



Political Implementation Risk in South African and Brazilian Climate Policy

Britta Rennkamp

Abstract

The Paris Agreement has changed the structure of international climate policy. Nationally determined contributions (NDC) stand at the core of the Agreement, providing a vehicle for loosely coordinated international cooperation. What can go wrong with this approach that emphasises the implementation of national climate action as the critical solution to the world's climate crisis? While most scholarly attention focuses on large emitting nations in the Europe, North America and East Asia, this analysis investigates the political risk associated with the implementation of the NDCs of the largest emitters in Latin America and Africa: Brazil and South Africa. These two nations also count as the most unequal societies in the region. The paper assesses political implementation risk within the structures of domestic environmental and climate policy networks. The central argument is that climate policy outcomes emerge from negotiations between competing implementation networks, which operate partially as open programmatic issue networks and partially as closed policy communities in the same climate policy arena. While issue networks attract large numbers of interested actors who engage in national public climate policy debate, policy communities are much smaller, dominated by like-minded actors who protect the sources of resources divided between them. These historically grown networks resist climate policy change as they might potentially lose from technological change and ambitious climate action. Both Brazil and South Africa have witnessed changing balances between open climate policy networks and closed communities, which aim to protect the status quo. Global governance functions have been influential in strengthening domestic climate policy networks, in the Earth Summits in Brazil and the COP 17 in South Africa. Actors in open climate policy networks are currently battling against severe institutional decline that creates high risks for the successful implementation of the respective NDCs. The implementation of the Brazilian NDC is highly threatened by the high deforestation rates and the deconstruction of the environmental governance system over the course of 2019. EU limitations to the import of agricultural imports from Brazil can strengthen open climate policy networks and turn the beneficiaries of the current administrations into opposition. The current president of South Africa is open and active in strengthening open climate networks, but internal opposition is threatening his thin majority. Hosting another major UN Conference in South Africa can help to strengthen the actors in open networks and boost the implementation of renewable energy infrastructure, which is essential to the country meeting its NDC.

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1. Introduction

The Paris Agreement on Climate Change (PA) marked a success in the international negotiations of climate change, which raised expectations of breaking with the inertia of decades of ineffective international climate governance. Nationally determined contributions (NDC) stand at the core of this Agreement. NDCs are voluntary, not legally binding, submissions to the UN by individual nation states which articulate national actions and measures to the goals of mitigating and adapting to the consequences of climate change. The Paris Agreement builds largely on ‘soft’ power as all Parties, independent of their levels of socio-economic development, can determine their contributions to achieving the global temperature goal. Obligations under the Agreement do not bind Parties to achieve what they have communicated in their NDC, but to “pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions” (Paris Agreement 2015, Oberthuer 2016).

Successful implementation of the national climate actions communicated in the NDCs would lead to sizeably lower aggregate global emission levels than on pre-INDC trajectories (UNFCCC 2016). Yet, here are numerous risks and uncertainties associated with the implementation of the actions proposed in individual NDCs. Implementation risks of climate action under the NDCs occur at both international and national levels. Risks emerge from the structure of the Agreement as well as its integration (or lack thereof) with domestic policy and action.

This paper investigates the political implementation risks and policy networks associated with the energy related climate action outlined in the NDCs of two major emitting and highly unequal societies in the Global South: Brazil and South Africa. The central argument suggests that political implementation risks emerge from competing policy networks that pursue strategies towards opposing or supporting specific climate actions and energy policies in line with their respective interests. The paper presents an analysis of policy networks and political actors that shape competing coalitions in support and opposition to energy-related climate actions central to the first NDCs communicated to the UNFCCC by the governments of Brazil and South Africa.

The paper is structured as follows: section 2 presents the conceptual and empirical literature related to the research problem, drawing on the literature on political risk, implementation risks, policy networks and the role of international governance networks (Hanger and Kopp et al. 2019, Mischen and Jackson 2008, Rhodes 2015, Dai 2010). Section 3 introduces the framework for the analysis and the methodology. Section 4 presents the analysis of policy networks and political implementation risk associated with energy-related climate actions in Brazil and South Africa. The final section synthesizes and summarises the findings.

2. Political implementation risk and climate policy networks Post-Paris

Risks and uncertainty form a central part of climate policy processes as they address unknown futures. The IPCC defines risk broadly as “the potential, when the outcome is uncertain, for adverse consequences on lives, livelihoods, health, ecosystems, economic, social and cultural assets, services (including environmental services), and infrastructure” (IPCC, 2014, p. 1772). This definition identifies uncertainty as a source of risks. Uncertainties emerge from unknown events in the future. Risks are potentially negative consequences, as opposed to positive opportunities. Risks result from uncertainties and can impact on any aspect of human life, economic activity and nature. The IPCC definition distinguishes various risks associated with climate change (risks of climate impacts, vulnerability, market and technology risks). The IPCC provides no definition of political risk. This paper uses Hanger

Kopp's definition of uncertainty, as the 'general absence of knowledge of about future outcomes, which can be either positive or negative'; risks more specifically refer to 'a calculated or perceived potential for negative impacts' (p. 11) in instances of uncertainty (Hanger Kopp et al 2019).

2.1. Political risk and implementation

Political risk generally focuses on risk that political conditions and decisions may affect the profitability or return of investment of economic actors (Matthee, 2011), such as through unexpected changes to "the rules of the game" under which businesses operate (Butler and Joaquin 1998). This risk is generally quantified through the use of sets of indicators, which include measure of the quality of democratic accountability, bureaucracy, law and order and corruption (ICRG 2019, Transparency International 2019, Freedom House 2019).

Political risks can be divided into implementation risks and consequential risks. While consequential risks refer to the potentially negative consequences of an implemented policy, implementation risk is the risk to policy which potentially prevents it from being designed or implemented. While implementation risk is the focus of this paper, it is acknowledged that these two forms are interrelated, for example as "consequential risk may become a cognitive barrier to the implementation of a pathway and turn into an implementation risk" (Hanger-Kopp et al., 2019, p. 14). Risk can also emerge from policy results that turn out to be much less impactful than anticipated.

However, risk is also subjective and risk perceptions can be individual or shaped by epistemic groups (Hanger and Kopp et al., 2019). The literature distinguishes between 'epistemic uncertainties' and 'aleatory uncertainties', as sources of risk perceptions. Epistemic uncertainties can be reduced by human action, such as increasing knowledge and information, while aleatory uncertainties result from the physical nature of things (Hanger-Kopp et al., 2019, p.12). Political risk emerges from epistemic uncertainties and individual and epistemic perceptions define these uncertainties.

2.2. Political risk and climate policy networks

Policy networks can be defined as 'sets of formal institutional and informal linkages between governmental and other actors structured around shared, if endlessly negotiated, beliefs and interests in public policy making and implementation' (Rhodes 2008). Policy networks shape, enable and constrain political action. The analysis of policy networks helps to understand the nature of relationships between political actors and the ways they operate, which is why their analysis is essential to understanding policy outcomes, institutional order (polity) and conflicts of interests (Schneider 2009, Victor et al 2017).

What do we know about policy networks that are specific to climate change? Climate policy network analyses frequently centre on the macro-economic and macro-political factors that determine different levels of ambition in national climate policy. Explanations range from levels to democracy to power of fossil fuel association to the influence of international norms by international organisations (Baettig and Bernauer 2009, Stevenson 2011). Policy network analysis has centred on specific climate policies with the aim to understand discourse and action, debates, positions and power relations as part of the processes that enable or hinder climate policy change (Ylä-Anttila et al. 2018, Broadbent 2018, Boule 2018, Mander 2008, Rennkamp 2019). Climate policy networks operate as transmission mechanisms between the international and national levels. These networks frame the 'bigger picture' in the national policy arenas where the debates over individual policy processes emerge. This analysis adds to understanding this middle level between national and international actors to understand the bigger picture of climate policy networks.

The analysis distinguishes between ‘issue networks’ and ‘policy communities’, which emerged in the early stages of network theoretical explanations for the distribution of resources and power relations between political actors (Marsh and Rhodes 1992, Marsh 1998). This conceptual distinction resembles the continuous competition which we observe between energy security and sustainability narratives which emerge from competing networks and interests. Clashes emerge from competing interests between potential winners and losers in current energy transitions. A major line of conflict emerges between the established, historically grown policy communities that aim to protect resources generated from traditional fossil fuel and agri-businesses, while issue networks driven by interest in renewable energy and low-carbon development from civil society and the international community are expanding (Jacobs 2018, Boule 2019, Rennkamp 2019).

‘Issue networks’ and ‘policy communities’ emerge from common themes or issues. These networks are differentiated from each other by the i) the level of integration of network members, and ii) the way groups distribute resources among them. Issue and policy community networks vary in the number of participants, interests, frequency of interactions, continuity, consensus, resources and distribution thereof, as well as power relationships (Rhodes 2015). Issue networks are open, attracting a large number of participants, who interact through open channels of communication. Issue networks come and go as they are determined by the relevance of the issue. Resources are generally limited to a few participants, as the nature of the relationship is consultative.

Policy communities, in turn, are limited to fewer participants. These networks can be consciously exclusive towards other groups. Resources are distributed amongst all participants, and often an entry barrier to the community is access and ownership of resources. While creating an exclusive group, this access and distribution of resources also mitigates against inequalities that emerge within the network while limited resources in issue networks leads to inequality in access to those resources and unequal power relations. A policy community brings together ‘potential actors drawn from the policy universe who share a common identity or interest’. Policy communities share three characteristics: differentiation, specialized organizations and policy-making institutions, and interaction (Rhodes 2017, 28). While there are key distinctions between these concepts, it is essential to acknowledge that they are not necessarily mutually exclusive (Rhodes 2015).

Table 1: Dimensions of policy communities and issue networks

Dimension	Policy Community	Issue network
Membership	Limited, excludes consciously	Large
Type of interest	Economic / and or professional interests dominate	Encompasses range of affected interests
Integration/ Frequency of interaction	Frequent, high-quality, interaction of all groups on all matters related to specific policy issues	Contacts fluctuate in frequency and intensity
Continuity	Membership, values and outcomes persistent over time	Access fluctuates significantly
Consensus	All participants share basic values and accept the legitimacy of outcomes	Conflict is ever present
Distribution of resources within the network	All participants have resources, basic exchange relationship	Limited resources, consultative relationships
Distribution of resources between members	Hierarchical	Varied and variable distribution and capacity to regulate members
Power	Balance of power among members, positive sum game essential for community to persist	Unequal powers, reflecting unequal resources and unequal access, zero sum game

Source: Rhodes (2015)

The concept of policy communities suggest that members share interests and close connections and ‘personal relationships between major political and administrative actors’ (Heclo and Wildavsky 1974 cit in Rhodes 2017). The dominance of policy communities has raised concerns about their legitimacy, the basis of sharing resources and the institutional arrangements which determines the rules of the game within a policy community. Policy communities are different from patron-client networks, which rely on reciprocal exchanges between hierarchical relationships (Hicken 2011).

2.3. Policy networks, political risk and patronage in highly unequal societies

The intimacy of relationships between members in a policy community does not necessarily mean that these communities are engaging corrupt interactions. Policy communities operate through personal relationships and focus on resources, however, can make them vulnerable as they bear similarities with kleptocracies, which refer to ruling elites who divide up gains from natural resources between them at the expense of providing public goods for all (Hicken 2011). Governance structures which operate through these kinds of relationships often create to opportunities for rent-seeking.¹ Network structures determine the framework conditions that determine rent-seeking opportunities, types and scale of corruption² (Stokes 2013). In conclusion, the analysis of policy networks enables us to disentangle and visualise the complexities of relationships between actors. While some networks may act as issue networks, open to a wide number of diversity of participants through open channels of communication, others act as closed, club-like communities, with elements of patronage and opportunities for corruption and rent-seeking. While patronage and rent-seeking also occur in wealthy, more equal countries, they are prevalent in poor and unequal societies, both as a cause and a consequence of a lack of other formal opportunities (Stokes 2013).

2.4. International implementation risk to domestic climate policy

The problem of uncertainty and power imbalances in the negotiations of international climate policies creates agreements which are ambiguous and vague, thereby creating potential implementation risks. These risks emerge from a number of characteristics in the Paris Agreement.

Firstly, the implementation of the Paris Agreement on Climate Change relies heavily on the domestic action communicated in the NDCs which lies outside the control of the international community. National sovereignty therefore can shield national action or inaction from the influence of multilateral governance, a feature not only of the Paris Agreement, but international governance more generally (Finnemore 1996).

Secondly, the current NDCs take very different forms and levels of ‘ambition’ as there is no specific format. The Paris Agreement lacks precision in the detail of the contributions in the NDC, which allows states to compromise its effectiveness (Lawrence and Wong 2017). The Rule book developed during the COP 24 in Katowice provides guidance for future NDC cycles (Obergassel et al 2019).

¹ Rents can be defined as income that deviates significantly from the norms in competitive markets, including legal or illegal transfers organized through political mechanisms or private mafias (Khan and Jomo 2000). Rents are an element of corruption, more broadly, which ‘occurs where the private search for economic advantage and personal advancement clashes with laws and norms that condemn such behavior’ (Ackerman 2011, p. xiv).

² ‘Corruption occurs where the private search for economic advantage and personal advancement clashes with laws and norms that condemn such behavior’ (Søreide and Rose Ackerman 2011, vii).

Thirdly, the different actions communicated in the respective NDCs may communicate conditionalities and require support through international cooperation for access to finance, technology and capacity building. These requests may exceed available climate funds (Pauw 2019).

Fourthly, there is no explicit penalty for non-compliance. The enforcement branch that existed under the Kyoto Protocol has fallen away and was widely considered to be ineffective (Hagem et al. 2005, Bernstein 2002). The compliance committee under the Paris Agreement has no formal sanction mechanism, and relies on facilitation only. Implicit cost of non-implementation remain a significant source of uncertainty. This 'soft law' legislation was opposed by the EU, developing states and small island nations but was a requirement for getting critical parties such as the US and China to the negotiating table (Byrnes and Lawrence 2015, Lawrence and Wong 2017).

Lastly, the Paris Agreement and the NDCs address specific horizons in the future. The NDCs determine short-term futures of five-year cycles, which add up to the long-term temperature goal to 'hold the increase in the global average temperature to 'well below 2°C' above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change' (Art.2, PA 2015). To achieve this long-term goal, «Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty' (Art.4, PA 2015).

This long-term horizon translates into six NDC cycles from now on to reach the international climate goal. The recent IPCC report (1.5°C) found that 'global warming is likely to reach 1.5°C between 2030 and 2052 if it continues to increase at the current rate (IPCC 2018). To achieve the global temperature goal, many countries will have to reduce their emissions drastically and implement radical changes in economic and energy policy which will have to be communicated in the NDC submissions for 2020. This outcome is unlikely thanks to the combination of a non-binding Agreement on Climate Change and domestic policy networks in many countries that protect energy intensive industries and emissions intensive pathways.

Despite these weaknesses of international agreements, international networks can still have significant power to influence national policy. The promise of these networks lies in two central domains. Firstly, through their ability to formulate responses to urgent problems, networks offer the opportunity to close the operational gap that characterizes international environmental policy today. And secondly, through their non-hierarchical structure and their ability to involve non-state actors, networks promise to bridge the participation gap that is often the main reason behind international political deadlocks. Networks typically perform one or several of the following functions (Streck, 2005: 10):

- Strengthening of negotiation power. Networks bring together different actors with similar interests and thus increase the leverage of the arguments put forward. For example, in climate policy, numerous international and national actors have joined 'issue' networks on climate protection aiming to facilitate the negotiation and implementation of the Agreement over the past years (Dai 2010).
- Coordinating policy approaches. Governments choose to cooperate in networks to coordinate policy responses with regard to a specific issue, thereby increasing the effectiveness of the response.

- Bolstering institutional effectiveness. Networks can facilitate the building and effectiveness of institutions and broaden their constituency base.
- Implementing policies and agreements. Networks are also formed with the specific purpose of translating the results of intergovernmental negotiations into concrete activities and improving the willingness and capacity for compliance of different stakeholders.
- Generating and disseminating knowledge. Networks can serve as tools for gathering existing knowledge in a fast and efficient manner and can even generate new knowledge where gaps are identified.

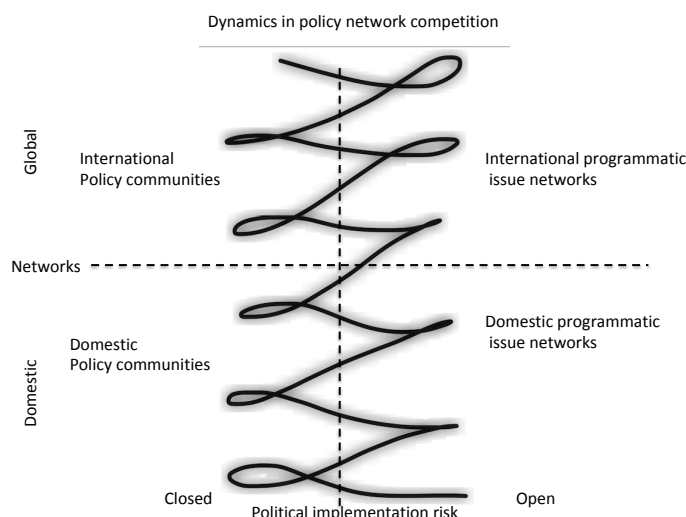
These functions correspond with global governance functions, as other authors have called them, and they enhance the influence of international institutions, even in the absence of 'hard' regulations and direct enforcement power (Dai 2010). Global governance functions include agenda setting/signal and guidance, information sharing/knowledge and learning, capacity building, technology and finance, enforcing of regulation where applicable and integration across different global environmental governance arenas (Bulkeley et al, 2012, Oberthuer, Hermwille and Rayner 2019, van Asselt 2017). Climate governance may involve more discursive and normalizing practices, facilitating the exchange of knowledge, ideas, and beliefs. In this sense the instrumentalism implied by a governance 'function' opens ways in which governing is accomplished transnationally. Global governance functions operate predominantly under soft law, which dominates most international law, with exception of the enforcing of regulation, setting rules and standards to facilitate collective action, where applicable.

3. Political implementation risk as network competition: a framework for analysis

The proposed framework for the analysis of political implementation risk in highly unequal societies applies the distinction between open issue networks and closed policy community networks at the intersection of the international and national levels of climate governance.

The framework suggests a dynamic of competition between open issue networks and established policy communities reaching across national and international spheres of power and influence, protection and provision of public welfare, and access to public vs. private resources and finance. The power balances between these networks vary over time. The networks co-exist and influence each other continuously. The dynamics in the network competition ultimately produce the implementation risk of climate action.

Figure 1: Policy network competition and implementation risk



source: own

The framework structures the analysis of the policy networks and inter-linkages with international actors in climate governance in Brazil and South Africa. The focus is predominantly, but not exclusively, on central energy transitions as vehicles for climate policy in each country.

The analysis grounds in a combination of quantitative and qualitative methods. Political risk assessment is most reliable in combining quantitative indicators and qualitative expert inputs, which can provide both a bigger and nuanced picture (Toksöz 2014).

Comparative, global risk assessments have established sets of indicators for political risk. The International Country Risk Guide (ICRG) assesses indicators on government stability, socioeconomic conditions, investment profiles, internal conflicts, external conflicts, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability and quality in bureaucracy. These data have informed various studies on political risk (Khan 2013, Busse/Heffer 2007, WTO 2004).

The qualitative network analysis establishes the main characteristics of policy networks in the domestic and international climate policy arenas. Qualitative network analysis helped to identify elements of patronage and programmatic networks that operate in co-existence and competition to each other. The qualitative analysis grounds in data from the existing literature, document analysis, expert interviews and written expert inputs in the form of case studies (see Grottera et al. for Brazil and Trollip for South Africa in this report).

The analysis focuses on two countries. Brazil and South Africa, who share commonalities and many differences. Brazil and South Africa count as upper middle income countries, with relatively low (multi-dimensional) poverty levels (12% in South Africa and 6 % in Brazil) (Alkire et al., 2019) but high levels of inequality (as per Gini, 63 in South Africa and 53 in Brazil) (World Bank, 2019). Both countries have relatively high *per capita* emission levels with Brazil's main source of emissions coming from deforestation, while South Africa's are a product of its reliance on energy derived from coal.

Although South Africa and Brazil have distinct and independent histories and political systems, governments in both countries developed similar climate change and environmental policy regimes in similar periods of time and both countries submitted NDCs to the United Nations Convention on Climate Change ahead of COP 21 in 2015 and have ratified the Paris Agreement in 2016 (UN 2019, UNFCCC 2019). Subsequently, their climate change mitigation policies set out to reduce emissions, which largely originate from sectors that traditionally create income for ruling elites. These sectors are the minerals and mining sectors and the agricultural sectors, which generate fuels for electricity supply and transport.

The analysis investigates specific periods in domestic and international climate policy policymaking over 25 years between 1994-2019. The analysis distinguishes six periods for each country, which can be considered as case studies (King, Keohane and Verba 1996). The logic of the periodization emerges from the changes in the relationship between open issue networks and closed policy communities and the relative dominance of one of the other. The analysis of the empirical data largely follows interpretive methods, not quantitative measurement, in linking the data to the framework. Each analysis section will conclude with an overview of key policies, actors and events placed in the structure of the framework. The synthesis section combines an overview of the central network dynamics over time. The analysis has limitations, because it focuses on showing the overall lines of competition and conflict between competing networks. The analysis will not be able to depict individual social network or discourse networks, because of the scope and length of the period of investigation.

4. Political implementation risk for climate policy in Brazil and South Africa

Political risk indices for both countries show high political risk in governance-related functions: corruption, law and order and the quality of the bureaucracy feature very high political risk. Most of these concepts are relational. Having closer insights into these relationships requires analyzing the networks in which political actors operate. The political risk indicators suggest that overall there are favorable conditions for patronage networks in all three countries, which may translate into implementation risks for climate policy. Table 2 shows indices for Brazil, South Africa, India and China, which BASIC countries all show high political risk in governance related functions: corruption, law and order and the quality of the bureaucracy feature very high political risk. On a range from 12 to 0, high numerical values indicate low risk and vice versa.

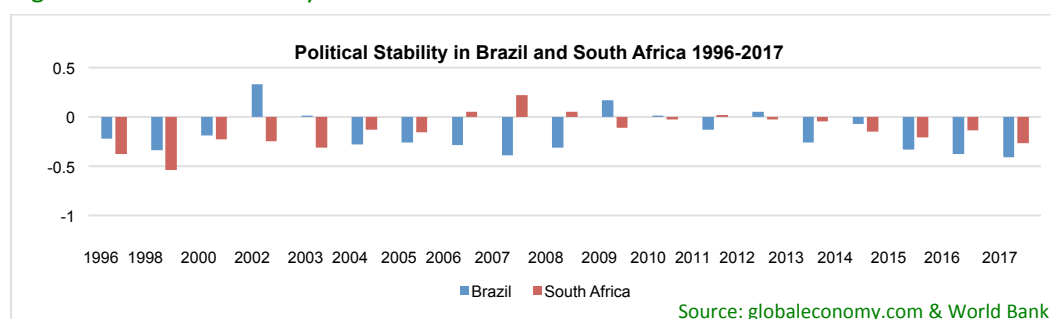
Table 2: Political risk components of the BASIC group

	Brazil	China	India	South Africa
Government stability	5.0	7.5	8.0	6.5
Socio-economic conditions	6.5	7.5	5.5	3.5
Investment profile	7.0	6.0	8.5	7.5
Internal conflict	9.0	7.0	6.5	9.0
External conflict	10.5	7.5	9.0	10.5
Corruption	2.0	2.0	2.5	2.5
Military in politics	4.0	3.0	4.0	5.0
Religious Tensions	6.0	4.0	2.5	5.0
Law and Order	2.0	3.5	4.5	2.0
Ethnic Tensions	3.0	3.5	2.5	3.5
Democratic Accountability	5.0	1.5	6.0	5.0
Bureaucracy Quality	2.0	2.0	3.0	2.0
Rating in 06/16	62.5	55.0	63.0	62.5

Source: own compilation based on IRCG June 2016³

These indicators provide an overview of the various factors contributing to political risk more broadly. The World Bank measures political stability in combined indices of Political Stability and Absence of Violence/Terrorism, which measure perceptions probabilities of governmental destabilization or unconstitutional change resulting from politically motivated violence. Figure 2 shows the severe fluctuations of political risk perceptions for Brazil and South Africa since the first years of the young democracies in 1996 until 2017, which is the last available data point.

Figure 2: Political Stability in Brazil and South Africa 1996-2017



³ ICRG and global economy.com belongs to a commercial enterprise, which locks most recent data behind high pay walls which why the research had to rely on open access data from 2016. World Bank data is available until 2017.

4.1. Climate policy networks and implementation risk in Brazil

The central implementation risk to Brazilian climate policy emerges from the competition between historically grown networks which have benefit from the extractive economic activities and alternative, open networks which propose a leadership in global climate and environmental governance.

The analysis of implementation risk and climate policy networks in Brazil is structured in six phases: i) a historical background which surfaces the institutional and cultural structures in which climate policy networks struggle to operate, ii) the change to democracy and beginnings of open environmental networks, iii) the peak of open issue networks under the Lula years, iv) continuation and decline of climate leadership under the presidency of Dilma Rousseff, v) climate pragmatism under Michel Temer and vi) finally, the detour of Jair Bolsonaro's presidency in promoting open networks for climate denial and active deforestation.

4.1.1. Historical cleavages and environmental change in Brazil's political system

The administrative systems and cultures created in Brazil under Portuguese colonial rule structured the country into loosely connected units, far away from each other with rulers subject to minimal external control. These days may seem far away to the minds of today's readers, but they still matter to understanding modern Brazil. These historical structures led to 'oligarchical politics in a representative system' (Montero 2005), which results in a system where ruling elites in the provinces still have very little interest in a centralized state. The proclamation of the Republic in 1889 replaced a parliamentary, unitary form of state with presidential, federal system. Personalism in presidential leadership, state governors and party leadership continues as an unresolved problem in Brazil's political system, which makes it increasingly fragile (Arcaro Conci 2018). The provinces compete with each other and the federal system serves their interest to remain as autonomous as possible. As a result, tax evasion and fiscal redistribution of federal resources remain a severe problem (Lieberman 2001). The governors in the Northeastern provinces continue to be influential players in Brazil's political establishment.⁴ At the same time, the fragmentation of the party system, with strong personalities in leadership, but limited participatory practices, make it difficult for the presidents to establish and maintain political coalitions and serve the various political interest, which has made the political system increasingly unstable (Arcaro Conci 2018).

The largest part of the Amazon forest grows its roots in the Northern and central parts of Brazil. Cattle, soy and sugarcane farming have traditionally been a major source for the livelihoods of ruling elites, farm workers and indigenous communities. The inequalities of the agricultural and forestry sectors have persisted. Large-scale agribusiness networks, partially dominated by multi-national companies and large national champions evolved along with small-scale and subsistence farming. Tensions between conservation of the forest and use of agricultural land have been ongoing for decades, and in some cases have led to violent clashes and the deaths, ranging from Chico Mendes in 1988 to Paulo Guajajara in 2019 (DW 2019). Local communities, local and international NGOs in the Amazon and other

⁴ President Lula and his successor Dilma Rousseff reportedly paid visits to José Sarney in Maranhão and other influential governors in the Northeastern states who are traditionally affiliated to conservative parties (Hart 2010). Sarney was affiliated with the ARENA party during the military dictatorship, then changed his loyalty to the opposition and became the 31st President of the country in 1985. High inflation, debt crisis and patronage mark the legacy of his presidency.

forests such as the Mata Atlântica, Brazil's coastal forest, 85% of which has been lost, call for conservation and protection of the forest, specifically from fire-clearing practices.

Brazil's energy sector is also very interrelated with the agricultural sector as it offers a major potential for the use of biofuels. Brazil's dependence on imported oil is the «Achilles heel» of the energy sector (Aamodt 2015). The development of the Brazilian biofuels sector dates back to the 1970s in the response to the oil crisis. The authoritarian government formed the «Pró-Álcool» program, which brought together the state-owned oil enterprise Petrobrás, major sugar cane and ethanol producers and the automotive industries. The initial target aimed for a influx of 20% of ethanol in conventional gasoline along with a subsidy for industrial production of ethanol powered cars to reduce the dependence on imported oil. Once the oil prices recovered, these subsidies ceased in the 1980s. The ethanol program became dormant until the early 2000. Brazil's biofuel policy turned into a significant industrial policy effort with the aim to innovate in the agricultural, petrochemical and transport sectors.

In sum, Brazil's economy historically developed on extractive businesses models with a large agriculture sector. Clashes with indigenous communities and activists for conservation of the forest have been a long standing conflict line. Sugar cane and soy beans often grow on land that was previously covered with forest in the central, northern and northeastern regions of the country. Cattle farming is another main factor for the demand for pasture land. In these regions many livelihoods depend on agricultural income, at large and small scale. The agricultural sector links in into the energy sector with the ability to produce fuel from sugarcane based ethanol and biodiesel from soy to reduce the dependency on imported oil.

4.1.2. Towards open environmental issue networks: 1992-2003

With the return to democratic rule, Brazilian government slowly started to signal commitment towards multilateralism, open markets and started to promote liberal values, democracy, diversity, and human rights (Encarnación 2019, Vigevani and Cepaluni 2007). In the early transition governments of Fernando Collor and Itamar Franco, the Brazilian government slowly took first steps to building environmental soft power. Brazil hosted the Earth Summit in 1992, which marked a change in the multilateral agenda on environmental and development policy after the end of the cold war. This sizeable UN conference brought thousands of political actors and environmental activists together. The summit led to the Agenda 21, the forest principles, and the Rio Declaration on Environment and Development, and most importantly set out the UN Conventions on Biodiversity, Climate Change and Combat of Desertification (UN 1992). The Earth Summit was not «just» an international conference. The influential event marked the change of an era of globalisation of environmental politics in Brazil (Viola 1998). Economic development priorities, however, continued to trump the domestic policy agendas. The environmental sustainability concerns were marginal in the electoral campaigns in the elections in 1994 in both Cardoso and Lula's campaigns (Viola 1998). The government under Fernando Henrique Cardoso, a centrist with the Brazilian Social Democracy Party, continued to struggle with the emancipation of the country from the old economic development model, dominance of external economic actors, debt crisis and dependence on loans from the Bretton Woods Institutions. The challenge at the time was to strike a balance between import substitution and relative economic isolation and economic neoliberalism, promoted by the US. Cardoso's attempts already geared up a reform of the international trade regime strengthening relations with powerful emerging economies. The Cardoso administration strengthened the role of the president in fostering a stronger role for Brazil's presence in the world economy (Cason and



Power 2009). The Brazilian government adopted a rigid approach to the climate change negotiations in the Kyoto protocol, though, resisting progress for international forest regulations, as a result from the devastation of the Amazon during this period (Viola and Franchini 2018).

The Cardoso administration supported domestic climate policy networks with the creation a Brazilian Forum on Climate Change in 2000 with the intention to ‘raise awareness and mobilize society and contribute to the discussion of actions needed to address global climate change’. The forum coordinated the process of formulating the national mitigation actions, and later NDCs, including research and the participation of civil society throughout the rule of the workers party under Lula and Dilma (Centroclima 2015, personal communications).

This period marked the beginning of a slow transition towards strengthening open environmental domestically and internationally. Another change was the growing role of the presidential influences in international affairs. However, high deforestation rates left Brazil with an image of a ‘climate villain’ (Viola and Franchini 2018).

4.1.3. Consolidating open environmental networks while juggling domestic interests (2004-2010)

The rule of the worker’s party in 2003 set out with ambitious progressive agendas domestically and internationally. The victory of Lula Ignacio da Silva, a stern opponent of the military dictatorship, in the presidential elections in 2002 after three unsuccessful attempts marked a significant change. The rule of Brazil’s left catalyzed progressive liberal values, with the support of the progressive and environmentalist vote.

Domestically, the Lula administration set an ambitious environmental policy agenda, which strengthened the role of the Ministry of Environment (MMA) in climate policy. The Amazon-born minister of environment, Marina Silva, prioritized deforestation control. The country witnessed significant emission reductions of an annual average reduction of 317 mtCO₂, between 2005 and 2010 (Centroclima 2015b). Internationally, the administration’s diplomacy consolidated Cardoso’s legacy in building up the trade relations with other emerging powers in the Global South (Jeffrey and Power 2009, Freitas Couto 2010). The Lula administration build the IBSA group (G3) with India and South Africa in 2003, the O5 with the OECD outreach and joined the G20. The Brazilian government took a leading position in the international climate change negotiations with the creation of the BASIC group (Brazil, South Africa, India, China) ahead of COP 15, the United Nations Conference of the Parties in Copenhagen in 2009. Brazilian diplomacy was significant for the outcome of the negotiations in counter-balancing EU and US diplomacy in building a powerful alliance with China, India and South Africa. Marina Silva’s successor in the MMA, Carlos Minc, announced the goal to reduce Brazil’s forest emission by 80% by 2020, at COP 15 (MMA 2009).

Lula revived the biofuel sector with various programs and spearheaded Brazil’s ‘ethanol diplomacy’. The sector attracted significant investments into the ethanol sector. The national development bank (BNDES) supported domestic industries with specific industrial policy incentives (Tasca 2018 cit in Grottera et al. 2020, in this report). The program aimed to generate employment in the rural areas, boost industrial development and reduce local air pollution through the cleaner combustion of gasoline blended with sugarcane-generated ethanol. This blend could contain up to 24% of ethanol.⁵ The successful

⁵ The so-called gasohol contains gasoline blended with sugarcane ethanol for light-duty vehicles only. Biodiesel, originates mainly from soybean, is blended with diesel for heavy duty vehicles like trucks and buses.

development of flex fuel vehicles motor were game changing innovation at international technological frontier, which turned into a mainstream market innovation with almost 90% of all new cars sold in the country (ANFAVEA 2007, cit in Grottera et al 2020).

At the peak of Lula's ethanol diplomacy, the president had put together a body of national government agencies (including a branch for bio-combustive fuels with the state owned oil company Petrobrás, the National Development Bank BNDES and the state agency for agricultural research Embrapa). The Lula administration had signed numerous multilateral and bilateral agreements that focused on biofuel trade and research. The ambition of the ministers of environment, Marina Silva and Carlos Minc, strongly supported the environmental agendas in Lula's presidential diplomacy. The Brazilian government became a more credible leader in the international climate negotiations, with the success of the emissions reductions from deforestation. Brazil's ambitious climate leadership was not without problems at the time, because of the competition with nationalist conservative coalitions pulling national interests into different directions (Viola and Franchini 2017). Lula managed to integrate most of the interests of historically conflicting party into his political agenda, including the agribusiness, banking system and environmental NGOs (personal communication).

4.1.4. Decline of open issue networks (2008-2016): balancing ethanol heritage and Petrobrás oil patronage

The international financial crisis and the discovery of deep ocean oil reserves outside the coasts of Rio de Janeiro (known as Pre-salt) gradually challenged the political enthusiasm for biofuels. The prospects of local oil rents associated with the exploration of the pre-salt reserves turned the government's attention inward, at the expense of open environmental and ethanol networks (Grottera et al 2020). President Lula da Silva's successor, Dilma Rousseff, changed the pricing regulations and biofuel targets in favor of the oil industries and gradually destroyed the prospects of the ethanol industries. The price control policy kept domestic gasoline prices below the import price and reduced fuel taxes on conventional gasoline. This controversial regulatory policy did not only harm the biofuel sector; it came at the expense of Petrobrás financial stability which had declined dramatically by the time the pre-salt auctions started in 2013 (Basso 2018 cit in Grottera 2019).

The gradual swing from the dominance of open the domestic environmental issue networks and ethanol diplomacy towards favoring the state owned companies in the oil sector surfaced one of the world's largest patronage networks: big oil (*petrolão*). Petrobrás' financial decline led to wide spread protests against corruption. The rents extracted from Petrobrás illegally strengthened a conservative elite, financed multiple parties and campaigns which destabilized the political system and made it more difficult to maintain a coalition to support the ruling party. President Rousseff initiated the biggest investigation on corruption in Brazilian history, known as operation car wash - *operação lava jato*. This investigation produced evidence of a patronage network with links into 12 countries, with hundreds of indictments officials across all major political parties (Watts 2017).

The investigation led to hundreds of arrests. Evidence of personal benefits from the operations of the patronage network included former presidents, Fernando Collor de Melo, Fernando Henrique Cardoso and led to the arrest of Lula da Silva in 2018. President Rousseff was impeached, despite her having put the conditions for the investigation in place and lacking evidence if she benefited personally.

The reprioritization of domestic over international issues during Rousseff's presidency occurred gradually. Her presidency continued to serve the international climate

commitments. Brazil hosted the Rio + 20 conference in 2012. The minister of environment, Izabella Teixeira, worked inclusively towards the submission of the Nationally Determined Contribution (NDC) with the participation of civil society through the Climate Change Forum. The climate change community in the country already focused its attention on decarbonization of the energy and transport sectors, assuming that the control of the forest related emissions would continue (personal communications). The NDC has identified 'economy-wide flexible pathways to achieve Brazil's climate objectives to reduce greenhouse gas emissions by 37% in 2025 and 43% in 2030, below emissions levels of 2005 (UNFCCC 2015a, p.2-3).

The NDC communicates further energy and forest related measures which are supposedly consistent with the 2C temperature goal:

- 1) Biofuels: the increase of 'the share of sustainable biofuels in the Brazilian energy mix to approx. 18% by 2030',
- 2) Forest emissions: 'strengthening policies and measures with a view to achieve, in the Brazilian Amazonia, zero illegal deforestation by 2030', 'restoring and reforesting 12 million hectares of forests by 2030
- 3) Renewable Energy: Achieving 45% of renewables in the energy mix by 2030', which includes an expansion of non-hydro renewable energy sources to 28-32% by 2030. (*ibid*)

The long-term goal aims for decarbonised and renewable energy powered energy systems by the end of the century. The successful emissions reductions from deforestation control depended on policing and monitoring systems, based on state policy which required funding. The monitoring system was fragile and dependent on a combination of government support, environmental activism, public awareness and compliance by key economic actors (Viola Franchini 2017, personal communications). The gradual decline of monitoring under the Rousseff administration continued under her successor, Michel Temer, and totally collapsed under the first year under Jaír Bolsonaro in 2019.

The financial crisis created losses for the banks and the export business who requested the support of the government. President Rousseff had to make choices and defended the bolsa familia programme, Brazil's successful social policy, and the socialist agenda of the Worker's Party. Unlike the days of Lula administration, not everybody could win and Rousseff made many enemies. Her support of the regulatory agencies, her oil pricing policy and allegations of funding for her campaign from contracts for the controversial hydroelectric plant in the Amazon forest created opposition including in her own Party (Reuters 2016, personal communications).

4.1.5. Rearranging the chairs on the titanic: Michel Temer's interim presidency (2016-2018)

Michel Temer stepped up as interim president in 2016 as he appeared 'untouchable' during the first set of anti-corruption investigations. His administration aimed to restore investors' confidence into the Brazilian market with the introduction of a new biofuel program, RenovaBio, which aims to reduce carbon intensity in the fuel mix by 10% in 2028. The program was well received in the industry and civil society for its intention to increase the share of sustainable biofuels and bring Brazil back on track to its communicated contributions in the NDC. Criticism, however, came from the resulting pressure on energy, land use and food prices, which may create challenges for the international competitiveness of other sectors (ANP 2018).

Temer's administration amended legislation to sustain the Brazilian forum on Climate Change in 2017 'in accordance with the provisions of the National Policy on Climate Change and the United Nations Framework Convention on Climate Change and the agreements international agreements, including the Paris Agreement and Brazil's Nationally Determined Contributions' (Art 2, Decreto 9082, Federal Government of Brazil 2017). Temer was a member of the political establishment who continued with the diplomatic tradition that was built up over the past decades. The climate and environmental diplomacy in the negotiations continued until the end of his term in December 2018. Temer was arrested as part of the corruption investigations in March 2019. Deforestation in the Amazon increased to the highest level since 2008, reaching almost 8,000 km² with an increase of 28.7% compared to 2015 (Azevedo et al 2017). Temer's short presidency stood for a continuation of the decline of Brazil's climate leadership with growing dominance of inward communities and irrational extractivism.

4.1.6. 2019- current: Between U-turn and continuity- Anti-climate discourse and deconstruction of environmental governance under Jaír Bolsonaro

Bolsonaro's administration has been largely destructive with regards to the implementation of the NDC, as the monitoring of illegal deforestation has been abandoned. The situation of illegal deforestation through fire-clearing in the Amazon rain forest has increased by 50% in 2019 (INPE, 2019). Bolsonaro's government has strengthened issue networks against forest protection. The country has witnessed groupings of farmers that pursue active fire settings and land-grabbing of public land for private benefits. The land is mainly used for agricultural activity for soybean and palm oil farming (Vaughan 2019) The government fails to sanction illegal seizure of land. As a result, indigenous groups have increasingly taken own initiatives to fight illegal loggers (Maisonnave 2019).

The increases in the deforestation rates pose the main risk to the implementation of the NDC (personal communications, Grottera 2020). Bolsonaro's forest policy sparked global outcry as the president rejects international assistance in keeping fires under control over 'national sovereignty' (G7 2019). So far, the international community has not managed to respond to this crisis effectively.

In the meantime, Bolsonaro has largely deconstructed the national environmental governance system. The National Environmental Council (CONAMA), which was established in 1981, is an essential consultative organ that oversees environmental policies in a composition of government, interest groups and NGOs. The Bolsonaro administration changed the members on this council and reduced the number from 96 to 23. Ten of these representatives are permanently appointed staff from the central government (agenciabrasil 2019). Another important institution is the Brazilian Institute of the Environment and Renewable Natural Resources (IBAMA), which is a critical implementation agency for the Ministry of Environment. IBAMA is entitled to enforce the deforestation laws and issue fines against offenders. Bolsonaro has openly accused the agency of operating an "industry of fines". The Minister of Environment dismissed 21 of 27 state superintendents (Wallace 2019). The number of issued fines has drastically declined, the ministry is left with a minimal budget of 300 000 USD per annum.

In his first year of his presidency, President Bolsonaro dissolved dozens of public administration bodies, which have been an integral part of public participation in environmental issue network in Brazilian democracy. These bodies include the National REDD+ Commission, Executive Committees for deforestation control plans in the Amazon and Cerrado biomes, the National Commission for Native Vegetation Recovery, the Steering Committee of the Amazon Fund, the Steering Committee of the National Policy for

Territorial and Environmental Management of Indigenous Lands, the National Council of Traditional Peoples and Communities, the Interministerial Committee on Climate Change, whose goal was to coordinate the implementation of National Policy on Climate Change and articulate government actions relating to the Climate Convention and the Executive Committee and the Support Committee of the National Contingency Plan for Oil Pollution Incidents (PNC) (Observatório do Clima 2019a). Bolsonaro dismissed the head of the climate change forum, but has not managed to undo its underlying legislation yet.

The Bolsonaro administration strengthens an open anti-climate discourse and a network of denialists over social media. Fake news related to climate change spread beyond the forest issue and have been powerful in dividing Brazilian society (Observatorio do Clima 2019b, Ortellado and Ribeiro 2019).

The prospects the biofuel and renewable energy components of the NDC are comparatively more positive. The *RenovaBio* program continues, to date. Biofuel producers are recovering from the years of price control under the Rousseff administration. The sector achieved a record production in biodiesel and ethanol in 2018 (EPE 2019). The roll out of renewable energy program also continues. Wind and solar auctions have been successful and the uptake of residential photovoltaic has increased significantly (REF). The looming tax reform in 2020 may even see aspects of carbon pricing mechanisms, but the details are still to be seen (personal communication). The discussion about the Brazil following the US precedent of exiting the Paris Agreement, have been abandoned. Currently there are no processes towards an update of the NDC (personal communications).

The active undermining of forest protection of the Bolsonaro administration is the main risk to the implementation of the NDC. Forest emissions will overcast the achievements of the *RenovaBio* program and the increase in renewable energy. The government is aiming to increase the role of natural gas and oil production, but is struggling to attract international investments into pipeline and refinery infrastructure (personal communications).

In sum, the Bolsonaro administration is taking a U-turn on the past decades of climate policy, with its main emphasis on the devastation of the Amazon forest. The administration openly promotes climate denialism and negligence. The climate related energy policies, in renewable energy and ethanol, have largely remained in tact.

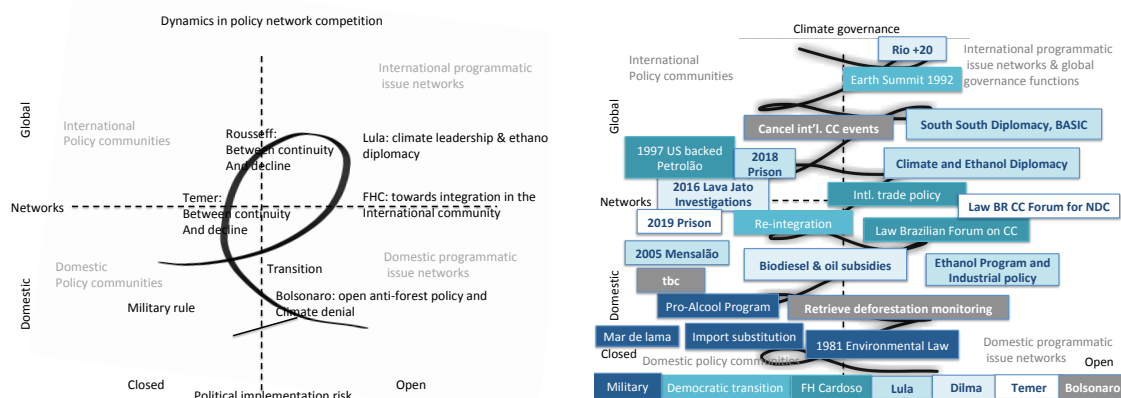
4.1.7. Summary

The case study of political networks and implementation risk for NDC identified dynamics of competition between layers of open environmental issue networks in climate change and biofuels and traditional fossil fuel, especially oil, interests, patronage and corruption. The transition from a military dictatorship to democracy led to an open democracy, with thematic issue networks in biofuels, renewable energy and highly skilled diplomatic competence, which build up Brazil's environmental soft power. The movement towards open networks gained momentum with Cardoso's government, peaked with Lula's administration and declined with the oil discovery under the Rousseff administration. The patronage networks were operating largely in parallel, as a characteristic of the political system that does not only define the relations – politics – but also the institutional context under which politics and policy happen – polity. The imbalance of these networks through the inflation of the patronage networks in the oil sector had the opposite impact of the intended anti-corruption investigation: many voters in Brazil had hoped for improvements in bureaucratic quality as a result of the investigation, which led to the rise of a conservative government jeopardizing the fragile progress in democratic rule, forest and climate protection.

Initially, Bolsonaro refused to play the game with the established powerful elite. The imprisonment of former president Lula da Silva, and the subsequent appointment of his prosecutor, as Minister of Justice in his government, raise many questions about their impartiality (Phillips 2019). His government has been largely destructive and focused on undoing what can be undone in the regulation for forest protection. Bolsonaro has already produced a record of own small scale corrupt activities, like employing his family and friends as false staff members in the public service and channeling their income into private family accounts. His networks in Rio de Janeiro include links to military and paramilitary (Fogel 2019, Darlington 2019). Bolsonaro's presidency, to date, marks a dynamic towards domestic inward patronage driven networks, despite them being different networks. His lack of political will to deal with uncontrolled fire-clearing practices and refusal to accept international support to contain fires in the Amazon forest poses the main risk to the implementation of Brazil's NDC.

The Brazilian case showed how patronage networks and rent-seeking behaviour of the political classes had framed climate and energy policy progress in parallel to open issue networks which led to progress in implementing these policies. This system worked to a certain extent until rent seeking opportunities destabilised a fragile democratic system. The increasing dominance of the conservative networks tipped the system over and opened the stage to the far-right that promotes open issue networks pulling into the opposite direction, while serving the interests of the military and large agricultural businesses. These dynamics create severe risk to the progress climate policy in the past.

Figure 3: Overview of network dynamics and events in Brazilian Climate Policy



4.2. Climate policy networks and implementation risk in South Africa

Implementation risk to South African climate policy emerges from competing networks, which operate in political system dominated by single-party rule. The ruling party- the African National Congress (ANC)- has formally ruled South Africa since it won the first democratic elections in 1994. The ANC has maintained mostly a majority rule, securing an electoral basis of two thirds of the national vote. Emerging opposition parties on both sides of the political spectrum have not managed to attract sufficient voters to win the national elections. As a result, the ANC absorbs the various and often conflicting interests, which leads to fragmentation and different factions within the party. This is a significant difference to the Brazilian system, where political instability emerges from fragmentation and multiple political parties. The effects of political instability, however, are similar. The growing emphasis on personalism and presidentialism, which Arcaro Conci (2019) and Hochstedtler

(2019), respectively, observe in Brazil, also occurs in South Africa. The specific role of individual politicians within the party, their power over others, indicate a dominance of specific in-party factions, which have stabilizing or destabilizing factors for the party and the political system overall.

The critical role of the president in the non-federal Republic of South Africa justifies the identification of six phases for the analysis of implementation risk and network competition in South Africa's climate policy.

4.2.1. Historical evolution of high emissions intensive industries in South Africa

South Africa's economy has historically grown its roots in the mining and agricultural sectors. These sectors were traditionally structured to generate benefit largely for colonial elites. Unskilled, cheap labor sustained these businesses. The coal mining businesses, coal power generation plants and other mines grew and the government historically evolved into a system of capital accumulation which has been referred to as the 'minerals-energy complex' (MEC) (Fine and Rustonjee 1996). The system served mutual interests: the heavy reliance on coal for electricity generation has historically benefitted highly electricity intensive industries and mines. The mines can sell their product back to government owned Eskom to produce more electricity (Eberhard 2011). Further mining products – gold, platinum, diamonds, coal, ore and other minerals – then typically trade overseas. The capital accumulation in the MEC fragmented over time, with increasing electricity prices and international competition for South African coal (Mc Donald 2009, Baker 2017). The belief systems and political culture around coal mining continue, while the contribution of the mining sectors to South Africa's GDP decline and social inequalities grow (StatSA 2019). Global mining cooperations, such as Anglo American and de Beers, with heavy colonial histories, continue to operate in South Africa and struggle to wean themselves off carbon-intensive electricity supply (Anglo American 2018)⁶.

Colonial structures continue to shape South Africa's economic system and occasionally clash over steep inequalities. The Marikana Massacre at the London-based Lonmin platinum mine, in 2012, was one of the most violent manifestations of this persistent and exploitative heritage (Coovadia 2012). The majority of South Africa's energy intensive industries operate in the mining and electricity sectors, absorbing about 40% of the country's available electricity, sustaining over half a million jobs (EUIG 2020).

The creation of SoEs in South Africa's energy sector reaches back to the government of the Union of South Africa, which established the Electricity Supply Commission (ESCOM) as part of the Electricity Act in 1923. Eskom historically played a central role in the government in managing and sustaining the minerals-energy-complex (Fine and Rustonjee 1996). Eskom has operated as a monopoly for almost a hundred years and has been generating rents for generations of political elites. The international isolation during the late apartheid years allowed to shield Eskom's monopoly status from a global trend of liberalization electricity sector reform and privatization (Gratwick and Eberhard 2008, cited in Trollip 2020, in this report).

⁶ Anglo Americans global operations were powered by 12 % of renewable energy sources in 2018, according to the company's sustainability report.



The oil and gas related SoEs emerged in 1950 and 1965 with the aim to increase energy security in autonomy from international oil imports.⁷ The National Party experienced increasing international criticism of its oppressive rule towards the majority of the population of colour, which led to sanctions and periods of international isolation in the 1970s. In response to that, coal to liquid technologies, which were not economically viable elsewhere, were heavily subsidised in South Africa. Sasol's highly emissions intensive industrial processes of coal liquefaction continue to create rents for South African elites and contribute largely South Africa's greenhouse gas emissions (Burton et al 2019).

Overall, South African history pre-democracy was marked by a colonial extractivism and the emergence of a coal based electricity sector that sustained electricity intensive mining industries and a political culture around coal mining into the present days. The pre-democracy period was characterised by governance through closed, community and club-like networks that defined membership and associated benefits by skin color. The liberation movement opposed this club governance as a large issue network. Competition between the networks were largely defined by the struggle between those who benefited from the system and those who were fighting to turn it over.

Nelson Mandela stated in 1990 that 'the ANC has never been a political party ... the ANC is a coalition [...]. Some will support free enterprise, others socialism. Some are conservatives; others are liberals. We are united solely by our determination to oppose racial oppression. That is the only thing that unites us.' (Mandela 1990 cited in Butler 2005).

4.2.2 Transition, reconciliation and reintegration: Mandela's presidency (1990-1999)

The transition to South Africa's 'new democracy' marked a change from closed policy community networks to open inclusive networks and reintegration into the international community. The democratic government aimed to create a 'new South Africa' eradicating previous legislation and ensures social equality amongst its citizens in the new constitution (The Republic of RSA 1996). New policies did not always start from scratch. In the transition period between 1990 and 1994 election, groups in the ANC prepared for their new tasks in government. During the transition period, the ANC started to convene working groups on several policy issues to prepare the liberation movement to become the ruling party of a democratic South Africa. These working groups included one specifically for energy policy.

The ANC government produced an Energy White Paper in 1998, which proposed a process of liberalisation towards 'unbundling' of the various functions: 'Eskom will be restructured into separate generation and transmission companies' (RSA 1998, p 12). Eskom's coal monopoly continued until 2012, when the government allowed independent power producers to generate electricity from renewable energy sources. The process of 'unbundling' the several functions into separate functions is still outstanding.

Mandela's administration created a relatively stable and capable central government which operated within the constraints of the political culture that emerged from the past. In the spirit of reconciliation, the new government made an effort to integrate those officials from the previous government into new positions, despite heights of corruption that occurred in the National Party before the election in 1994. A surprisingly high number of officials from the old administration stayed on while «disgruntled» colleagues were retired (Hyslop 2005, p. 785). Gender affirmation offered opportunities for

⁷ Sasol is South Africa's largest petrochemical company, which specializes in liquid fuel technologies. Sasol was previously state owned and is now private. Soekor was previously the state owned oil company which reorganised into what is known known today as PetroSA and the Petroleum Agency of South Africa

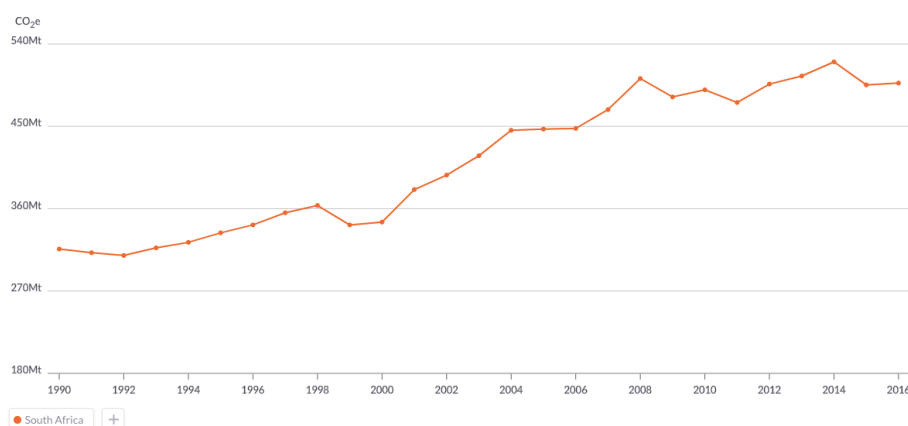
white women with administrative skills in the new government. The task for the government of the «rainbow nation» was to put an economic framework in place which would change the decline of the late apartheid years into prosperity and economic growth. The ANC quickly started to adopt liberal policy measures, despite different ideologies within the Party. The 'Growth, Employment and Redistribution' (GEAR) strategy emphasized fiscal discipline and stabilization through measures as inflation targeting (Kahn and Blankley 2005).

Liberal economic policy was accompanied by a pro-active diplomatic program aiming to enhance trade relations bilaterally and multi-laterally. Mandela's diplomacy was often described as a 'honeymoon period' with a high moral authority and dominant human rights agenda (Sidiropoulos 2014). The new government identified South Africa as a developing country, unlike its predecessors. Secondly, South Africa integrated into the United Nations (UN), the Non-Aligned Movement (NAM), the Organization of African Unity (OAU) and the Commonwealth, which Mandela considered essential for the promotion of liberal values: human rights, peace and equality (Barber 2005).

Mandela coined presidential diplomacy in his government style, as he represented an 'authority on the international stage because of his moral character and reputation'. These characteristics remained when he left the presidency (Avant, Finnemore and Sell 2010, p 10). Actors may also be authoritative because of what or whom they represent. They may represent a respected institution, an underrepresented other, or a lofty ideal.

A major challenge for Mandela's presidency was to balance the interests of diverse networks: these included the expansion of open networks as part of the reintegration into the international system, managing major investment interests in the economy and balancing the socialist values of the ANC. The carbon intensity of the electricity was not a priority in the first ANC's energy policy white paper in 1998. Emissions were relatively high with 320 mt in 1990 for a developing country and grew consistently with the economy.

Figure 4 GHG emissions in South Africa 1990-2016



In sum, Mandela's government strengthened general open networks taking an active role in international society, growing influx of international actors and serving the national developmental priorities aiming to heal the society from its traumatic past. The main values were human rights, non-violence and freedom without a specific focus on the environment and climatic change.



4.2.3. Mbeki's presidency: towards climate leadership and domestic negligence (1999-2008)

Mbeki's presidency was marked by his focus on South Africa's diplomacy and international relations, at the expense of denial of domestic policy problems. Mbeki sustained and expanded progressive South African diplomacy building on the diplomatic 'honeymoon' period under Mandela's administration. Mbeki headed the ANC's Department of International Relations since 1989 and was actively involved in the working group which had established the principles of new South African diplomacy under Mandela's presidency. Mbeki was internationally experienced. He had lived in exile in Botswana, Tanzania and the UK for many years.

Mbeki's administration focused on building soft power on the African continent. His Africa Agenda included increases in trade and cultural cooperation as well as influencing multilateral bodies to focus on continental issues (Sidiropoulos 2014). The South African government sent large delegations to the UN's climate change negotiations and took an active role in the negotiations of the Kyoto Protocol. The South African government established a designated national authority and hosted a number of projects under the CDM mechanism as part of the Kyoto Protocol (DoE 2020).

The government engaged in an climate focused issue network to tackle South Africa's emissions in long term mitigation scenarios (LTMS), which grew through a participatory research process that involved numerous stakeholders (Winkler 2010, Raubenheimer 2011). The findings of this process formed the basis for South Africa's current climate policy, the National Climate Response White Paper and the NDC (RSA 2011, UNFCCC 2015, personal communications). The LTMS was the first research driven plan that set out different options including a scenario of where South African emissions will be heading with or without policy measures. The network sparked the policy processes to implement carbon pricing mechanisms beyond renewable energy, as emissions continued to grow in an unconstrained way throughout the early 2000 (Winkler 2010, Raubenheimer 2011).

Mbeki's priority on the international agenda came at the expense of attending domestic issues. His presidency suffered from a combination of denial of domestic problems and a focus on negotiation as a strategy of problem solving. Consequently, the HIV crisis led to hundreds of thousands of deaths as patients were denied the treatment of anti-retrovirals. Mbeki actively denied the connection between HIV and AIDS (pers. communication, 2015). Mbeki's management of the electricity crisis took a similar approach of denial. South Africa experienced electricity shortages as the growing economy demanded more electricity than current supply could offer. Eskom urged the presidency to take action and to build new generation capacity. By the time Eskom's generation expansion programme started in 2005, the demand exceeded the supply infrastructure and led to power shortages (see Trollip 2020 for more detail, in this report).

'Recent electricity failures posed no crisis but an opportunity for economic growth through infrastructure expansion,' President Thabo Mbeki said to the National Assembly in 2006. 'There was no reason for investors to worry' (Mbeki cited in Le Roux 2006). A year later, Mbeki publicly apologised to Eskom, saying that its representatives were right in asking for investments into electricity infrastructure, while the government was wrong in denying their request (Sapa 2007). Despite the electricity shortage, renewable energy technologies continued to be shut out of the electricity system. The Renewable Energy White and the Feed In Tariff (REFIT) faced stiff opposition by the coalitions that fear losses in nuclear and coal technologies at the expense of an increase of renewable energy (Odeku et al 2011). The National Energy Regulator played a central role in a lengthy policy process in preparing the REFIT between 2007 -2009 remained unimplemented as a result of internal



governmental opposition by the DME and Eskom, despite NERSA's right for tariff approval under the Electricity Regulation Act (NERSA 2011, Odeku et al 2011).

In sum, Mbeki's presidency continued to keep up Mandela's legacy of open programmatic networks internationally with the commitment to the human rights agenda, building and sustaining South Africa's soft power in the climate change negotiations and other strategic international issues. Continuous non-action in dealing with domestic problems, especially in managing the electricity sector and the HIV crisis, eventually led to his dismissal. The established policy communities associated with coal and nuclear technologies continued to dominate the reform of the electricity sector and managed to continue to shut renewable energy technologies out of the system. Mbeki lost the confidence of the ANC's National General Council in 2005 and subsequently the election to confirm his lead of the ANC to in the Party's conference in Polokwane in 2007. Mbeki's unseating was a test for South Africa's young democracy. The transfers to interim President Kgalema Montlanthe and his successor Jacob Zuma, in 2009, however, were peaceful. Efforts to the decarbonisation of the emissions intensive electricity sector, however, remained minimal and the traditional emissions intensive industries remained largely unchallenged, with an exception of less reliable electricity supply.

4.2.4. Zuma's administration leading to progress in implementing climate change and renewable energy policy (2009-2014)

Jacob Zuma's candidature for the presidency was controversial, because of his records in a major corruption scandal known as the arms deal, multiple charges for corruption and rape. Zuma first presidency was marked by continuity of the diplomatic course of his predecessors and unexpected climate leadership. In his first year of presidency, Zuma attended the COP 15 and announced that South Africa 'will implement mitigation actions that will collectively result in a 34% and a 42% deviation below its „Business As Usual' emissions growth trajectory by 2020 and 2025 respectively', in accordance with the obligation to the UNFCCC and the Kyoto Protocol (NCRWP 2011). These commitments were translated into the National Climate Change Response White Paper in 2011, shortly ahead of the COP (PMG 2011).

2011 was a year of remarkable change and unprecedented progress in South Africa's climate and renewable energy policy. President Zuma successfully hosted the UNFCCC's annual Conference of the Parties (COP 17) in his home province, KwaZulu Natal, in 2011. The main policy changes in climate and renewable energy policy occurred before and after hosting this major event which paid a lot of international attention on South Africa in. The Department of Energy invited industries to submit competitive bids for specific quantities of installed capacity in a competitive bidding programme, the Renewable Energy Independent Power Producer Procurement Program (REIPPPP) (DoE 2011). Competitive bidding worked well in bringing down the cost of renewable energy. Soon wind energy reached price parity with coal generated electricity.

Bids won by mainly international industries were assessed by 70% for their prices and 30% for their compliance with socio-economic development (SED) criteria. These criteria include community development and local content requirements. The community development criteria were inspired by the mining industries and foresaw payments to community trusts for local development processes for communities in the proximity of 50km of renewable energy plants. Local content requirements incentivized the gradual local manufacturing of certain components (such as towers in wind energy, assembly in solar photovoltaic industries to incentivize local job creation and skills development).

The implementation of the socio-economic development requirements came with learning both in policy, industries and communities, but has after all led to growing industries, creating jobs and generating additional funding for community projects (Wlokas 2017, Fyvie 2017, Rennkamp and Westin 2019 in RIPPLES D3.3.).

Despite its climatic advantages and available technology, it took fifteen years from the intention to increase the renewable energy share in the electricity mix, as expressed in the National Energy White Paper of 1998, for renewable energy to actually enter the national grid. An unimplemented Renewable Energy White Paper in 2003, a draft feed-in tariff in 2009 and finally the REIPPPP in 2011 were landmarks on the regulatory route towards implementing renewable energy. The Independent Resource Plan (IRP) legitimised the introduction of renewable energy into South Africa's electricity mix for the future in 2010.

Table 1: Main renewable energy-related policies in South Africa's electricity sector

<i>Policy</i>	<i>Date</i>	<i>Objective</i>	<i>Status</i>
Energy White Paper	1998	Support implementation of RE technologies, attract investment in RE and support the development of the renewable industry	Promulgated
Renewable Energy White Paper	2003	10 000 GWh (0.8 Mtoe) renewable energy contribution to final energy consumption by 2013, to be produced mainly from biomass, wind, solar and small-scale hydro.	Promulgated, parliamentary approval
IRP	2010	9,6 GW of nuclear; 6,3 GW of coal; 17,8 GW of renewables; and 8,9 GW of other generation sources.	Promulgated
IRP update	2013	Delay nuclear decision, amplify gas and continue procuring renewable energy with additional annual rounds of 1000 MW PV capacity; 1000 MW wind capacity and 200 MW CSP capacity, with the potential for hydro at competitive rates.	Not promulgated
REFIT	2009	Set fixed prices for generation of PV, wind	Not promulgated, superseded by REIPPPP
REIPPPP	2011	6,9 GW in 5 bidding rounds of PV, wind, biomass, CSP and small hydro power	Promulgated
ISMO	2010-2015	Provide ISMO as a company responsible for the planning of supply of electricity [...] to minimize electricity to customers	Not promulgated, submitted and withdrawn from parliamentary approval

The policies summarised in the table above were managed through different processes. The Energy White Paper, the Renewable Energy White Paper, the IRP and the REFIT were all open policy processes. The white papers and the IRP were mostly planning exercises, containing recommendations but no binding decisions. The non-binding nature of the IRP was underlined by calling it a 'living plan' that should be revised every two years (DoE 2013). The REIPPPP did not undergo a formal public consultation process. The DoE invited public comment on the IRP update, but never integrated these into the document. The DoE presented the IRP update belatedly and presented it for parliamentary approval. The update came as a surprise to the public and even to government officials in other departments (National Treasury, Department of Environmental Affairs, personal communications 2013).

Overall, the first Zuma administration enabled climate and clean energy policy in an unprecedented way. The impetus of the COP 17 created a window of opportunity for advancing climate action in South Africa. The National Climate Change Response White Paper passed the parliament in October 2011, a month before the COP. The President launched the South African Renewable Energy Initiative (SARI). The National Treasury invited for bids to the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP) in the same year. National Treasury announced the Carbon Tax in 2012, which was finally approved into law in 2019.

4.2.5. Zuma's second term: international patronage and domestic state capture (2014-2018)

During the second term of the Zuma presidency, large parts of his administration, allies and family members engaged in large scale patronage and state capture. The process of capture occurred over time, through multiple changes in the cabinet, slow capture of strategic government departments and SoEs and the electoral system. The president, along with an Indian family known as the Guptas, had set up channels to extract rents through state-owned enterprises into overseas accounts (for an overview see Bhorat et al 2016).

Eskom became a central agent in the process of capture; with growing financial losses and active opposition to the renewable energy program. Eskom's financial losses are mainly associated with excessive expenditure on coal contracts and management of its power plants (Trollip 2020 in this report). In 2015, Eskom refused to sign the power purchase agreements, which were necessary to conclude the fourth bidding round under the REIPPPP (Njobeni 2017). This was not only an open breach with government regulation, it also posed a major risk to the implementation of the South African NDC.

Despite the progress in state capture, the international climate change policy remained largely intact. The South African government submitted an INDC ahead of the Paris Agreement, despite national controversies about the necessity of a submission (PMG 2015). The REIPPPP program has been regarded as a success in the South African NDC and counts as one of the main sources of investments in climate change mitigation. The NDC refers to a potential expansion of the renewable energy program, which is currently under consideration with the South African Economic Development and Labor Council.

The NDC refers to the REIPPPP, with '79 renewable energy IPP projects, total 5 243MW, with private investment totalling ZAR 192 billion (approx. US\$ 16 billion). Another 6300 MW are under consideration.' (UNFCCC 2015b, p.9).

The decarbonisation of the electricity sector is central to meeting the «range» for an emissions trajectory, 398 and 614 Mt CO₂-eq, for 2025 and 2030. Five years cycles structure the 'implementation at the national level, specifically, 2016-2020 focused on developing and demonstrating the above mix of policies and measures in order to meet South Africa's pledge, and the periods 2021-2025 and 2026-2030 for its INDC. This level of effort will enable South Africa's greenhouse gas emissions to peak between 2020 and 2025, plateau for approximately a decade and decline in absolute terms thereafter' (UNFCCC 2015b). These emissions reductions are unlikely to occur if the REIPPPP program continues to be interrupted. Eskom refused to sign any power purchase agreements and bring the progress of the implementation of South Africa's central and most successful mitigation policy to a halt (Njobeni 2017).

The years of state capture undermined not only state legitimacy. It led to economic recession, decreases in recession, mass migration, increasing poverty and unemployment and largely compromised on South Africa's public goals in equitable and sustainable development. As a result, the second term of Zuma's presidency was marked by the dominance of harmful domestic and international patronage networks. Zuma's networks extended internationally into the BRICS group, which South Africa was invited to join in 2010. Jacob Zuma and Vladimir Putin reportedly used the BRICS forum to extend their trade relations with a nuclear power program at its core. The so called new built nuclear program became another channel for rent-seeking practices into an international patronage network through the commission of overpriced services without adding any physical value (Gosam 2017).

4.2.5 2018 – current; Cyril Ramaphosa's presidency of damage control in a divided ANC

President Zuma did not finish his second term and resigned from the presidency in 2018, after he had survived several motions of no confidence with very thin majority. The Constitution did not allow Zuma to run for a third term. His preferred successor and ex-wife Nkosazana Dlamini-Zuma stood in his place for the election for the presidency of the ANC. Vice President Cyril Ramaphosa won the elections with a very thin majority of 51.9 % vote. Ramaphosa served as an acting president after Zuma's resignation in 2018, and was confirmed as the fourth President of the Republic after the elections in 2019. The results of both the ANC and the national election surfaced the divide within the ANC and in the country. The vote for the ANC fell below 60% for the first time since 1994 (National Results Dashboard 2019). Half of the National Executive Committee of the ANC, currently consists of President Zuma's supporters (ANC 2020).

In the first months, Ramaphosa's presidency started with momentum for change and for undoing the damage from the years of capture. A major investigation into 'state capture' occurred at the Zondo Commission of Inquiry, as part of Ramaphosa's commitment to hold individual's engaging in criminal corruption accountable (Omarjee 2019).

Ramaphosa supported the continuation of the REIPPP program and had to ensure telephonically that Eskom officials finally sign the delayed purchase agreements, in April 2019 (personal communication). Ramaphosa recommitted to the REIPPP, an enhancement of the NDC and further commitments to the green climate fund in an unexpected speech at the UN climate change summit in September 2019 (DIRCO 2019).

The implementation risk for the NDC, through the REIPPP, is still imminent as representatives of Eskom and other beneficiaries of coal and nuclear related rent-seeking activities spun an anti-renewable narrative, which blames the REIPPP program for Eskom's financial crisis. This narrative motivated the government to renegotiate contracts of the first bidding rounds, although the developers have successfully delivered much needed clean electricity infrastructure (Lutango 2019).

Ramaphosa's challenge is to manage a transition from a historically grown and corrupted system of rent seeking from coal and nuclear contracts towards a transparent and prosperous sustainable energy regime which generates employment opportunities locally, without deterring foreign investors in renewable energy.

This will continue to be difficult, as the opposition to renewable energy continues to undermine progress in building renewable energy infrastructure within the ANC. The halt of the RE program during the second term of Zuma's administration led to a problematic discourse against renewable energy. The discourse equals renewable energy with privatisation, foreign businesses and job losses vs. Eskom, coal and job security in coal and Eskom jobs. Some trade unions have also been effectively working on spreading this narrative, which peaked in an unsuccessful court case initiated by the National Union of Metalworkers (Malema 2018). A growing number of actors continue to spreading anti-renewable narrative in order to protect traditional ways of rent-seeking and distracting from Eskom's structural problems and necessity for reform.

At the same time, Eskom's debt is increasing and leading to increasingly disadvantageous investment ratings, power shortages and economic decline (Treasury 2019). Attempts to change the structure of Eskom's business models have not been successful despite efforts of the Minister of Public Enterprises, Pravin Gordhan. The rivalry in the ANC has increasingly put pressure on the President to let go of Gordhan, who had actively resisted the process of state capture and was dismissed in his function as minister of finance as he refused to approve the Nuclear Build Program (MG 2017, Paton 2020). The divide in

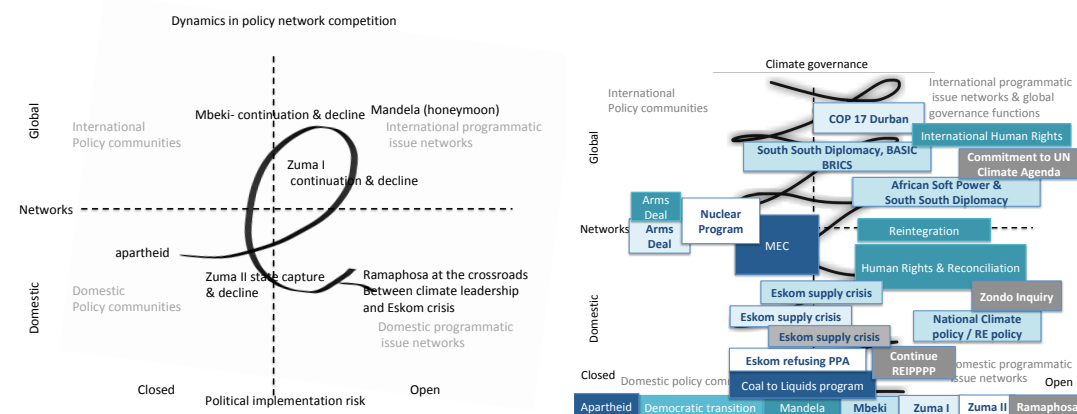
the Party presents a major implementation risk to South Africa's climate and renewable energy policy. In the current situation, the network of supporters of the transparent, clean energy policy which could enable South Africa to meet its commitments in the NDC and to the Paris Agreement is still dominant. The network, however, is very thinly spread with lots of responsibilities concentrating on a few individuals.

4.2.6. Summary

In sum, the South African case demonstrates a significant implementation gap between communications in the national and global development priorities and the NDC. Despite renewable energy policies being in place, coal infrastructure continues to be sustained and expanded without showing a commitment to the decarbonization plans outlined in the NDC.

The implementation of the South African NDC is highly compromised, because of the dominating coalitions of political actors opposing progress towards a clean and sustainable energy transition. This is despite the progressive communication in the NDC, and potential positive SDG outcomes in terms of emissions reductions, energy security, job creation and poverty reduction. A vision towards carbon neutrality by 2050 is still outstanding (personal communication, DEA 2019). The presidential power within the ANC is crumbling, as it rested on a very thin majority in the first place. The institutional decline is gradual with Eskom at its core. The corruption inquiries have taken place. The justice system is still largely in tact, with government critical NGOs still standing chances to win court cases.⁸ If the corruption inquiries will lead to imprisonment is yet to be seen.

Figure 5: Overview of network dynamics and events in South African climate policy



5. Conclusions

The analyses of the implementation risks for NDCs emerging from competing policies showed that domestic climate action communicated under the UN stands on fragile grounds. Fragile young democracies face significant implementation risks through the underlying competition of historically grown interest, rent and patronage driven networks. Where closed networks dominate, we find higher implementations risks for climate policy. Closed networks often find that progressive climate policy leads to transitions which jeopardise traditional sources for rents.

⁸ Two South African NGOs won a court case which put the governments controversial nuclear built program to a halt.

The phases of climate policy and implementation risk in Brazil were marked by the ‘climate villain’ with high deforestation rates in the 1990. Successful mitigation measures and increased climate leadership occurred under the Lula administration, followed by gradual decline under Rousseff and Temer. Bolsonaro actively turned the forest protection measures around, in a populist fashion, while leaving energy and ethanol policy largely intact. Brazil’s legacy of international climate leadership was actively abandoned and turned around to promoting climate denialism.

South Africa underwent a similar trajectory, when the first democratic government could reintegrate into the international system and put active poverty reduction measures in place under Mandela. Climate leadership was not yet pronounced under Mandela, but his successor actively pursued an international agenda. International climate leadership peaked under Mbeki and Zuma’s first term, but then crumbled away with the bumpy road in implementing the renewable energy programs which are essential to the decarbonisation of the electricity sector. The dominance of closed networks tapping into illegal rent seeking mechanism jeopardised the progress in the implementation of the renewable energy program. The financial crisis in Eskom, linked with an aging coal fleet and a strong anti-renewable energy lobby create a dangerous situation for South Africa. The impasses in the electricity sector constrain both the economic situation as well as the implementation of the NDC.

The gap between implementation and climate leadership was narrowed in the first years of the Zuma administration, but has widely opened again with the increase of anti-renewable rhetoric. Unlike Brazil, South Africa never overcame the phase of a ‘climate villain’, but has maintained its role in serving as a climate leader to the international negotiations. Institutional decline continues gradually, and less rapidly than in Brazil. With its electricity sector running on a string, the country has the potential to become the first example of embracing an energy transition by collapse.

The signal function of global climate governance had significant influence on creating momentum to initiate policy processes and implementation within the constraints of national network competition. In Brazil and South Africa, the hosting of the Earth Summits and the COP, respectively, created significant momentum for the implementation of domestic policy and strengthening of open issue networks. This power of international norms should not be underestimated and can potentially make a big difference in high emissions intensive economies, including India and China.

In the case of Brazil, the EU should urgently consider using its power to implement trade limitations to Brazilian agricultural imports, if the devastation of the Amazon forest continues. Limiting the external markets for Brazilian agricultural products will likely turn Bolsonaro’s support from the big agribusiness lobbies around. External pressure through hard sanctions are currently the only way to strengthen open climate networks in Brazil, as the political opposition, environmental governance institutions and NGOs are weakened and threatened by the Bolsonaro administration.



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