



SOUTH AFRICA'S POST-APARTHEID NUCLEAR DIPLOMACY

Proceedings report of a roundtable organised by the
Institute for Global Dialogue

Manhattan Hotel, Pretoria, 4 October 2012



Compiled by Fritz Nganje



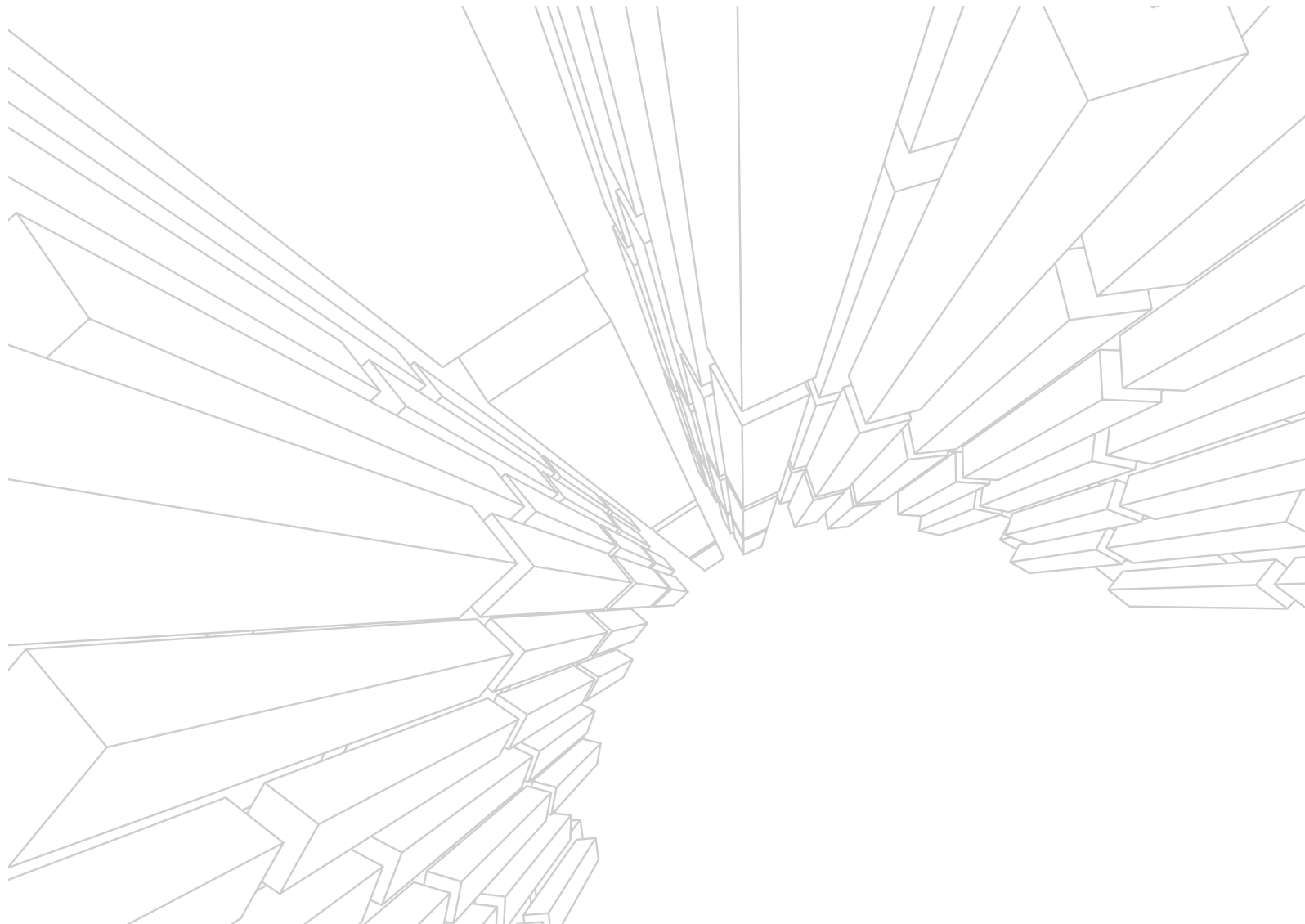
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CONTENTS

LIST OF ABBREVIATIONS AND ACRONYMS	7
1. INTRODUCTION	9
2. BIOGRAPHICAL NOTES ON THE SPEAKERS	10
3. THE ROLE AND FOCUS OF NUCLEAR DIPLOMACY IN POST-APARTHEID SOUTH AFRICA'S FOREIGN POLICY	12
Prof. Mike Muller	
4. NUCLEAR DIPLOMACY IN SOUTH AFRICA'S FOREIGN POLICY 'TOOL KIT'	19
Ms Jo-Ansie van Wyk	
5. KEY POINTS FROM THE DISCUSSION	25
APPENDICES:	
1: ROUNDTABLE PROGRAMME	28
2: LIST OF PARTICIPANTS	29
3: ABOUT THE INSTITUTE FOR GLOBAL DIALOGUE	31
NOTES	33

LIST OF ABBREVIATIONS AND ACRONYMS

AAM	Anti-Apartheid Movement
ANC	African National Congress
AFCONE	African Commission on Nuclear Energy
AU	African Union
BRICS	Brazil, Russia, India, China, South Africa forum
CDA	Combined Development Agency
DFA	Departments of Foreign Affairs
DIRCO	Department of International Relations and Cooperation
DTI	Department of Trade and Industry
FES	Frederic Ebert Stiftung
FDI	Foreign Direct Investment
GNU	Government of National Unity
HEU	Highly Enriched Uranium
HSRC	Human Sciences Research Council
IAEA	International Atomic Energy Agency
IBSA	India-Brazil-South Africa Dialogue Forum
IGD	Institute for Global Dialogue
IPAP	Industrial Policy Action Plan
LEU	Low-Enriched Uranium
NCACC	National Conventional Arms Control Committee
NNR	National Nuclear Regulator
NAC	New Agenda Coalition
NAM	Non-Aligned Movement
NP	National Party
NPT	Nuclear Non-Proliferation Treaty
NPC	National Planning Commission
NNEECC	National Nuclear Energy Executive Coordinating Committee
NWS	Nuclear Weapons States
NNWS	Non-nuclear weapons states

NSG	Nuclear Suppliers Group
NSS	Nuclear Security Summits
PBMR	Pebble Bed Modular Reactor
OAU	Organisation of African Unity
REC	Review and Extension Conference
SADC	Southern African Development Community
SACSA	South African Council for Space Affairs
UDM	United Democratic Movement
UN	United Nations
UNGA	United Nations General Assembly
UNSC	United Nations Security Council
UP	University of Pretoria
UNESCO	United Nations Education, Scientific and Cultural Organisation
UNISA	University of South Africa
WA	Wassenaar Arrangement
WMD	Weapons of Mass Destruction

1. INTRODUCTION

Following the decision to relinquish its nuclear weapons programme in 1989, South Africa went on to become an important actor within the international nuclear regime. Prior to 1990, South Africa's nuclear diplomacy revolved around the apartheid government's strategy to use nuclear weapons as a deterrent. Since the end of white minority rule, however, South Africa's nuclear diplomacy has been guided by a commitment to the principles of non-proliferation, disarmament and the use of nuclear technology for peaceful purposes. This has seen South Africa make significant contributions to strengthening the global nuclear regime, with a notable focus on challenging the tardiness of nuclear weapons states in meeting their obligations under the non-proliferation treaty, while also advocating the right of developing countries to develop nuclear programmes for peaceful purposes. These multilateral efforts have evolved alongside the development of extensive bilateral nuclear cooperation, entrenching South Africa as the only country in the continent with a world-class nuclear capability and earning the country sufficient diplomatic capital. Recently, the South African government announced its intention to build additional nuclear plants as part of its response to the future energy needs of the country. South Africa's renewed attention to nuclear energy, coupled with the country's entanglement in the growing controversy over Iran's nuclear programme, has raised questions about the efficiency and future of Pretoria's nuclear diplomacy. It is in this context that the Institute for Global Dialogue (IGD), in partnership with the Friedrich Ebert Stiftung (FES), hosted a roundtable on 4 October 2012 at the Manhattan Hotel in Pretoria to review and debate South Africa's post-apartheid nuclear diplomacy. This report is a synthesis of the two papers that were presented at the roundtable and the ensuing discussion.

2. BIOGRAPHICAL NOTES ON THE SPEAKERS



The speakers and organizers. From left to right: Prof Mike Muller (Wits University); Dr Siphamandla Zondi (IGD); Mr Olivier Serrao (FES); Ms Jo-Ansie van Wyk (UNISA); Dr Geoffrey Pigman (UP)

Jo-Ansie van Wyk

Ms Jo-Ansie van Wyk is a lecturer in International Politics at the University of South Africa, Pretoria. She holds an MA (Political Science) from the University of Stellenbosch, and recently submitted her doctoral thesis for examination in September 2012. Her thesis looks at South Africa's nuclear diplomacy since 1990.

Ms van Wyk's lecturing skills have also been applied at the South African National Intelligence Academy, the South African National Defence College, the South African War College and the South African Diplomatic Academy. She has published generally on political event management, elites and leadership, international relations, foreign policy, space politics, South African politics, nuclear issues, environmental issues and the international political economy.

Ms van Wyk is a Fulbright alumna and a member of the Suid-Afrikaanse Akademie vir Wetenskap en Kuns (South African Academy for Science and Art). She has also served as the Review Editor of *Politikon* (Routledge/Taylor & Francis) and the Editor of *Politeia* (UNISA Press). In June 2010, she was appointed by the Minister of Trade and Industry to serve on the South African Council for Space Affairs (SACSA).

Using her expertise, she has completed consultancies for the World Bank, UNESCO, the Institute for Security Studies, the South African Department of Foreign Affairs, and Consultancy Africa Intelligence. In 2012, she was awarded the Women Developing Researcher Award by the University of South Africa.

Mike Muller

Prof. Mike Muller is currently a Commissioner in South Africa's first National Planning Commission and a visiting Professor at the University of the Witwatersrand's Graduate School of Public and Development Management. He was Director-General in the Department of Water Affairs and Forestry from 1997 to 2005, responsible for policy and legislative reform and a range of transformative national water programmes that gave ten million people access to safe water and secured the nation's water supplies.

Prof. Muller previously managed infrastructure and policy programmes at the Development Bank of Southern Africa and water and sanitation programmes for the Mozambique government.

He also advises a range of organisations on water, infrastructure and development issues and has written extensively on development policy and health issues and, in the 1970s, covered South Africa's nuclear power programme as a journalist and has followed its subsequent development.

Geoffrey Pigman

Dr Geoffrey Allen Pigman is a visiting fellow at the Department of Political Sciences at the University of Pretoria, and a visiting research fellow at the Center for Global Change and Governance, Rutgers University – Newark. He is also a research associate at the Institute for Global Dialogue.

He holds a D.Phil in International Relations (Oxford University, 1993), an MA in International Relations (Johns Hopkins University School of Advanced International Studies, 1985) and a BA with High Honours in Political Science, Philosophy and Religion (Swarthmore College, 1983).

Dr Pigman is a founding member of the Diplomacy and International Sport research group. His principal areas of research are contemporary diplomacy, international trade politics, and foreign economic policy making. His publications include *The World Economic Forum: A Multi-stakeholder approach to global governance* (Routledge, 2006), *Contemporary Diplomacy* (Polity Press, 2010), and the forthcoming *Diplomacy of International Trade and Commerce* (Polity Press, 2014).

3. THE ROLE AND FOCUS OF NUCLEAR DIPLOMACY IN POST-APARTHEID SOUTH AFRICA'S FOREIGN POLICY

Prof. Mike Muller



Introduction

This paper seeks to locate South Africa's nuclear diplomacy in the broader historical and economic context. It argues that South Africa is the victim of path dependence in that the apartheid regime's misguided focus on nuclear weapons to address its existential challenges left a heritage that is diverting the country's foreign policy from more important priorities.

It further argues that the significant political capital that resulted from the apparently unilateral decommissioning of the country's nuclear arsenal could best be deployed in other, if related fields, that are better aligned to its broader development strategies. Specifically, it could be focused on actions that would contribute to greater integration of Southern African economies through energy cooperation. This review also highlights the need for a greater focus on economic diplomacy and the need for foreign policy to be better coordinated with the broader society.

History

South Africa's nuclear role derived initially from its ability, in the 1940s, to offer a reliable supply of uranium to fuel the development of nuclear weapons in which uranium is used directly (in its enriched form) or indirectly

(to produce plutonium in a nuclear reactor). This was at a time when the Western powers were engaged in the start of the Cold War arms race.

While other sources of uranium were available, notably in the USA and Canada, its availability as a by-product of South Africa's gold mines, under the control of companies largely owned by British capital, was vital in the early stages of nuclear development. By the end of 1955, 24 mines had been contracted by South Africa's Atomic Energy Board to extract uranium, with loan finance from the joint US/UK Combined Development Agency (CDA) using extraction processes developed at Wits University, according to the CIA's Office of Scientific Intelligence.¹ All South African production was committed to the CDA until 1964.²

Efforts to secure reliable uranium supplies to meet what was predicted to be rapidly growing demand were competitive. Even the USA's British partners reported that "the restrictive attitude of the Americans had made any effective co-operation impossible" and the UK cabinet agreed that "we should try to free ourselves from the restrictions of the *modus vivendi* and to seek close technical cooperation with Australia and arrange with them to meet our future needs of uranium, particularly for industrial purposes."

This focus on "industrial purposes" highlights the fact that already, by the mid-50s, the strategic attention of the then-great powers was switching from its initial focus on defence to energy issues. It followed that the opportunities for fuel-producing countries were increasingly to supply beneficiated products to a growing industry rather than simply cooperating in matters of defence.

However, for South Africa, the military opportunity remained important. While usually ambiguous on the subject, A.J.A. Roux, head of the Atomic Energy Board, was probably reflecting official views when he commented that "... the bomb might well appear to promise South Africa dominance in a continent which she fears, and a standing in international affairs which she does not rate at present."³

So it is thus not surprising that, shortly after the expiry of the CDA arrangement, South Africa entered into agreements with West Germany about cooperation in nuclear matters which, it was presumed, covered key dual-use technologies such as uranium enrichment. Indeed, the opposition of Germany to a revision of the Non-Proliferation Treaty (NPT) covering activities in other countries was taken by some authors to confirm the essentially military nature of that cooperation.⁴ Although Germany's interest was probably in the industrial cycle, history has shown that South Africa's priority was military, of which Germany must have been aware.

This is not to say that nuclear energy was of no interest to South Africa. Cooperation with France resulted in the 1972 agreement to construct the Koeberg nuclear power station, which was completed in 1985. But by that time, it was widely assumed that South Africa had constructed an atomic bomb.⁵

In the event, the flawed nature of the strategic judgment that had seen the apartheid state divert huge resources into nuclear programmes was revealed when the regime dismantled its nuclear weapons in the lead-up to the establishment of a democratic government in 1994. The substantial diplomatic and financial investment in nuclear weapons had not provided the defensive shield which it had hoped for.

Post-1994 developments

The irony was that the decommissioning of South Africa's nuclear weapons provided the new government with significant political capital on the international front. South Africa is one of the few states (together with some states of the former Soviet Union) that have given up a nuclear weapons capacity that it already possessed.

However, together with the substantial moral advantage conferred by the decision (albeit of a previous regime and likely not entirely voluntary) to renounce nuclear weapons came the burden of deciding what to do with the substantial nuclear infrastructure that the democratic government inherited. Aside from the specifically

military hardware, this included the uranium enrichment plant and related facilities. Also important were the human resources that had been involved, high value targets for recruitment by more or less legitimate external agencies, many of which were regarded as a threat by the dominant powers at the time.

In dealing with this legacy, the challenges of path dependence become clear as do the difficulties of rebalancing the influence of different economic sectors. In this instance, the challenge has been to achieve a balance within the nuclear domain between the military and the civilian, but even more so between the nuclear sector and the rest of the society and economy.

The opportunities offered by the nuclear sector appear attractive. Aside from the direct production of energy for domestic purposes, there is the prospect of becoming part of the supply chain of a global industry through the production of more or less beneficiated fuel as well as participation in other elements of the fuel cycle. The opportunities extend beyond the nuclear industry – the historic involvement in enrichment left South Africa with some highly specialised capacities in fluorochemistry, for example. And the diplomatic leverage that goes with nuclear capabilities is still there to be exploited.

Nuclear energy

The generation of energy remains the most important and attractive use for nuclear technology. The development and deployment of nuclear power stations, beginning in the 1950s, was important in both the geopolitical and technological spheres. In the 1950s, the imminence of resource nationalism amongst oil producers, the unequal distribution of hydrocarbon resources and their finite limits raised fears in many countries about energy security in both the short and long term.

Nuclear power, with its different sources of raw materials primarily in what the West saw as friendly Commonwealth countries such as Canada, Australia and South Africa, offered the opportunity to create a more favourable geopolitical context. The technological prospect of “breeder” reactors suggested almost infinite fuel resources. And, while development and initial capital costs were high, the low operational costs of nuclear power meant that the life-cycle costs of nuclear-generated electricity were highly competitive although there was already concern in some circles that environmental costs were being underestimated.

These theoretical benefits have largely been borne out in those countries that have taken a strategic decision to adopt nuclear-generated electricity and have benefitted substantially from the energy security that it has provided. These include France (which generates over 70% of its electricity from nuclear sources), Belgium and Slovakia (both over 50%), as well as Sweden, Switzerland, Hungary, Slovenia and Ukraine (40-50%). While Japan and Germany are reducing their nuclear capacity after the Fukushima event (which was primarily a natural rather than a nuclear disaster), China and South Korea and many rapidly growing middle-income countries continue to be committed to the development and expansion of nuclear generation. It must be noted, however, that nuclear power's reputation has been undermined by the unreliability of cost estimates and construction times for new nuclear plants, driven in part by policy instability in the sector globally.

The case for nuclear power is both strengthened and weakened by environmental considerations. Fears over safety and environmental damage have constrained expansion; the effective zero carbon emission characteristics have encouraged it, as is the case in South Africa where nuclear power has been chosen to provide the largest increment in energy generation. This reveals yet another strand of nuclear diplomacy since the promoters of low carbon energy production must take a stance on the acceptability or otherwise of nuclear power for this purpose.

For some countries, the nuclear power industry represents a larger opportunity than merely local generation. France and the USA and now increasingly China and South Korea have the capability to deliver complete

power systems as does Russia. For producers of fuel materials such as uranium, nuclear power offers the prospect of growing markets. Currently, according to the International Energy Agency, production is led by Kazakhstan (33%), Canada (18%) and Australia (11%) with African producers representing a relatively small proportion; Namibia (8%), Niger (8%) and South Africa (a mere 1%).

However, between raw material for fuel and the provision of complete nuclear systems, there are many other opportunities ranging from the manufacture of fuel components to the reprocessing of nuclear waste which could be of interest to mid-size countries such as South Africa.

South Africa's energy decisions

Against this background, South Africa has a clear interest in nuclear power. Its current electricity production is heavily based on coal, the most carbon-intensive fuel with few cleaner alternatives available domestically. "Clean coal" technologies (involving CO₂ sequestration) are unlikely to be cost effective in the medium term, if ever. South Africa has limited proven natural gas resources and virtually no hydropower potential. The flagship renewable energy sources – photo voltaic and wind power – are still relatively expensive and unable to generate the base load power that must underpin any electricity supply.

Hence, in the planning process to guide the expansion of South Africa's electricity generating capacity, the conclusion was reached that a rapid expansion of nuclear capacity, from the current 1.2GW to 9.6GW, would be a critical component of a cost-effective low carbon path to 2030.⁶

A Cabinet decision has been taken to proceed on this basis. The cost of the programme has been estimated at between R300 billion and R1 trillion by different commentators. While at this stage costs can only be indicative, it is clear that the investment quantum will far exceed that of the arms deal, previously South Africa's largest public sector procurement.

This decision has been associated with opportunities for industrial development as well as for fuel production, as part of which it has even been suggested that South Africa might once again engage in uranium enrichment in order to participate in the full nuclear fuel cycle. There are also potential mining opportunities. Although historically, uranium has been produced as a by-product of gold mining, and its extraction would not be economic as "grades" are low, there are some possibilities for uranium focused expansion. However, for reasons outlined below, it is difficult at this stage to determine which reported prospects may offer viable mining opportunities.

Interests and implications

In the context of considering the nature and role of nuclear diplomacy in 2012, it is necessary to consider the various issues and interests that will come into play through the nuclear programme. A range of internal and external interest groups can be identified with an interest in a substantial programme of nuclear investment.

Potential system suppliers include large corporate interests from France and the USA with partners from Japan as well as Russia and South Korea. These suppliers are engaged in active programmes to develop their capacity to participate in South Africa's planned nuclear programme, and to promote its implementation, with the more or less active and overt support of their governments. Thus the French company AREVA has already established specialised skills training facilities as a cooperative project with South African authorities.

There are also a variety of internal interests. In addition to those elements of the state that are directly involved (such as the Department of Energy and power producer ESKOM), these include industries such as construction and mining, which have the potential to derive substantial benefit from the programme. The

interests then extend to associated business organisations. In large investment programmes of this nature, involvement as an intermediary or lobbyist can be extremely profitable and South Africa's requirement that major investment should include an element of black economic empowerment serves to create further opportunities. Environmental pressure groups have been less visible than might be expected since, on the one hand, they support the objective of reducing carbon emissions but on the other they remain concerned about the impact of nuclear power, particularly the waste disposal component.

There is however a further, somewhat invisible, set of interests. Amongst the options that were considered in the electricity planning process (IRP) were supplies from the Southern African region. While a small increment of hydropower from Mozambique is included in the final proposal, this represents just 2% of the total installed capacity. There are two reasons for this. First, there is an historical reluctance to allow South Africa to be dependent on its neighbours for a strategic resource such as electricity supply, codified by the apartheid government as a percentage limit which, it appears, is still adhered to. Secondly, there were very few projects prepared to a sufficient stage of readiness to be considered in the planning process. Since these options represent competition for nuclear power, the constraints on their development have received little attention in the nuclear debate.

What this analysis highlights is that an understanding of the economic issues and interests will be critical to the outcome of the progress. Given the large number of foreign actors involved, and the different interests that must be balanced, the need for effective economic diplomacy is obvious. This will require greater coordination between sectors and departments of government to break out of the "silos" that too often characterise their work.

The power procurement process going forward

While an in-principle decision has been taken to proceed with the nuclear programme, the final decision can only be taken when costs are clearly established. Until then, there are opportunities for alternatives to be introduced into the plan, helped by the fact that the long lead time for nuclear power development leaves time for alternatives to be introduced. This is explicitly stated in the IRP:

The Revised Balanced scenario provides for some additional capacity until 2022 to cater for delays in implementation or cancellation of some of the programmes. However large scale deviations from the plan, in particular the nuclear fleet programme, pose a significant risk to security of supply. After finalising the IRP a mitigation strategy will be developed to consider alternatives. The IRP is regularly revised and changes can be incorporated if identified in time.⁷

For its part, South Africa's National Planning Commission (NPC) in its 2012 National Development Plan 2030 has indicated the need to ensure that there is a Plan B, in the event that the requirements for nuclear power development are too onerous. It has highlighted the risks and inflexibility inherent in the nuclear programme and concluded that:

South Africa needs a thorough investigation on the implications of nuclear energy, including its costs, financing options, institutional arrangements, safety, environmental costs and benefits, localisation and employment opportunities, and uranium enrichment and fuel fabrication possibilities. While some of these issues were investigated in the IRP, a potential nuclear fleet will involve a level of investment unprecedented in South Africa. An in-depth investigation into the financial viability of nuclear energy is thus vital. The National Nuclear Energy Executive Coordinating Committee (NNEECC), chaired by the Deputy-President, will have to make a final "stop-go" decision on South Africa's nuclear future, especially after actual costs and financing options are revealed.⁸

Nuclear diplomacy, BRICS and African regional integration

While the arrival of China as a major player in African infrastructure has been a game changer in many respects, it is not clear that this will be the case in South Africa's energy development. South Africa has embarked on an aggressive programme to position itself as a partner to BRICS with a particular focus on China. And nuclear power is an area in which China is rapidly developing its capabilities. While in other African countries, it is Chinese construction expertise that is being exchanged for access to mineral resources, it would be logical, in South Africa, to focus on nuclear power as a "trading chip".

Yet South Africa's broad foreign policy objectives give a high priority to regional integration, in line with the approach of the African Union. And while many neighbouring countries have reason to fear that greater economic integration will primarily benefit South Africa, integration in energy production would likely contribute to more balanced growth across the region. As an example, the NPC has highlighted the fact that energy cooperation will help South Africa to meet the growing pressures to reduce carbon emissions to mitigate climate change while supporting economic development in other countries of the region:

Increasing diversity in South Africa's energy production mix is important to mitigate climate change while enhancing supply security. For example, combined cycle gas turbines – a cleaner and less capital-intensive technology than coal-fired power stations – can be used to improve supply security by flexibly picking up any shortfall in supply from renewable energy sources. Developing the southern African region's hydroelectric resources, first in countries such as Zambia and Mozambique, is also a priority.

In this context, it is relevant that most Southern African countries depend heavily on donor assistance for their infrastructure development, including project preparation. Although nominally supporting energy integration and climate change mitigation, most European and North American governments have historically discouraged hydropower development, under pressure from their domestic environmental constituencies. While SADC Ministers have long called for greater support for the development of major water infrastructure, it is only since the arrival of China as a major infrastructure funder that the attitudes of donor countries and multilateral organisations such as the World Bank have begun to change.⁹

It might be possible to link China to South Africa's energy development in a more regionally friendly way rather than to pursue the nuclear option. Aside from natural gas from Mozambique and Angola, the other major energy opportunity in the region is the development of hydropower. While the focus to date has been on the huge resource offered by the proposed Inga project on the Congo River, there is extensive hydropower potential in the Zambesi basin, notably in Zambia and Mozambique as well as in Angola. A staged development of power generation and transmission lines would be consistent with the long-term goal of connecting Southern Africa to Inga but would avoid the need for a "big-bang" solution to the political challenge of establishing a viable institutional arrangement for Inga's implementation. A staged development would also avoid the strategic dependence on a single external system that has seen South Africa maintain its apartheid-era position of not allowing itself to become dependent on its neighbours for its electricity supplies.

For such a development to proceed, it would be necessary to promote effective regional cooperation to cover the sectors concerned, which would probably include energy and water as well as economic development. One of the challenges of regional integration at present has been the failure of governments to achieve such cooperation. Here again, the NPC has highlighted the challenge and committed to:

.... engage with its counterpart national planning agencies in southern Africa to improve policy coordination and programme cooperation and consider how regional development planning can be improved. It will also seek to identify potential synergies between countries and support programmes that take advantage of complementary human and natural endowments to promote development and build resilience to natural disasters.

There is a clear tension between this approach, which should be core to South Africa's foreign policy, and the focus on nuclear power and nuclear diplomacy. Hence, the suggestion made in the introduction that the political capital derived from South Africa's decommissioning of nuclear weapons should be deployed more strategically than simply continuing to focus on nuclear matters.

Conclusion

When the costs and benefits of a nuclear power programme are weighed against the priorities of South Africa's foreign policy, it is by no means obvious that the nuclear programme should be supported. If it is, the external implications of the programme are so far-reaching that a high priority should be given to understanding and influencing their economic dimensions

The potential benefits from regional energy integration and an increase in economic activity in the region would certainly bring benefits to South Africa given its many and growing linkages to the South African economy. It is unlikely that a nuclear development programme would have the same multipliers, given the extremely high tech nature of the activity and the fact that the bulk of future global nuclear development is likely to occur in other regions, with which South Africa has weaker linkages.

However, against these economic considerations must be set South Africa's desire to strengthen relations with BRICS. In this context, the attractions of a nuclear engagement with China are obvious. Taken together with South Africa's aspiration to be a significant voice in global affairs, the fact that this country already has some standing by virtue of its decommissioning of its nuclear weapons capability and a desire for stronger relations with BRICS, an alliance strengthened by nuclear cooperation would be attractive.

The emergence of a proposal for a Franco-Chinese supplier consortium is interesting. It suggests that French commercial interests, perhaps the most active in their pursuit of the South African opportunity, have made their own reading of the policy drivers and decided that a Chinese linkage would be valuable. This could also open larger strategic opportunities for French interests since China is likely to be a leading market for nuclear power expansion, an area in which France is already well placed to benefit. And it would be consistent with France's desire to maintain and perhaps expand its soft hegemony in parts of Africa.

Careful analysis of the linkages that are being made between external and internal interests will be crucial in ensuring that diplomatic engagements are not undermined by special interests. In this context, the challenge of defining and pursuing national interest is clearly growing more complex.

The apartheid governments of John Vorster and P.W. Botha made a significant strategic error by focusing substantial resources on nuclear weapons that contributed little to their goals of regime survival. It could be suggested that South Africa in 2012 is in danger of making the same strategic mistake – to focus on nuclear matters because of their perceived status and ignore the development imperatives of Southern Africa, which may well be moving in a different direction.

4. NUCLEAR DIPLOMACY IN SOUTH AFRICA'S FOREIGN POLICY 'TOOL KIT'

Ms Jo-Ansie van Wyk



Introduction

During a meeting with General Jan Smuts in 1945, British Prime Minister Winston Churchill requested South Africa to conduct geological explorations of the country's uranium resources in order to supply uranium for the British nuclear weapons programme.¹⁰ Britain soon became South Africa's largest uranium market; a relationship which continues today with the Britain-based Nuclear Fuels Corporation (Nufcor) as the major marketer of South African uranium on the global market.

After the use of atomic bombs on Japan, the end of the Second World War and the establishment of the United Nations (UN) in 1945, some global efforts emerged to regulate the peaceful uses of nuclear energy. United States (US) President Dwight Eisenhower's 'Atoms for Peace' address to the UN in December 1953 provided impetus for the establishment of an international agency.¹¹ By 1954, South Africa had participated in a series of multilateral negotiations as a member of the Eight-Nation Negotiation Group of an international organisation for this purpose. Although South Africa was excluded from the so-called Geneva Conference in August 1955, a parallel initiative led by the UN, South Africa remained a member of the negotiations group (now called the Twelve-Nation Negotiating Group) on the Statute of such an agency. South Africa was also a member of the original 18 states that formed the First Preparatory Committee (Prepcom) of what was now called the IAEA on 26 October 1956 and one of the first members of the Board of Governors of the Agency when it entered into force in 1957.¹²

Until the mid-1960s, South Africa was a 'good international citizen' in terms of the IAEA. However, once some elements of the country's nuclear ambitions and racial policies were met with increasing international and domestic condemnation, the country's international isolation increased. Correspondingly, its global nuclear proliferation through clandestine sanctions-busting nuclear-related relations with Britain, Israel, the US and France also increased. Parallel to these developments were the efforts of the African National Congress (ANC) in exile and the Anti-Apartheid Movement (AAM) to bring the nuclear ambitions of the apartheid government to the international community's attention. In this case, the efforts of Abdul Minty, South Africa's Ambassador to the IAEA, stands out.

The South African NP-led government commenced with the termination of its nuclear weapons programme in 1989; a process which, once completed, was verified by the IAEA in 1993.¹³ In March 1993, President FW de Klerk announced in the South African Parliament that South Africa had produced 'six nuclear devices' by the end of the 1980s in terms of the country's nuclear deterrence strategy, despite severe international sanctions.¹⁴ De Klerk failed to mention the country's ballistic missile capabilities which the country developed, inter alia, with the assistance of Israel.

Whereas South Africa's international isolation was one of the hallmarks of its pre-1990 diplomacy, the country's post-1990 diplomacy signifies a major departure in terms of focus, scope, intensity and diversity. Consequently, the country's nuclear diplomacy was also transformed. Prior to 1990, the "Janus-faced" nature of South Africa's nuclear diplomacy included, on the one hand, international condemnation and reactions to these condemnations and, on the other hand, secret diplomatic interactions in an effort to either pressurise the South African government to dismantle its nuclear weapons programme, or to bypass bi- and/or multilateral sanctions against the country.¹⁵

Post-1990, South Africa's nuclear diplomacy was a direct departure from previous practices. As an instrument of foreign policy, South African diplomacy reflected these changes. One of the illustrations of this departure is South Africa's role and influence in international nuclear diplomacy at multilateral institutions such as the AU, the IAEA and the UN. Bilaterally, a similar trend is evident.

Why and how did South Africa become such an influential former nuclear weapons state and developing country in nuclear diplomacy? Since 1990 South Africa has conducted its nuclear diplomacy by constructing certain norms and its identity in a particular way to serve its national and international interests. Consequently, this has created both a practical and normative reality by bestowing on the country a particular state identity as a state that has relinquished its weapons programme to secure and maintain a certain moral high ground in nuclear-related negotiations and fora. This was achieved through the skillful conduct of niche diplomacy in specific areas and issues identified in this paper.

In February 1994, a few months before the elections, the ANC in the Western Cape led by Trevor Manuel convened a conference on the country's future nuclear policy with a strong vote against the use of nuclear energy at all.¹⁶ When the ANC won the country's first-ever democratic elections in April 1994, South Africa under the leadership of President FW de Klerk had ratified the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) in 1991. In addition to this, after successive inspections by the International Atomic Energy Agency (IAEA), the Agency in its so-called Completeness Report of 1993 declared that the country's nuclear weapons programme had been dismantled completely and that all highly-enriched uranium (HEU) had been accounted for. By 1995, a year or so into the ANC-led Government of National Unity (GNU) South Africa participated in the NPT's Review and Extension Conference (REC) and returned to the Board of Governors of the IAEA after its suspension from the Board in 1977.

Post-1994 nuclear diplomacy

Like other types of its post-apartheid diplomacy, South Africa's post-apartheid nuclear diplomacy displayed patterns of change and continuity. The most pertinent change was that the country's nuclear diplomacy was no longer conducted against the background of a nuclear weapons programme but against the background of global recognition of the country's nuclear turn-around. Continuities included the maintenance of its pre-1994 nuclear relations. The foreign policy of the ANC-led government continued with the ANC's historical stance on nuclear non-proliferation, disarmament and the peaceful uses of nuclear energy. In addition to this, South Africa's international obligations expanded in terms of its ratification of the NPT and its membership of nuclear export control regimes such as the Zangger Committee, the Nuclear Suppliers Group (NSG) and the Wassenaar Arrangement (WA) which required the alignment of the country's bureaucracy such as the Departments of Foreign Affairs (DFA) and Trade and Industry (DTI). In other words, nuclear issues were no longer the domain of the state's security apparatus only as the Nuclear Non-Proliferation Council (NPC), the National Nuclear Regulator (NNR) and the National Conventional Arms Control Committee (NCACC) also became major bureaucratic agencies in upholding the country's non-proliferation commitments.¹⁷

South Africa's role in bilateral negotiations

In bilateral relations, South Africa has signed several nuclear-related agreements with the US, France, Germany, the United Kingdom (UK), the Russian Federation and China. Whereas the text of these agreements is available, their substance remains unclear but is evident in, for example, skills development programmes of Arecsa Human Capital (Pty) Limited, a joint venture between the French state-owned nuclear energy utility Areva and the Nuclear Energy Corporation of South Africa (Necsa); French-South African nuclear seminars and trade delegations; and investment in the now defunct pebble bed modular reactor (PBMR) by US, Chinese and Japanese firms. Here, the strategy remained cooperation on nuclear matters. Bilateral agreements with African states also produced results with agreements with, amongst others, Algeria and Nigeria.

However, one of the major post-apartheid bilateral nuclear negotiations occurred in 2003 when Thabo Mbeki appointed a team of South African nuclear experts to visit Iraq to determine the existence of weapons of mass destruction (WMDs) in the country. The team's findings were presented to Mbeki who passed it on to UN General Secretary Kofi Annan who faced the US and its Coalition of the Willing, which eventually invaded Iraq in March 2003.¹⁸

South Africa's role in multilateral negotiations

Multilateralism is one of the defining features of South Africa's post-apartheid foreign policy. In multilateral diplomacy, the country has crafted a diplomatic niche for itself in multilateral organisations such as the conferences of the NPT, the IAEA, and meetings of the UN General Assembly (UNGA) and the Security Council (UNSC). In multilateral negotiations, South Africa employed the strategies of cooperation, confrontation and parallelism. The country's bridge-building role in terms of the NPT's 1995 REC is internationally recognised, as were its Thirteen Steps proposals at the 2010 Review Conference of the NPT.

South Africa often followed a strategy of confrontation with nuclear weapons states (NWS) in its advocacy of especially non-nuclear weapons states' (NNWS) inalienable right (in terms of the NPT) to the peaceful uses of nuclear energy. This confrontation often erupts in arenas such as the UNGA, UNSC, the IAEA and the NPT, on issues such as Iran's nuclear programme, the IAEA's Nuclear Fuel Reserve, and the representivity of the IAEA Board of Governors.¹⁹

Another multilateral area where South Africa has played an instrumental role is in the entry into force of the African Nuclear Weapons Free Zone Treaty (the Pelindaba Treaty) in July 2009. When the Organisation of African Unity (OAU) adopted its Cairo Declaration in the 1960s declaring the denuclearisation of Africa, it was South Africa that for years prevented the realisation of this. Today, South Africa not only leads the compliance mechanism of the Pelindaba Treaty, the African Commission on Nuclear Energy (AFCONE) through Abdul Minty's chairmanship of the Commission, but the country is also the host of the Commission.²⁰

Nuclear diplomacy as part of the foreign policy 'tool-kit'

In the conduct of its post-apartheid nuclear diplomacy, South Africa skillfully crafted a diplomatic niche for itself. Niche diplomacy is predominantly conducted by middle powers, countries with technical expertise in one or more areas, through the use of mainly three diplomatic strategies, namely cooperation, confrontation and parallelism to achieve some material and/or non-material gain.²¹ This is clearly evident in the conduct of the country's nuclear diplomacy as an instrument of its foreign policy.

A state's foreign policy serves several objectives. It aims to enhance the status and prestige of a country, improve the welfare of the population of a country, advance a country's national interests, and maintain the internal and external sovereignty of a state. Globally ambitious and Africa-focussed, South Africa's post-apartheid foreign policy continues to oscillate between idealism and realism but always to enhance the country's international status and prestige.

The foreign policy 'tool-kit' includes several tools or instruments, with diplomacy one of these tools. Other foreign policy tools available to a state are propaganda, war, intervention and economic actions. In terms of post-apartheid South Africa's nuclear diplomacy, the latter is more appropriate. In its conduct of nuclear diplomacy, South Africa has used this instrument – economic actions – very skilfully through trade. Not only is South Africa one of the world's major producers of uranium, it is also one of the world's leading suppliers of medical isotopes such as Molybdenum-99 (Mo-99) which is produced at Necsa's Pelindaba facility and earned the country more than R 842 million in 2011.²² Moreover, the NPC and NCACC annually issue a large number of export permits to South African companies trading in dual-use goods. In addition to this, the country holds several nuclear technology-related patents (thus intellectual property as an economic good) developed during the lifespan of the PBMR and is likely to patent the conversion of the country's nuclear research reactor, SAFARI-I, from using HEU to low-enriched uranium (LEU). Other economic actions such as nuclear technology and skills transfers were referred to earlier.

The future of nuclear diplomacy in South Africa's international relations

A major economic foreign policy tool available to South Africa is foreign direct investment (FDI) in the country's nuclear industry. With the announcement of its intentions to continue with a multi-billion rand nuclear build plan; its consideration of uranium enrichment; Koeberg and SAFARI-I reaching the end of their shelf lives; and policy documents such as those of the National Planning Commission (NPC) and the Industrial Policy Action Plan (IPAP 2) outlining government's preference for nuclear energy, South Africa is in a very good position to attract FDI in a global industry which is still reconsidering its future in the wake of the Fukushima Daiichi nuclear disaster in March 2011 in Japan.²³ Against this background, the country is already being courted by multinational nuclear corporations such as Westinghouse (US), Areva (France), Toshiba (Japan), and the Guandong Nuclear Energy Corporation (China).

These developments illustrate the growing importance of South Africa's nuclear diplomacy in the country's international relations. However, some caveats pertaining to the future of the country's nuclear diplomacy persist. These can be divided into domestic and international issues. With regard to domestic issues:

- Centralisation of nuclear decision-making in the Presidency such as the coordination committee under the leadership of Deputy President Kgalema Motlanthe to the detriment of the diplomats of the Department of International Relations and Cooperation (DIRCO).²⁴
- South Africa is already being accused of poor public participation in foreign policy decision-making. A similar trend is evident in the country's nuclear diplomacy as one expression of the country's foreign policy. Public interest in and knowledge of nuclear matters are poor, according to a 2011 public opinion poll conducted by the state-sponsored Human Sciences Research Council (HSRC).²⁵
- Transparency and accountability: Government is projecting its nuclear decisions through rhetoric such as ending scarce skills shortages and unemployment and attracting FDI, while public debates on its nuclear plans are scarce. A related concern is the announcement of the Minister of State Security during his Budget Vote in 2011 that his Ministry is looking into restarting the country's uranium enrichment programme, which raises questions about the securitisation of the mineral.²⁶ This is even more disconcerting as the country's policy of beneficiation in the mining industry, labour unrest at some of the country's largest mines and talks of the nationalisation of mines continue unabated.
- With most of the state-owned entities in South Africa suffering from severe financial difficulties and with the termination of the state-owned PBMR due to financial concerns, the question remains whether the nuclear build programme should be in the hands of government.²⁷
- Arms deal redux? Concerns have emerged that the multi-billion rand contracts to be awarded in terms of the nuclear build plan may provide similar results such as the infamous arms deal of the 1990s: elite enrichment, circulation and interlock; 'tenderpreneurship'; corruption; and very little to the fiscus. Moreover, the poor reporting of the NCACC to Parliament adds to concerns about South Africa's arms sales to so-called rogue states.²⁸
- Concerns have been raised about the safety and security of the country's nuclear installations and equipment used in nuclear medicine. Security breaches at Pelindaba and the theft of equipment raised fears of the nuclear proliferation risk posed by South Africa; especially in the wake of South Africans' involvement in the nuclear black market network of Pakistani AQ Khan.²⁹
- With South Africa's hosting of the AFCONE, DIRCO needs to re-align itself. The question remains whether South Africa has enough skilled diplomats for this and other nuclear-related international obligations.
- The NNR and NPC are currently being restructured; processes that ideally should include DIRCO.³⁰
- For most of the post-apartheid period, Abdul Minty was the face of South Africa's nuclear diplomacy despite, for example, President Zuma's participation in high-level diplomatic events such as two of US President Barack Obama's Nuclear Security Summits (NSS). The question remains: Who will succeed Minty?

With regard to international issues:

- South Africa's support of Iran's nuclear programme causes strain in its relations with other nuclear partners and poses a potential nuclear show-down in the Middle East.³¹

South Africa's post-Apartheid Nuclear Diplomacy

- South Africa has already attended the first Prepcoms of the 2015 NPT RevCon and was one of a few developing countries to do so.
- Abdul Minty vied for the IAEA's top job in 2009 and eventually lost to the Japanese candidate.³² Despite a very costly election campaign for the election to the position of the Director General of the IAEA, South Africa may make a second attempt as Amano's tenure draws to an end.
- With a large number of African states having expressed their intention to develop nuclear energy for power generation, South Africa's leadership of the AFCONE becomes more pertinent to keep the continent free of nuclear proliferation.
- India, which, like Iran and North Korea, operates outside the NPT, poses a specific challenge to South Africa's nuclear diplomacy. The country is a major partner of South Africa in the Non-Aligned Movement (NAM), the India-Brazil-South Africa Dialogue Forum (IBSA) and the Brazil-Russia-India-China-South Africa (BRICS) group of developing states. Yet, India enjoys special privileges in terms of the NSG.³³ This presents South Africa with an opportunity to act as a broker between the international community and India.
- With a rising nuclear club consisting of predominantly developing countries, South Africa will increasingly have to make strategic choices between its national interests, and those of the collective developing world. In this regard, the country will greatly benefit from a merger between DIRCO, DTI and other relevant Ministries as existing 'turf wars' may undermine the country's economic diplomacy in this area.
- South Africa's nuclear diplomacy should also be approached in the context of the global nuclear renaissance, irrespective of the Fukushima disaster. In this regard, the country will have to walk a tightrope between affordability, political expediency and optimal safety design; a decision which may easily be clouded by events similar to the arms deal.
- South Africa needs to return to its role as a norm entrepreneur in terms of global nuclear issues; similar to its role in the establishment of the New Agenda Coalition (NAC).³⁴

Concluding remarks

Historically, South Africa's nuclear diplomacy was part of the country's 'high politics' during the Cold War. It seems that the country's nuclear diplomacy will return to this position. South Africa's skilful use of niche diplomacy has enabled the post-apartheid government to accrue unprecedented material (investment and trade) and non-material (status, prestige and leadership) rewards in terms of its nuclear diplomacy. With an ostensibly bright future for nuclear diplomacy, the country will be required to employ diplomats with expertise in this area; open the public debate on the country's nuclear plans and diplomacy; keep to its international obligations; and maintain in practice the ANC's historical stance on nuclear disarmament, nuclear non-proliferation and the peaceful uses of nuclear energy.

5. KEY POINTS FROM THE DISCUSSION



Hon. Bantu Holomisa (UDM)



Ambassador John Tesha (Africa Forum)

Should South Africa be going nuclear or not?: A major highlight of the discussion was the debate on whether South Africa should continue with developing nuclear capacity. Proponents of South Africa's peaceful nuclear programme argued that Pretoria's nuclear policy, and hence its diplomacy in this area, should be informed first and foremost by the country's energy requirements. Given the energy demands of the South African economy, nuclear power is bound to be part of the country's energy mix in the medium term, especially in the context of the move towards clean energy sources. South Africa should follow the example of countries like Brazil and not shy away from making maximum use of its nuclear reserves. Moreover, because nuclear capability confers international status on states, South Africa should guard against the manipulation of some permanent members of the UN Security Council, who do not want an expansion of the nuclear club for fear of losing their exclusive status. In this regard, a disguised reference was made to the thesis that South Africa did not voluntarily give up its nuclear weapons, but was coerced into doing so by Western powers concerned about the implications of an African country possessing nuclear weapons.

A converse opinion was that South Africa and South Africans should guard against the temptation to approach the nuclear question from a position of 'false nationalism'. South Africa should display extreme caution in exercising its right to developing nuclear capability even for peaceful purposes. The country's limited human and financial resources, coupled with lessons from the recent Fukushima nuclear disaster in Japan, suggest that the nuclear option could prove to be very risky for South Africa. South Africa should adopt a strategic approach to addressing its energy needs, based on a clear analysis of available resources and the country's interests. Given the costs and risks associated with pursuing a nuclear energy policy, participants at the roundtable were also challenged to ask questions about the disposal of nuclear waste, as well as the connection between South Africa's energy policy and the parochial interests of the political elite.



Ms Megan Bradshaw (US embassy)



Mr Khaled Qasaymeh (UNISA)

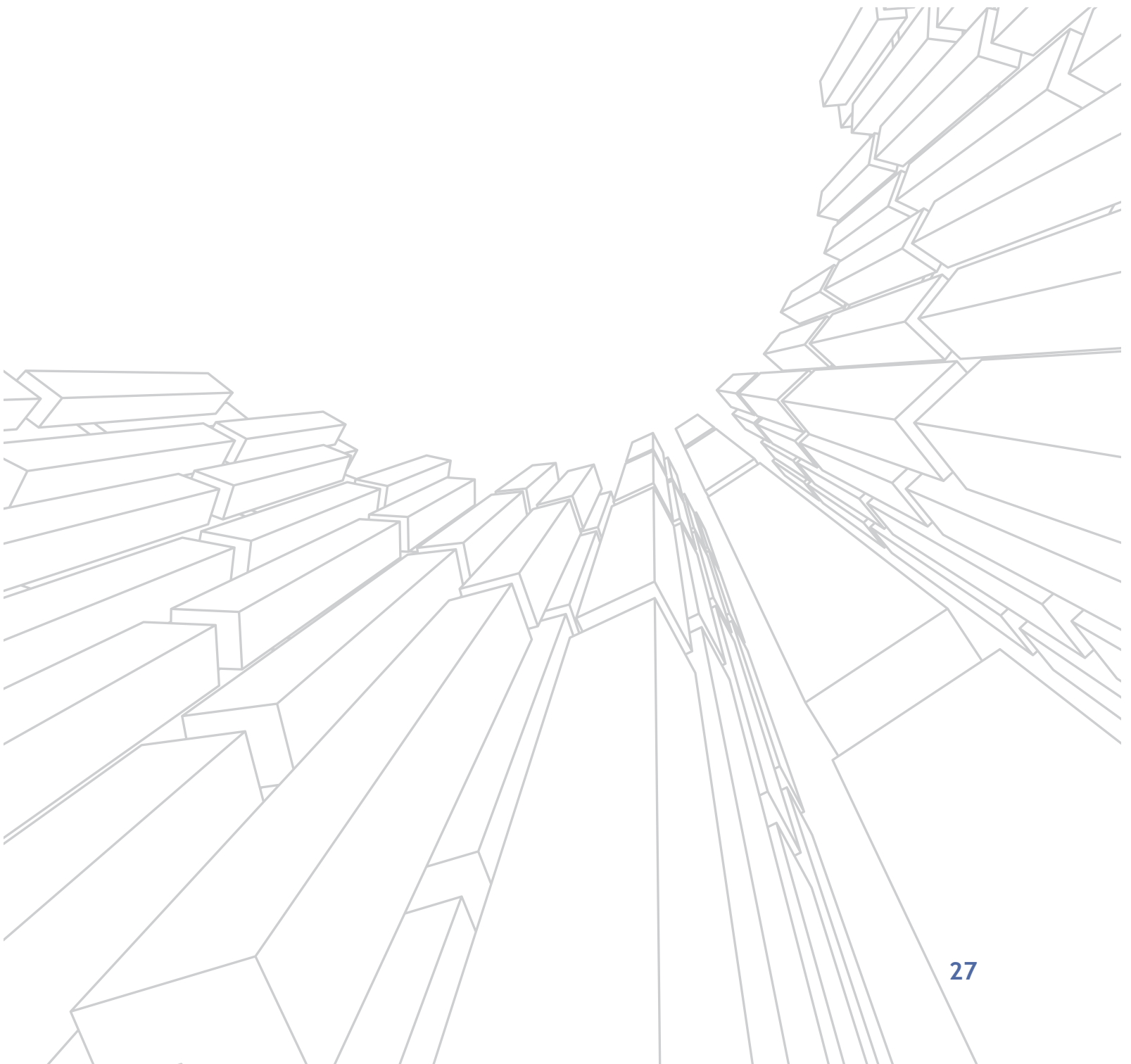
South Africa should be smarter in its balancing act: Another key theme that animated the discussion was the quality of South Africa's bridge-building role between the West and aspirant nuclear states in the South. It was noted that South Africa has amassed significant diplomatic capital to enable it assume the role of an arbiter in the nuclear fraternity, and there is evidence to suggest that Pretoria has been doing just that. However, the dominant view was that South Africa needs to be a bit smarter in its balancing act between nuclear powers in the West and developing countries aspiring to access nuclear technology for peaceful purposes. On the one hand, it was suggested that South Africa should continue opposing the institutionalisation of what is seen as 'nuclear apartheid', characterised by nuclear weapons states displaying a lacklustre attitude towards disarmament, while working to prevent other states from developing peaceful nuclear programmes. The virtual silence over Israel's potential nuclear weapons programme at a time when Western powers were clamouring to halt Iran's nuclear programme was highlighted as a classic example of this nuclear injustice.

On the other hand, some participants felt that South Africa's efforts in defending the right of developing countries to peaceful nuclear technology has been lacking, in the sense that it has failed to constructively engage with developing countries that are either in possession of nuclear weapons or are aspiring to develop a nuclear capacity. In this regard, one participant pointed out that, by failing to sufficiently leverage its trade and historical ties with Iran, South Africa had missed an opportunity to shield Iran from Western sanctions and other potential actions, while also amicably dissuading Tehran from developing nuclear weapons.

Towards a regional nuclear energy policy? For some participants at the roundtable, the discussion on South Africa's nuclear policy and diplomacy needs to be approached from a regional rather than a national perspective. The argument was that South Africa's future energy needs would only be assured in the context of a wider regional energy policy. Consequently, it is the African Union that should take charge of articulating a nuclear agenda for the entire continent, although it was acknowledged that South Africa, through DIRCO, should provide institutional leadership in this regard. It was even suggested that should African countries overcome the current tendency to conduct their diplomacy in silos, nuclear power could be excluded from the continent's long-term energy mix. This is because Africa has significant hydropower resources that could only be efficiently exploited through a shift towards greater regional planning and integration.

South Africa's nuclear diplomacy is hampered by capacity constraints: Concerns were also raised about the ability of South Africa's overstretched foreign affairs bureaucracy to efficiently execute the country's nuclear diplomacy. Here, it was pointed out that South Africa appears to have become a victim of

its own success; its high status in the nuclear world has left it with a bloated nuclear agenda and has attracted many opportunities for partnerships, which far outweigh the available capacity. This observation reinforced calls for greater inter-departmental coordination on nuclear policy.



6. CONCLUSION

In a sense, the issues raised and discussed at the roundtable on South Africa's post-apartheid nuclear diplomacy are not unique to this issue area. Rather, they underscore some of the major challenges that the country has had to contend with in the execution of its foreign relations, chief among which is the dilemma to balance its regional leadership role with the responsibilities that come with being a middle power. As the highlights above suggest, South Africa's post-apartheid status as a middle power, with lingering domestic socio-economic problems and an enlightened self-interest to promote the development of its neighbourhood, means that Pretoria has often come across as 'punching above its weight' in its diplomacy. Therefore, suggestions for South Africa's nuclear diplomacy to be strengthened, as captured above, are essentially a call for rethinking the foreign policy underpinnings and architecture of the country.

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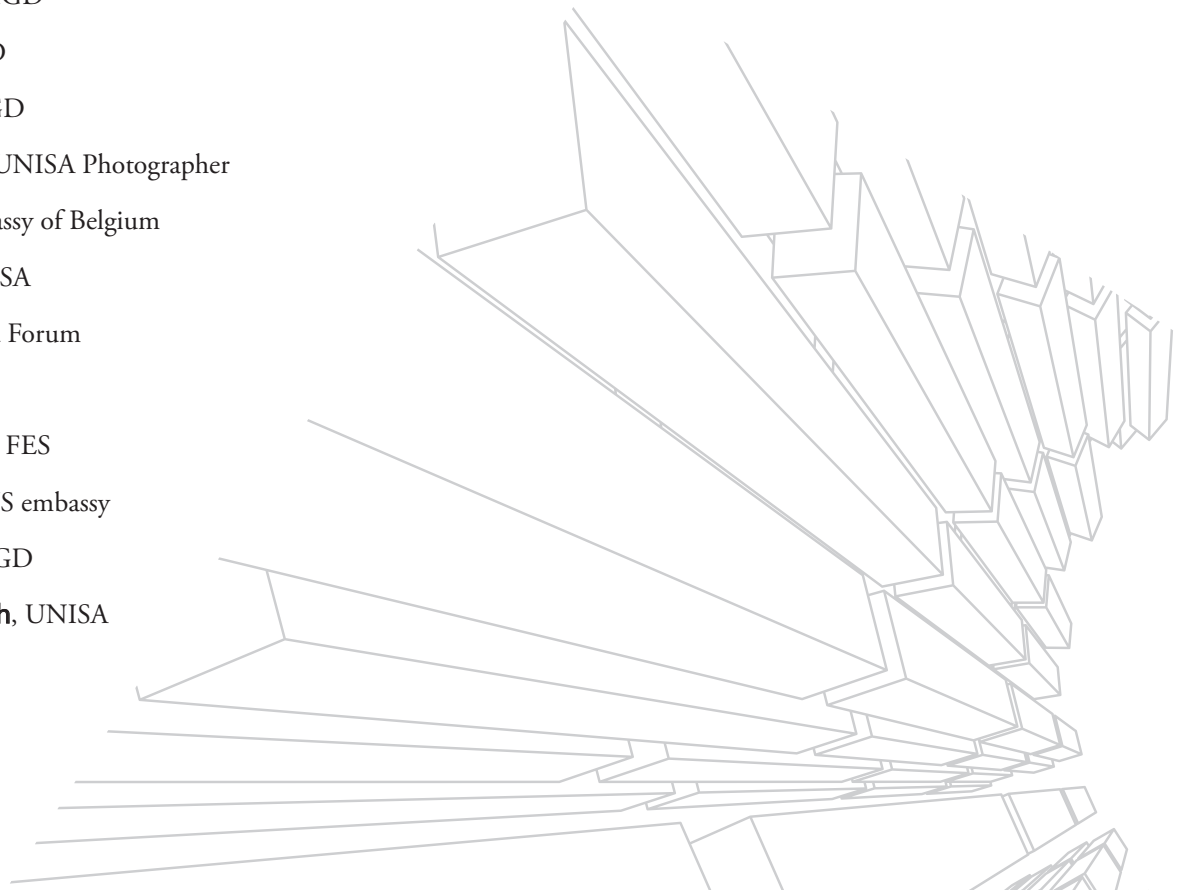
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APPENDIX 1: ROUNDTABLE PROGRAMME

09:30 – 10:00	Registration/Tea & Coffee
10:00 – 10:20	Opening and welcome: Dr Siphamandla Zondi, Director, IGD
10:20 – 10:50	<i>Developments in South Africa's post-apartheid nuclear diplomacy:</i> Prof. Mike Muller, Visiting Professor, Wits University
10:50 – 11:10	<i>Nuclear diplomacy in South Africa's foreign policy 'tool kit':</i> Ms Jo-Ansie van Wyk, Lecturer, UNISA
11:10 – 11:50	Response: Geoff Pigman, Visiting fellow, University of Pretoria
11:50 – 12:55	Open discussion
12:55 – 13:00	Closing Remarks: Oliver Serrao, Programme Manager, FES

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APPENDIX 3: ABOUT THE INSTITUTE FOR GLOBAL DIALOGUE

The IGD is an independent foreign policy and international diplomacy think tank dedicated to the analysis of and dialogue on the evolving international political and economic environment, and the role of Africa and South Africa. It advances a balanced, relevant and policy-oriented analysis, debate and documentation of South Africa's role in international relations and diplomacy.

The IGD was initially established in 1995 as the Foundation for Global Dialogue after several years of effort led by the former South African president, Nelson Mandela, in his capacity as the president of the African National Congress. He and his team of leaders saw a need for a research organization that would facilitate the new South Africa's engagement with the changing global order after 1994. This was a period in which three vectors of change coincided: the tectonic shift in global power politics after the collapse of the Soviet Union; the wave of democratization that hit Africa and South America; and the near miraculous transition from apartheid to democracy in South Africa. The initial funding came from the German government and went towards establishing the Foundation's competitive edge, a combination of policy-oriented research, catalytic dialogue, tailor-made publications and grant-making for NGOs interested in international relations.

The IGD's research agenda has three broad programmatic focus areas: foreign policy analysis with special reference to the making and management of foreign policy and diplomatic tools like economic, developmental, and public diplomacy; African studies focusing on the role of regional and continental integration in African politics and development as well as the study of peace diplomacy; and international diplomacy, analysing dynamics in international diplomacy that have a bearing on African peace and prosperity.

Mission: The IGD strives for a prosperous and peaceful Africa in a progressive global order through cutting edge policy research and analysis, catalytic dialogue and stakeholder interface on global dynamics that have an impact on South Africa and Africa.

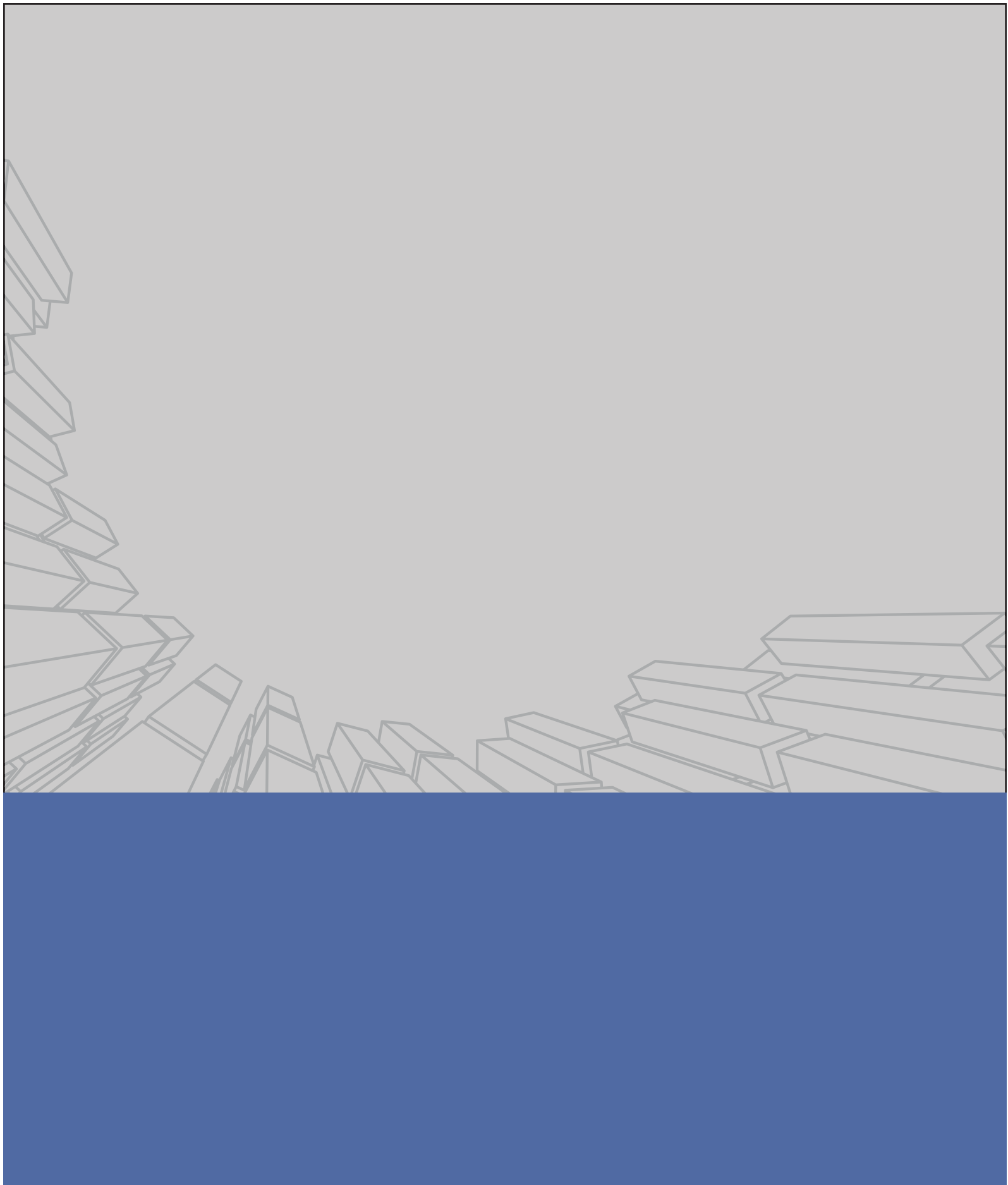
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