to nudge the evolution of political settlements in a certain direction, thus increasing the potential success of more beneficial and ambitious policies (Khan, 2018b: 693). This paper seeks to contribute to this research agenda by considering the potential of a green industrial policy to incrementally alter the balance of power in favour of more rapid decarbonisation in South Africa. But first, it is necessary to trace the evolution of holding power and outline the historical political economy factors that have led the country to its current unsustainability.

### **3. Evolution of holding power over the 20th century**

The contours of power that define contemporary contestations over a just transition in South Africa have their origins in the 20<sup>th</sup> century. In particular, the emergence of the MEC, along with the institutional and power configuration it embodied, laid the foundations for a political settlement underpinning the country's high-emissions low-employment development pathway. The evolution of the MEC and its influence over South Africa's political settlement can be broken down into four phases beginning in 1867 with the discovery of diamonds and ending with the country's historic 1994 elections which marked the beginning of the democratic era.

#### **3.1. Industrial development over the 20<sup>th</sup> century**

##### **3.1.1. Pre-industrial mining economy (1867-1914)**

The 'mineral revolution' that occurred in South Africa following the discovery of gold and diamonds towards the end of the 19<sup>th</sup> century transformed the country from a peripheral agrarian economy to a major global commodities producer by the turn of the century. Subsequently, gold mining came to occupy a central position in the economy, with large capital requirements resulting in a highly concentrated ownership structure dominated by a few foreign-owned mining houses. The political settlement at this time saw a coercive state passing legislation that assisted mining companies in repressing Black wages through monopsonistic labour recruitment programmes coordinated through the Chamber of Mines (Wilson, 1972: 33). While the desire to control Black labour set the foundations for institutionalised Black repression under apartheid, the development of coal-fired energy for the mines set the foundations for South Africa's emissions-intensive development path.

##### **3.1.2. Drive towards industrialisation (1914 – 1948)**

While mining continued to drive growth, increasing production costs raised the threat of mine closures. The subsequent decision by the mining companies to substitute expensive White labour for Black labour led to an armed rebellion among White miners in 1922 that was ruthlessly suppressed resulting in over 230 deaths (Wilson, 1972: 10). Consequently, the mining houses and the state came to see the development of the manufacturing sector as an important economic and political imperative (Clark, 1994: 44). Subsequently, several key institutions in the form of state-owned



enterprises (SOEs) were established based on the notion that the development of upstream resource-based industries would produce cheap industrial inputs needed for the growth of the mining and manufacturing sectors (Marquard, 2006: 150). These SOEs included: The Electricity Supply Commission (Escom), tasked with providing a cheap and abundant supply of electricity; the Iron and Steel Industrial Corporation (Iskor), to develop a modern large-scale steel industry; the Industrial Development Corporation (IDC), to provide development finance for industrialisation; and the South African Oil and Gas Corporation (Sasol), which oversaw the development of the country's synfuels programme based on a coal-to-liquids (CTL) process. Under the strategy of developing strong upstream heavy industries, these SOEs constituted the primary instruments of the state's industrial policy and represented key institutions underpinning the nascent MEC.

### **3.1.3. Apartheid and the growth of the MEC (1948 – 1973)**

The election of the Afrikaner National Party (NP) in 1948 had important implications for the development of the MEC and the nature of South Africa's political settlement. Besides institutionalising and expanding the various segregationist policies of the past into a formalised system of apartheid, the NP sought to use its political power to elevate the standing of Afrikaners relative to their predominantly English counterparts. With economic power concentrated around mining, the MEC provided the vehicle through which the politically powerful NP could pursue Afrikaner empowerment by facilitating the interpenetration of Afrikaner capital with English mining capital (Fine & Rustonjee, 1996: 147). Consequently, Afrikaner empowerment became entwined with the state's energy and industrial policies, particularly through the operations of the SOEs. In the electricity sector, new coal supply contracts from Escom were awarded to Afrikaner companies such as Federale Mynbou, who was later invited to take over a portion of Anglo American Corporation's (AAC) gold mining industry, signifying the accession of Afrikaner mining capital and their accommodation by established English mining capital (Fine & Rustonjee, 1996: 161). Similarly, Sasol contributed to Afrikaner empowerment by helping establish Sentrachem (a subsidiary of Afrikaner-owned Sanlam) which went on to challenge AAC's dominance in the chemicals industry (Sparks, 2016: 720). Under this apartheid political settlement, developmental institutions represented by the SOEs were used to help facilitate the accommodation of Afrikaner capital and labour in line with the existing balance of power.

### **3.1.3. Consolidation of the MEC (1973 – 1994)**

While these interventions had already established several resource-based heavy industries, the 1970s saw the consolidation of the MEC in response to two major events. First, oil embargoes associated with the oil shocks of 1973 and 1979 posed an existential threat to South Africa's economy as the country had no significant domestic oil reserves. As a result, Sasol came to be seen as a key strategic asset, with the state playing a critical role in financing two enormous CTL plants (Sasol 2 and 3) to reduce the country's dependence on foreign oil (Marquard, 2006: 298). While the energy-intensive CTL process contributed to growing GHG emissions (Gerson, 1992: 14), Sasol's expansion also contributed significantly to the growth of the capital-intensive chemicals industry, with chemicals accounting for about 40% of the increase in the capital intensity of manufacturing between 1971 and 1988 (Levy, 1992: 6).

The second event concerned developments in the electricity sector. As demand for electricity increased throughout the 1970s, Escom conducted a massive build programme to bring new plant online, tripling Escom's capacity between 1970 and 1982 (Marquard, 2006: 140). However, already by the 1980s, it was clear that Escom's demand forecasts had been too high, resulting in a 40% reserve margin by the early 1990s (Steyn, 2006: 14, 38). In addition to mothballing some of its older plant, Eskom (renamed in 1987) responded by actively encouraging investments in energy-intensive projects

(Black & Hasson, 2016: 296). This was done primarily by setting extremely low industrial electricity tariffs (among the lowest in the world at the time) with further support provided through tax incentives and supportive infrastructure, resulting in major energy- and capital-intensive investments in metals processing taking place throughout the 1990s (Roberts & Rustomjee, 2010: 55).

### **3.2. Structural inheritance and power holders at the dawn of democracy**

Overall, the gradual emergence of the MEC over the 20th century had important structural effects that became the economic inheritance of the post-apartheid African National Congress (ANC) regime. First, the energy-intensive nature of resource-based heavy industries within the MEC contributed to high national GHG emissions with these industries creating the demand driving coal-based energy production. Second, the high capital-intensity of these industries is one factor contributing to high rates of unemployment (about 20% at the dawn of democracy) since the growth of the manufacturing sector, particularly during the 1970s and 1980s, was not accompanied significant increases in manufacturing employment (Levy, 1992: 2).

Importantly, this structural inheritance was accompanied by a corresponding set of institutions and power that defined the political settlement at the end of apartheid. While Sasol and Iscor were privatised in 1979 and 1989 respectively, Eskom and the IDC remained key state institutions through which energy and industrial policy could be pursued. Moreover, an informal 'industrial policy elite' was inherited with significant organisational capabilities including policy networks between the political and economic elite that spanned multiple sectors and state agencies (Marquard, 2006: 71). On top of this was a highly-concentrated corporate structure with 85.7% of all shares on the Johannesburg Stock Exchange in 1992 controlled by only six large conglomerates comprising AAC (with 33.7%), Sanlam (15.6%), the Rembrandt Group (14.6%), SA Mutual (14.2%), the Liberty Group (4.7%), and Anglovaal (2.9%) (Joffe, 1995: 149). Consequently, as South Africa entered into a period of political transition in the 1990s, big business (keen on maintaining the existing MEC-based system of accumulation) was able to exert considerable influence over the types of policies adopted in the post-apartheid era.

## **4. The post-apartheid political settlement and efforts to shift development pathways**

South Africa's 1994 elections marked a pivotal turning point in South Africa's history, with the ANC becoming the country's first democratically elected ruling party. While this marked an important shift in South Africa's political settlement and signalled a significant departure from the totalitarian politics of the apartheid state, this political change was not accompanied by a commensurate shift in the country's economic structure. As outlined in the previous section, the apartheid-era established a compatible combination of institutions and power wedded to a capital- and energy-intensive system of accumulation defined by the MEC. While evolving, these elements have largely persisted in South Africa's post-apartheid political settlement and have constrained efforts to restructure the economy in a more sustainable and inclusive direction. One of the first examples of the constraining nature of the political settlement was the shaping of post-apartheid economic policy during the transition to democracy in the 1990s.

### **4.1. Transition and the making of post-apartheid economic policy**

By the late 1980s, apartheid had reached an impasse with a mounting economic crisis, increasing international isolation, and internal resistance all putting pressure on the apartheid state. Frustrated

by the NPs reluctance to negotiate a political solution to the crisis, big business began agitating for reform while engaging the then banned ANC. Engagement increasing dramatically after the unbanning of the ANC in 1990 and included a number of economic scenario planning exercises sponsored by large corporations including Nedcor, Old Mutual and Sanlam (Hirsch, 2020: 5). While differing with the NP over political reforms, big business nonetheless shared a similar economic ideology with the NP who from the late-1970s had begun shifting away from its former interventionist stance towards a more market-oriented position in line with the prevailing orthodoxy of the Washington Consensus (Marais, 2011: 32). With a specific interest in guaranteeing the ability to offshore their investments, big business pushed for the liberalisation of exchange controls and a highly conservative monetary and fiscal policy that prioritised macroeconomic stability (Chabane, Goldstein & Roberts, 2006: 558).

By contrast, the ANC, while not having prioritised the formation of an economic policy, had historically advocated a mixed economy rooted in social democracy that saw a strong roll for the state in ensuring a just and equitable society (Padayachee & van Niekerk, 2019: 20). This was evident in an ANC Discussion Document on Economic Policy published in 1990 which outlined a neo-Keynesian strategy emphasising the role of the state in restructuring the economy towards a redistributive growth path (DEP, 1990: 4). More specifically, the Macroeconomic Research Group's 1993 report (commissioned by the ANC) located the poor performance of South Africa's manufacturing sector in its inability to develop forward linkages from upstream MEC industries and backward linkages from consumer goods (MERG, 1993: 213). As opposed to the trickle-down logic of the NP and big business, it was argued that direct interventions through a concerted industrial policy were needed to reshape the direction of development (MERG, 1993: 220). However, despite the clear differences in economic thinking at the start of negotiations, the ANC went on to embrace a conservative market-based economic policy as expressed in the 1996 Growth Employment and Redistribution (GEAR) policy. While professing a commitment to the redistributive rhetoric employed in the ANC's electoral campaign, GEAR's emphasis on fiscal austerity, deregulation, and a minimal role for the state undermined efforts to chart a more inclusive and transformative development path (Habib & Padayachee, 2000: 252).

This about face can be explained by considering the differences in holding power between the different groups engaged in negotiations. Whereas business was able to sponsor expensive scenario planning exercises and draw on the expertise of economic policymakers within the NP, the ANC had no experience crafting formal economic policy and had fewer material and human resources available for in-depth research (Padayachee & van Niekerk, 2019: 87). Business also wielded significant structural power. Since corporate ownership was so highly concentrated, there was a perception that without acceding to the demands of big business, economic performance would be compromised (Mondliwa & Roberts, 2021: 323). Furthermore, business exhibited strong organisational capabilities, presenting a unified position through several influential business associations including the South African Foundation, the Urban Foundation, and the Consultative Business Movement. The ANC on the other hand was a 'broad church' with a diverse constituency including trade unions, the South African Communist Party, businesspeople and the unemployed. The need to respond to the myriad demands emanating from these diverse groups made the formation of a strong and coherent economic policy difficult. Ideologically, the new government sought to reintegrate into a global economy, which after the fall of the Soviet Union was capitalist and demanded structural adjustment if this was not pre-empted. Together, these differences in holding power meant that business was better able to leverage their position to shape ANC economic policy than were more left-leaning factions within the ANC.

This had important structural consequences for a country attempting to chart a more inclusive development path. Although economic policy was intended to address the market distortions seen as hampering economic growth, liberalisation ended up reinforcing the power of MEC-incumbents

leading to clear structural continuities in the manufacturing sector. In particular, having built up competitive advantage over the 20<sup>th</sup> century (due in large part to significant state support), capital-intensive heavy industries within the MEC were best positioned to take advantage of a more open economy with the minerals, basic metals, basic chemicals, and pulp and paper sectors making up 60% of merchandise exports between 1994 and 2007 (Black & Roberts, 2009: 221). Conversely, labour-intensive industries were unable to compete with the flood of cheap imports and performed poorly with negative average annual growth rates achieved in the textiles and footwear industries over the same period (Black & Roberts, 2009: 219).

Supportive institutions further reinforced this path dependency. While official industrial policy was largely neglected in the immediate post-apartheid period, several industrial incentives continued to disproportionately benefit heavy industries within the MEC including tax incentives, infrastructure provision, IDC finance and special electricity pricing agreements (Burton, 2011: 24). The incongruence between official policy and these fragmented industrial incentives points to what Kaplan (2007: 37) has referred to as a 'hidden' industrial policy, which he describes as selective interventions favouring certain sectors/activities constituting a *de facto* industrial policy that is independent of official objectives. The existence of this 'hidden' industrial policy can be explained by continuities in the nature of South Africa's political settlement including institutional and technological lock-in to resource-based modes of production and the presence of powerful groups with vested interests in the MEC. The combined result of this 'hidden' industrial policy operating within a liberalised trade environment was a structural regression (Bell et al., 2018: 6) that reinforced the capital- and energy-intensive characteristics of the economy.

## 4.2. Introduction of industrial and climate policy frameworks

In 2006, the publication of the Accelerated and Shared Growth Initiative for South Africa (The Presidency, 2006) indicated a recognition of the need for more interventionist economic policies. This shift was accompanied by the adoption of several landmark industrial and climate policies under the broader guidance of national planning documents that indicated government's desire to shift towards an inclusive low-carbon society. The publication of the National Industrial Policy Framework (NIPF) (DTI, 2007), along with a series of annually updated Industrial Policy Action Plans, provided an overarching industrial policy framework to guide targeted government interventions in the economy. The key objectives of the NIPF were to: (1) diversify the economy away from traditional commodities and non-tradable services; (2) promote the development of labour-absorbing industries; and (3) ensure a more inclusive form of development by including more historically disadvantaged people in the manufacturing sector (DTI, 2007: 2).

At the same time, several climate policies and measures were introduced following the 2007 Long-Term Mitigation Scenarios facilitated stakeholder process which provided the technical base for future mitigation actions (SBT, 2007). This led to a voluntary pledge by President Zuma at the 2009 Copenhagen negotiations to reduce national CO<sub>2</sub> emissions by 34% below business-as-usual by 2020, and 42% by 2025 (DEA, 2010: 2). These emissions targets provided a technical basis for the mitigation component of the country's principal climate policy, the National Climate Change Response White Paper, which sees actions aimed at reducing emissions from energy supply and use as offering the greatest mitigation potential (DEA, 2011: 26). This objective has been supported by two important mitigation measures: the Renewable Energy Independent Power Producers Programme (REIPPPP), launched in 2011 to bring private RE onto the grid through a reverse auction process; and a carbon tax, in effect from 2019 to incentivise high emitters to reduce their emissions through the adoption of cleaner technologies and processes.

These industrial and climate policies were adopted under the guidance of broader national planning strategies that sought to shift the economy onto an inclusive low-carbon development pathway. The government's 2010 New Growth Path for example highlighted the need to restructure the economy to ensure greater labour absorption while singling out the energy-intensive minerals value chain as a leading cause of high emissions in the country (EDD, 2010: 5). Similarly, the 2012 National Development Plan dedicates an entire chapter to "Ensuring Environmental Sustainability and an Equitable Transition to a Low-Carbon Economy" and stresses the need to shift away from fossil-fuel-based manufacturing towards greener industries (NPC, 2012: 206).

### **4.3. Policy in practice: misaligned and resisted by strong opposing coalitions**

Despite the presence of these formal policies, successful policy implementation has been limited. In an assessment of the compatibility of South Africa's industrial policy with the country's green economy objectives, Montmasson-Clair & Chigumira (2020: 56) argue that despite initiatives aimed at supporting a transition to low-carbon development, the economy continues to exhibit deep path dependencies with a politico-institutional structure that remains supportive of energy- and emissions-intensive activities. The disjuncture between policy and practice can be explained in large part by assessing these policies in terms of their compatibility with the political settlement.

Indeed, one of the key factors constraining effective policy implementation has been strong resistance from opposing coalitions of actors with vested interests in the existing capital- and energy-intensive status quo. As the per the political settlements framework, the enforcement of institutions or policies that threaten the interests of powerful groups can be expected to be strongly resisted (Khan, 2010: 19). Eskom and Sasol (which together are responsible for over half of South Africa's emissions) have been core sites of resistance, along with members of the Energy Intensive Users Group, an association of 28 companies accounting for 40% of the country's electricity demand (Tyler & Hochstetler, 2021: S186). Rennkamp (2019: 8) found that these actors managed to significantly delay the implementation of the carbon tax from its initial announcement in 2012 until it was finally signed into law in 2019. This coalition also managed to ensure numerous concessions including an extension of the first phase of the tax from 2022 to 2025, a considerably reduced and insufficient tax rate, tax-free allowances covering 60-90% of emissions, the exclusion of scope 2 emissions (and therefore electricity), and the ability for companies to reduce their tax liability through carbon offsets (Baker, 2022: 20). While powerful actors perceived as losing out from the tax were able to organise and mobilise resources to hamper its implementation, a well-resourced and coordinated coalition in favour of the tax has not emerged. In 2013 for instance, Sasol's climate team included seven full-time experts whereas National Treasury (which is responsible for the tax) only had one full-time and one part-time employee on their carbon tax team (Rennkamp, 2019: 9).

Although implementation of the REIPPPP has been relatively more successful, it too has faced strong opposition from coal-based vested interests. Peak resistance to the programme occurred during a period of predatory accumulation under the Zuma administration (2009 – 2018) in which key state institutions were co-opted into a clientelist system of rent extraction known as 'state capture'. Eskom became a core site of accumulation within the networks of state capture, particularly through its awarding of lucrative coal procurement contracts to politically connected companies (Godinho & Hermanus, 2018: 20). While supporters continued to champion decarbonisation, many institutions were either weakened by state capture or actively involved in deepening coal path dependency such as Eskom (Tyler & Hochstetler, 2021: S196). Consequently, progress in the rollout of RE capacity stalled after Eskom exploited its monopoly control of the electricity sector by refusing to sign RE power purchase agreements, imposing additional grid connection costs, and provoking union resistance by

highlighting the potential for job losses as the country moves away from coal (Ting & Byrne, 2020: 11). Besides slowing the decarbonisation of the electricity mix, the resulting policy uncertainty negatively impacted the industrial localisation potential of the programme with several local RE manufacturers having to close including a wind tower plant in the Eastern Cape and a solar PV plant in KwaZulu-Natal (Andreoni et al., 2022: 18).

Poor policy implementation has been further hampered by the lack of policy coordination across institutions within government, which themselves have differing (and often conflicting) objectives. For example, while the Department of Forestry Fisheries and Environmental Affairs (DFFE) is responsible for climate policy, and the carbon tax is being coordinated by National Treasury, liquid fuels pricing (which subsidises the carbon-intensive CTL industry) is administered by the Department of Mineral Resources and Energy (DMRE). This has resulted in a clear case of policy misalignment with a carbon tax existing incongruously alongside continued fossil fuel subsidies to Sasol (in the form of the basic fuel price) and Eskom (through state investments in the coal fleet) (Burton, Lott & Rennkamp, 2018: 240). Industrial policy has also been pursued without sufficient coordination with other departments. The disjuncture between industrial and competition policy for example has allowed upstream firms to use their market power to charge excessive import-parity prices for many of the critical inputs used in more labour-intensive downstream manufacturing processes thus hampering diversification and reducing the labour absorption capacity of the manufacturing sector (Mondliwa & Roberts, 2019: 20). This has been exacerbated by the ability of dominant upstream firms to use their economic and organisational power to lobby for favourable policies against the interests of more fragmented and less coordinated downstream firms (Goga & Mondliwa, 2021: 121).

Overall, effective policy implementation has been constrained by the nature of South Africa's political settlement. Powerful coalitions of resource-based actors have successfully resisted institutional change by leveraging their economic, human, and political resources to shape the drafting and implementation of policy in their interests. The holding power of these coalitions has been reinforced by their structural power and their ability to coordinate their activities through industry associations and political networks. This has been exacerbated by a fragmented institutional configuration which has contributed to policy misalignment while increasing the ability of opposing coalitions to target individual departments and lobby for favourable policies (Mondliwa & Roberts, 2021: 331). By contrast, the relative lack of economic, human, and political resources among supportive coalitions combined with their limited organisational capabilities has meant that those in favour of a more inclusive low-carbon development pathway have been less successful in achieving their objectives.

## **5. Changes in the balance of power and the possibility of a green industrial policy**

Despite strong resistance to inclusive decarbonisation, recent events and processes have begun altering the balance of power, presenting new opportunities that if capitalised on could lead to changes in the political settlement that build momentum for a shift to a more inclusive low-carbon development path. Indeed, Khan (2018: 637) notes that while a political settlement is defined by its relative stability it is nonetheless always evolving as a result of incremental and occasionally disruptive changes in the distribution of power.

A key process opening opportunities for change has been the electricity crisis which, while first emerging in the late 2000s, has worsened dramatically in recent years with the frequency and severity of power outages (termed load-shedding) increasing year-on-year since 2018 (Pierce & Le Roux, 2023: 110). Load-shedding has constrained growth with the South African Reserve Bank estimating the costs

to the economy being as high as R 899 million per day (Naidoo, 2023). Compounded by deeper structural issues and financial constraints within Eskom (Winkler et al., 2021: 8), the proximate cause of this intermittency is an ageing and underperforming coal fleet which has seen a steadily declining energy availability factor from an annual average of 79% in 2017 to 58% in 2022 (Pierce & Le Roux, 2023: 118). While load-shedding has had negative effects across all sectors of the economy, the mining and energy-intensive manufacturing industries have been some of the hardest hit, leading to falling investment across MEC sectors (Newman, 2019: 15). Winkler and Black (2021: 6) argue that this is leading to an 'unwinding' of the MEC, as evidenced by recent closures of energy-intensive plants including the mothballing of ArcelorMittal's Saldanha Steel in 2020.

At the same time, there has been a dramatic decrease in the costs of RE for electricity generation, with the average cost of projects under the REIPPPP falling precipitously in successive bid rounds to an average of R0.49/kWh in bid window 6 (IPP Office, 2023: 14). As a result of these cost decreases as well as their much shorter lead times compared to coal, nuclear and gas, Eskom now considers wind and solar PV its preferred technologies for new generation capacity (de Ruyter, 2021). However, Eskom is facing a liquidity crisis and is saddled with R423 billion in debt (National Treasury, 2023: 4). As a result, reliance on private RE electricity producers has increased dramatically (although these remain constrained by a lack of sufficient grid capacity). The REIPPPP is expected to add an additional 2 800 MW to the grid under bid windows 5 and 6, while an amendment to the Electricity Regulation Act removing the licensing requirement for embedded generation projects has resulted in a surge of new private investment, with over 100 projects with a total capacity exceeding 9 000 MW in the pipeline (The Presidency, 2023: 3). Additionally, while coal is becoming increasingly unfinanceable (Trivedi & Srivastava, 2023: 5), the shift towards RE is being supported by the increasing availability of concessional finance for RE investments, such as the Just Energy Transition Partnership agreed to at COP 26 in which several developed countries pledged to provide \$8.5 billion to assist South Africa in its transition to a low-carbon energy system.

## **5.1. Increasing support for renewable energy**

These developments in the electricity sector have had important effects on the balance of power between stakeholders whose interests are impacted by a transition to a low-carbon economy. While energy-intensive firms within the MEC have played an important role in hindering efforts to decarbonise the economy, their primary concern has been with ensuring a cheap and reliable supply of electricity (Morris & Martin, 2015: 38). With Eskom's coal fleet no longer capable of supplying cheap uninterrupted power and with RE having become the least-cost and fastest means of ensuring continuity of supply, coalitions opposed to the decarbonisation of the electricity system have been weakened. Indeed, several mines and heavy industries have started investing in their own RE embedded generation projects with members of the Minerals Council committing to invest in 7 500 MW of RE over the next five years (MCSA, 2023: 19). Similarly, while Eskom has historically been a core site of resistance (Ting & Byrne, 2020), the electricity crisis combined with the utility's own financial woes have reduced Eskom's monopoly control of the electricity system and provided the political urgency for restructuring, with a pending R254 billion government bailout being made conditional on Eskom's unbundling into separate generation, transmission, and distribution entities (National Treasury, 2023: 15).

The focus of climate mitigation has also shifted towards ensuring a 'just transition' which ensures that those whose livelihoods depend on coal (85% of whom live in Mpumalanga) are not left behind in the transition to a low-carbon society. The framing of decarbonisation in terms of a just transition has created a central rallying point behind which coalitions of change agents can come together to bring

about a shift from high- to low-carbon development pathways (Winkler, 2020: 5). Consequently, the need to ensure a just transition that protects livelihoods and generates new jobs has gained some traction within the labour unions (COSATU, 2022: 25). Eskom itself established a Just Energy Transition office which seeks to achieve the goal of net zero emissions by 2050 and increase the number of sustainable jobs along the electricity value chain (Eskom, 2021). Supportive coalitions have been further strengthened by the establishment of the Presidential Climate Commission (PCC) which is an important institutional development that has elevated climate change concerns from the relatively underpowered DFFE to the Presidency with the goal of overseeing and facilitating a just transition to a low-carbon economy.

## **5.2. Remaining resistance to broader decarbonisation**

Despite the growth of coalitions supportive of a rapid rollout of RE, significant resistance to broader decarbonisation efforts remains. In an analysis of industry advocacy on climate policy in South Africa, InfluenceMap (2023: 27) found that industry's positions are not uniform across policy areas – with positive engagement towards the REIPPPP, broadly negative engagement on the carbon tax, and mixed engagement on the yet to be finalised Climate Change Bill (with negative sentiment emphasising the potential penalties implied by carbon budgets). Importantly, energy-intensive firms remain opposed to decarbonisation efforts in which they perceive themselves incurring net losses, such as the carbon tax which places direct costs on heavy emitters (Baker, 2022: 23). Continued resistance in this regard was evident in September 2022 when a consortium of the country's largest firms put out a joint statement on the carbon tax arguing for the extension of existing tax allowances and that an increase in the tax rate should only be considered after 2035 (ECSA, 2022).

Additionally, while there is broad industry support for the rollout of RE, some groups (including some metals and mining companies) nonetheless resist a concomitant reduction of fossil fuels in the energy mix (InfluenceMap, 2023: 31). Coal remains central in discussions of the electricity crisis with the recently appointed Electricity Minister, Kgosientsho Ramokgopa, recommending an extension to the life of Eskom's coal power fleet as a key response to load shedding (Swilling, 2023). The DMRE has also emphasised the continued importance of fossil fuels in the electricity sector with Minister Mantashe warning of the dangers of a "violent pendulum swing" to renewables while repeatedly stressing the need to include baseload alternatives in the form of gas, nuclear and 'clean' coal (Mantashe, 2021). Rather than aligning itself with the needs of a just transition, the Department has further indicated an intention to increase fossil-fuel-based energy investments with its Gas Master Plan Basecase Report envisaging the development of gas-to-power facilities as an anchor driving future gas demand (DMRE, 2021: 1).

The imperative to shift away from coal is also coming into conflict with elements of the country's Black Economic Empowerment (BEE) programme. While coal mining remained dominated by the original MEC conglomerates (or their spinoffs) until the early 2010s, ownership patterns have changed dramatically over the past decade with established mining houses having sold off major coal assets to large BEE mining companies (such as Seriti Power) and a host of smaller Black-owned mining and coal transport companies (Burton et al., 2022: 131). Moreover, according to Hanto et al. (2022: 308), a powerful coal lobby remains influential with strong ties existing between ANC political elites and the coal sector. Despite the end of the state capture era following the election of President Ramaphosa in 2018, elite interests along with the strong relationship between BEE companies and coal, have meant that the risk of political lock-in to the coal value chain remains.



Overall, resistance to decarbonisation from those with holding power continues, yet the long-term trend seems to point to a shift in the overall balance of power towards more supportive coalitions in favour of a rapid rollout of RE. As the electricity crisis has advanced, it has almost necessitated a restructuring of the coal-based electricity system. This has opened the opportunity for a green industrial policy that not only decarbonises the electricity system but also stimulates employment growth by building the technological and organisational capabilities on which the stagnant manufacturing sector can grow.

### **5.3. Potential for a green industrial policy**

With deep and immediate emissions reductions needed across all sectors of the economy, attention has shifted beyond climate policies alone towards broader initiatives that aim at shifting countries' entire development pathways (IPCC, 2022: 49). Given South Africa's capital- and energy-intensive economic inheritance, shifting its development pathway requires initiatives aimed at altering its economic structure towards more labour-absorbing low-carbon sectors (Winkler & Black, 2021: 15). This need provides a persuasive justification for 'green industrial policy' which refers to initiatives that aim to align the structure of the economy with the requirements of sustainable development by disrupting old development pathways and creating new ones (Lütkenhorst et al., 2014: 6, 22).

While altering the structural characteristics of South Africa's economy towards sustainability provides a strong justification for a green industrial policy, determining its viability requires assessing its compatibility with the existing political settlement. As outlined above, the electricity crisis combined with dramatic reductions in the costs of solar and wind technologies have significantly altered the balance of power in favour of a rapid rollout of RE. Importantly, unlike other environmental policies such as carbon pricing, which tend to impose concentrated costs on high emitting firms – and which therefore provoke strong resistance from industry incumbents – green industrial policies tend to provide concentrated benefits to specific low-carbon industries without imposing direct costs on high emitters (Meckling et al., 2015: 1170). Consequently, a green industrial policy with an initial focus on developing industrial capabilities off the back of the South Africa's renewables expansion is less likely to provoke strong resistance than previous environmental policies. Moreover, such a policy can be expected to receive wide public support, with industrial development, job creation, and emissions reductions having been identified as the top arguments in favour of RE deployment across stakeholder groups (Rennkamp, 2019: 11). The development of an RE-based industrial policy is already underway with the draft Renewable Energy Masterplan outlining a vision for the development of an RE manufacturing value chain that represents a key opportunity for job creation (particularly in just transition hot spots such as those in Mpumalanga) (DMRE, 2023).

However, incumbents continue to resist broader decarbonisation initiatives and a new political settlement aligned with a broader low-carbon development path has not yet emerged. The poorly performing manufacturing sector remains highly capital intensive (limiting its capacity to create jobs) and energy intensive (contributing to high emissions) (Winkler & Black, 2021: 9), coal retains its dominant position in the electricity mix providing 80% of electricity generated (Pierce & Le Roux, 2023: 2) and climate policies that go beyond RE continue to face resistance from well organised opposition groups (InfluenceMap, 2023: 27). As noted by Khan (2018b: 693), when attempting to implement policies that do not align with the interests of powerful groups finding implementable policies that nudge the political settlement in a desired direction should be the primary objective since it is ultimately the structure of the political settlement that shapes institutions and their outcomes. Fortunately, a green industrial policy has the potential to shift the political settlement in line with broader decarbonisation. Meckling et al. (2015: 1170) notes, that by providing concentrated benefits

to low-carbon industries, green industrial policies tend to build supportive low-carbon coalitions, thus providing the social and political conditions necessary for more ambitious decarbonisation later on. Consequently, while barriers to broader climate policies exist, these can be eroded through careful policy sequencing (Pahle et al., 2018: 861) that incrementally alters the political settlement and enables a gradual ratcheting up of policy stringency.

In sum, while a green industrial policy with an initial focus on South Africa's RE value chain makes sense given the opportunities presented by recent shifts in the balance of power, there is potential for broader and more ambitious decarbonisation initiatives going forward. Consequently, while South Africa's carbon tax has been largely ineffectual in terms of reducing emissions or generating revenue (Baker, 2022: 34), it may nonetheless become more effective if a green industrial policy is implemented that builds supportive coalitions to counter the strong opposition from incumbent high-emitting firms. A green industrial policy is therefore not only compatible with South Africa's existing political settlement (thus enabling its initial adoption), but also has the potential to nudge South Africa's political settlement over time in favour of more rapid decarbonisation and a just transition.

## 6. Conclusion

This paper has sought to determine the factors that have constrained a shift away from South Africa's historical high-emissions low-employment development pathway while seeking to identify possible actions that could bring about an inclusive low-carbon society. In pursuing this objective, the political settlements framework has been used to focus attention on how the compatibility (or lack thereof) between institutions and the balance of power in society can reinforce or constrain efforts to implement transformative policies.

By examining the historical evolution of holding power over the 20th century, the analysis shows how the emergence of the MEC led to a capital- and energy-intensive industrial structure with a supporting set of institutions (such as SOEs) and power (including highly concentrated corporate ownership) that underpinned a high-emissions low-employment development path. While evolving, these institutions and contours of power have largely persisted in South Africa's post-apartheid political settlement and have constrained efforts to restructure the economy in a more sustainable and inclusive direction. This was evident not only in business' ability to influence economic policy formation during the transition, but also in the presence of a 'hidden' industrial policy that reinforced the capital- and energy-intensity of the manufacturing sector, and in the delaying and watering down of climate policies aimed at shifting to an inclusive low-carbon development path.

More recently however, changes in the balance of power have opened the opportunity for an emboldened push for an inclusive low-carbon transition. In particular, the mounting electricity crisis combined with the dramatically falling costs of RE have provided the conditions for a wider set of actors to support a just transition that reduces emissions while creating new jobs for those whose coal-dependent livelihoods are at risk. Several companies in mining and heavy industry are now making substantial investments in RE while Eskom has engaged positively on a just energy transition in recent years. Consequently, previous core sites of resistance, such as energy-intensive firms and Eskom, are now adding their weight to those who have long supported a just transition such as RE firms, civil society, the DFFE and some labour unions. While resistance remains, with the DMRE and other groups with vested interests in the coal value chain pushing for the continued use of fossil fuels, the balance of social forces supporting a rapid rollout of RE is shifting. The focus on a just transition that reduces emissions while protecting livelihoods and generating new jobs can provide a focal point

for support with the PCC representing a new institution that can champion this objective and mediate different views across diverse stakeholder groups.

While growing support for RE marks an important incremental shift in the balance of power, a new political settlement that is fully aligned with an inclusive low-carbon development path has not yet emerged. Nonetheless, a green industrial policy that focusses on the economic structure at the heart of South Africa's employment and mitigation challenges can help shift the country onto an inclusive low-carbon development pathway. A green industrial policy holds great potential, not only because of its compatibility with the existing political settlement, given the recent changes in the balance of power, but also due to its ability to nudge the political settlement towards broader decarbonisation by building supportive green coalitions. Consequently, more stringent climate policies such as the carbon tax may become viable as the political settlement evolves. This nonetheless requires policymakers to be attuned to subtle shifts in the political settlement and to sequence policies appropriately given their distributional effects. In South Africa, an appropriate policy sequence may begin with an initially RE-based green industrial policy followed by broader and more stringent environmental policies as supportive coalitions grow and a more conducive balance of power emerges.

In sum, while it is difficult to assess *ex-ante* the power of groups opposing a just transition to thwart effective policy implementation, recent changes in the balance of power have created an unprecedented opportunity for rapid decarbonisation. If this opportunity is seized and paired with a green industrial policy that not only creates jobs, but generates support from a wide range of actors, South Africa could implement more transformative policies that shift the country onto a more sustainable and inclusive development pathway.

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