



IGUA-SA

Industrial Gas Users Association - Southern Africa

INTERIM REPORT



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IGUA-SA Members 2019





Following the formal establishment of IGUA-SA in October 2018, I thought it would be appropriate to update our members and other stakeholders on a very fruitful 9 months of focussed activity, information sharing and collective advocacy that are aimed at ensuring the efficient long-term availability of gas energy in South Africa.

- Tom Shaw

IGUA-SA Chairperson



ESTABLISHMENT OF IGUA-SA

After some 3 months of initial dialogue, drafting of a formal Constitution, finalisation of the first budget, management and secretariat functions, the IGUA-SA was formally established at its inaugural meeting on 4th October 2018. Our founding members included Ceramic Industries Pty Ltd, Consol Glass Pty Ltd, Illovo Sugar Pty Ltd, Mondi Ltd and PFG Building Glass Pty Ltd. We have, in the interim, welcomed Arcelor Mittal Ltd and Tronox Pty Ltd as members. We also look forward to welcoming new members in the coming months who are in the process of joining the IGUA-SA. Collectively these members represent in excess of 50% of third-party gas (non-Sasol) consumption.

IGUA-SA's primary objective is to ensure the efficient availability of hydrocarbon gas in Southern Africa to meet significant and growing demand, both by organisations requiring more gas to expand and organisations wishing to switch to gas from costly and environmentally harmful alternative energy sources.

The IGUA-SA is governed by a formal constitution as adopted by its founding members and provides for a formal platform that affords the required focus and leverage to collectively engage gas industry stakeholders such as National Government, Department of Energy, Department of Trade & Industry, NERSA, current and new entrant gas suppliers etc.

During this period, the IGUA-SA has also successfully partnered with VDW & Co to provide general secretariat and administrative services; and with Mr. Jaco Human as Executive Officer of IGUA-SA to provide underlying strategic inputs and management services that are aligned to his experience in the gas industry.

Our membership is open to the broader gas value chain and includes various tiers of membership:



GAS USER MEMBERSHIP

Non-vertically integrated gas end users (current & future) who have voting rights, are represented on the Exco and who reserve right of admissions.



INDUSTRY MEMBERSHIP

New gas suppliers, gas traders, new gas transmission/distribution organisations.



ASSOCIATE MEMBERSHIP

Consultants and professionals in the operating, financial, marketing and legal communities; and others who provide services to the natural gas industry.



AFFILIATE MEMBERSHIP

International organisations that are interested in natural gas activities in Southern Africa.



KEY CONCERNS

Constraints in the supply of gas to South Africa are imminent. Demand for gas in South Africa already exceeds supply, and supply is expected to diminish further in the near term. Gas supply from Sasol (the single provider of natural gas in South Africa) will become constrained after 2023 with little evidence elsewhere of new sustainable gas resources being developed in time to ensure continuous and sustainable supply of gas energy.

Key statements from Sasol's submission on the 27th August 2018 to the United States Securities and Exchange Commission, amongst others, include: "During 2018 it was determined that production will nevertheless begin to decline during 2023 and we will no longer be able to supply at currently contracted rates. Technical and commercial options are under consideration to address the matter."

Although the Draft Integrated Resource Plan 2018 (IRP 2018) of the Department of Energy (DoE) makes significant provision for future gas-to-power developments, these are of little consequence to current gas users in the absence of gas transport infrastructure to demand nodes. Transnet is currently looking into the development of a supply chain to receive and transport gas to demand nodes, but again the implications are unknown at this early stage of the project.

The demand for gas is further exacerbated by Eskom's inability to supply electricity sustainably and efficiently as industry increasingly adopts strategies to generate electricity for own consumption.

It is to the benefit of all Southern African stakeholders to proactively work together to implement a solution that ensures a long-term, reliable and efficient supply of gas to South Africa and the region.

Notwithstanding Government's policy standpoint on the development of the gas economy and associated infrastructure, the impending gas energy shortage is due to a misalignment in time of the development of infrastructure and gas availability. It is the view of the IGUA-SA that mitigating this impending gas energy shortage requires coordinated focus by all relevant stakeholders and supporting policy to rapidly develop gas supply-side infrastructure.

Lack of gas energy and security of supply are already preventing strategic industrial investment. In addition, it is hampering the growth of the latent market for gas, e.g. in industries that would take advantage of gas over more environmentally damaging energy sources or would wish to change to more efficient gas energy.

What is at risk is the economic contribution in South Africa of gas users i.e. the top ten industrial gas users in South Africa contribute over R150 billion per annum in turnover. They employ more than 46 000 people and use a total of around 30-million gigajoules of gas energy each year. These organisations are deeply dependent on gas energy for their sustainable operations. In addition, there are some 8 000 users dependent on gas that include other large industrial users, SME's, schools, hospitals and households.

IGUA-SA is of the view that a reliable, efficient supply of gas in Southern Africa will create jobs, spur investment, create secondary industries and encourage socio-economic growth. It is to the benefit of all Southern African stakeholders to proactively work together to implement a solution that ensures a long-term, reliable and efficient supply of gas to South Africa and the region.



KEY FOCUS AREAS

Whilst reviewing the work of the IGUA-SA, I am pleased to say we have made meaningful progress over the last 9 months in the delivery of our mandate. Through the active participation of our members, various workstreams were completed whilst key stakeholder engagements are ongoing.

Integrated Resource Plan 2018

Immediately upon the establishment of the IGUA-SA in October 2018, work started on providing input on the Draft IRP 2018 of the DoE. By the end of October 2018, the IGUA-SA submitted a comprehensive document detailing various considerations for the development of gas-to-power generation and the opportunities therein to develop the gas economy at large in South Africa. Following on this initial submission, the IGUA-SA also during April 2019 provided further input on the Updated Draft IRP 2018 for the NEDLAC Energy Task Team through the BUSA/NEDLAC process. Key recommendations to Government included the following:

- Urgently consider and implement floating gas-to-power barges to meet immediate electricity supply shortfalls.
- A gas supply crisis is imminent with indications that current gas supply will become constrained after 2023. This is viewed by business as the next energy challenge for South Africa. There is no evidence of new sustainable gas resources and infrastructure being developed in time. Current gas pipeline infrastructure is also constrained, with capacity unable to meet the demand for gas.
- Although there are major gas developments underway in Mozambique, it is of little consequence to South Africa, due to infrastructure limitations to South African gas-demand nodes (i.e. Gauteng). Similar restrictions inhibit the potential use of any gas recently found by Total at Brulpadda off the Southern Cape.

- The economic feasibility of all other prospective developments (such as Brulpadda, Kudu, Ibhubezi, Karoo shale, Mamba and Lesedi) are unproven with no clear timelines for development.
- The required development of South Africa's gas industry and supply infrastructure is anchored on the demand for gas provided by the IRP 2018's proposed gas-to-power programme. The development of the gas sector is furthermore dependent on the location of a gas-to-power plant as it has the potential, as economic aggregator, to be the catalyst for extensive gas pipeline and import infrastructure developments.
- Business has consistently argued for the Gas Utilisation Master Plan (GUMP) to be finalised and released for public comment. The interdependency of the IRP and GUMP is not sufficiently addressed. If gas is to play the balancing role contemplated in the IRP, then the infrastructure requirements, location of gas-to-power generation facilities, and source of the gas must be urgently prioritised and rigorously interrogated.

Adequacy of Competition in the Gas Supply Market

The above was followed in November 2018 by developing a position on the Adequacy of Competition in the Gas Supply Market in South Africa as reviewed by NERSA. As the approval of maximum prices for gas is conditional upon there being inadequate competition in the industry, NERSA must investigate the state or adequacy of competition as a necessary preliminary matter. The IGUA-SA submitted a comprehensive position paper that was publicly presented at NERSA on 30th November 2018. It further concluded that due to Sasol's position as monopolist supplier of piped gas, the competition adequacy test failed absolutely across all elements of NERSA's assessment framework. Sasol therefore remains irrefutably dominant at all levels of the relevant markets. As a result, competition remains inadequate in the relevant markets in the piped gas industry in terms of section 21(1) of the Gas Act, 2001 and as stipulated in chapters 2 and 3 of the Competition Act, 1998.

SADC Regional Gas Master Plan (RGMP)

Also, in November 2018, the IGUA-SA provided formal input for Terms of Reference of the SADC Regional Gas Master Plan (RGMP). Some key comments included that the approach should consider target assessments of other similar regional plans that have already been implemented elsewhere i.e. Europe, USA, India; an economic analysis of the role that the location of the gas-to-electricity facilities and its potential as aggregator and catalyst for infrastructure development can perform; and a report on the inter-regional enabling mechanisms required to facilitate the coordinated and streamlined approach to interstate infrastructure development for gas such as ENTSOGE and ACER in Europe. The IGUA-SA also

attended together with regional government and private sector stakeholders the 1st SADC High Level Consultative Meeting for Building A Regional Gas Economy held in Windhoek on 4th and 5th December 2018.

Gas availability and the gas supply value chain

During January and February 2019, following in-depth research of the supply market for gas, IGUA-SA consolidated its position and strategy on current gas availability and the gas supply value chain. The research concluded that a potential gas supply crisis is imminent with indications that Sasol's current gas supply, as single supplier of piped gas to end-users, will become constrained after 2023 due to geophysical characteristics of the Pande/Temane gas deposits— a view also subsequently confirmed by Sasol. With regards the current gas supply value chain, the IGUA-SA also concluded that there is little or no correlation between the current basis for gas pricing in South Africa and the associated cost to supply gas to end users.

In meetings with Sasol to discuss its future ability to supply gas, Sasol confirmed its position on gas supply in terms of the following:

➤ For 2019-2023:

Sasol confirmed that supply is largely secure in respect of current gas volumes until 2023.

➤ For 2024-2029:

Sasol confirmed that gas availability during this period is uncertain and that several potential interventions are being reviewed that require successful implementation to maintain supply. Details of these interventions, together with Sasol's assessment of risk and probability outcomes for each project, will be shared with IGUA-SA in due course.

➤ Beyond 2029:

Sasol stated that options include supply and consumption of LNG or pipeline gas i.e. 1) regasification at Richards Bay with new pipelines from Richards Bay to Secunda ; 2) regasification at Maputo with a new pipeline linking Maputo to ROMPCO; and 3) pipeline gas options from the Rovuma basin to the Central Processing Facility/ ROMPCO at Pande/Temane with a new ± 1 500km pipeline between these points.

➤ Rompco, Gauteng & Lily pipelines:

There is limited capacity for additional gas supply volumes on these networks without further investment in capacity upgrades and/or new pipelines. The renewal of Sasol's agreement with Transnet for the use of Lily, which is valid to around 2023/24, is uncertain at this stage.

Notwithstanding the above gas supply risks, Sasol categorically confirmed that no additional gas volumes will be made available to South African gas users at least until 2029. This implies that any expansion or investment decisions by industry requiring gas energy, will have to be carefully considered whilst energy options remain limited. Some industrial members are reviewing energy alternatives that include the importation of LNG on a small scale, investments in coal-to-gas, and to a limited extent procuring unutilised reseller gas volumes – alternatives that come at an economic or environmental cost to South Africa.

Gas pricing

Also, during the period up to March 2019, the IGUA-SA finalised position papers on gas pricing going forward. This was done to develop a consensus view that will support NERSA's imminent review of the gas pricing methodology. It is expected that NERSA will engage stakeholders publicly in due course on the methodology for the determination of gas pricing going forward. Although not formally involved in the legal matter on gas pricing between certain gas users, NERSA and Sasol, the IGUA-SA attended the legal hearing in February 2019 before the Constitutional Court to keep abreast of developments in this regard. The outcome will no doubt have an impact on the approach that the IGUA-SA will take on gas pricing.

Focussed stakeholder engagement

Following on the various positions that the IGUA-SA have formulated on matters relating to gas availability and policy matters, it was decided during March 2019 to formally engage with key stakeholders Sasol, NERSA and DoE.

IGUA-SA also took the decision to support Transnet in its investigations on the development of gas supply infrastructure for South Africa. Various members have subsequently participated directly with Transnet in current and future gas demand assessments to enable Transnet to develop a feasibility study for investment and geographical assessment of demand. This also resulted in the IGUA-SA participating and presenting at the launch of Transnet's project at an industry event in April 2019.

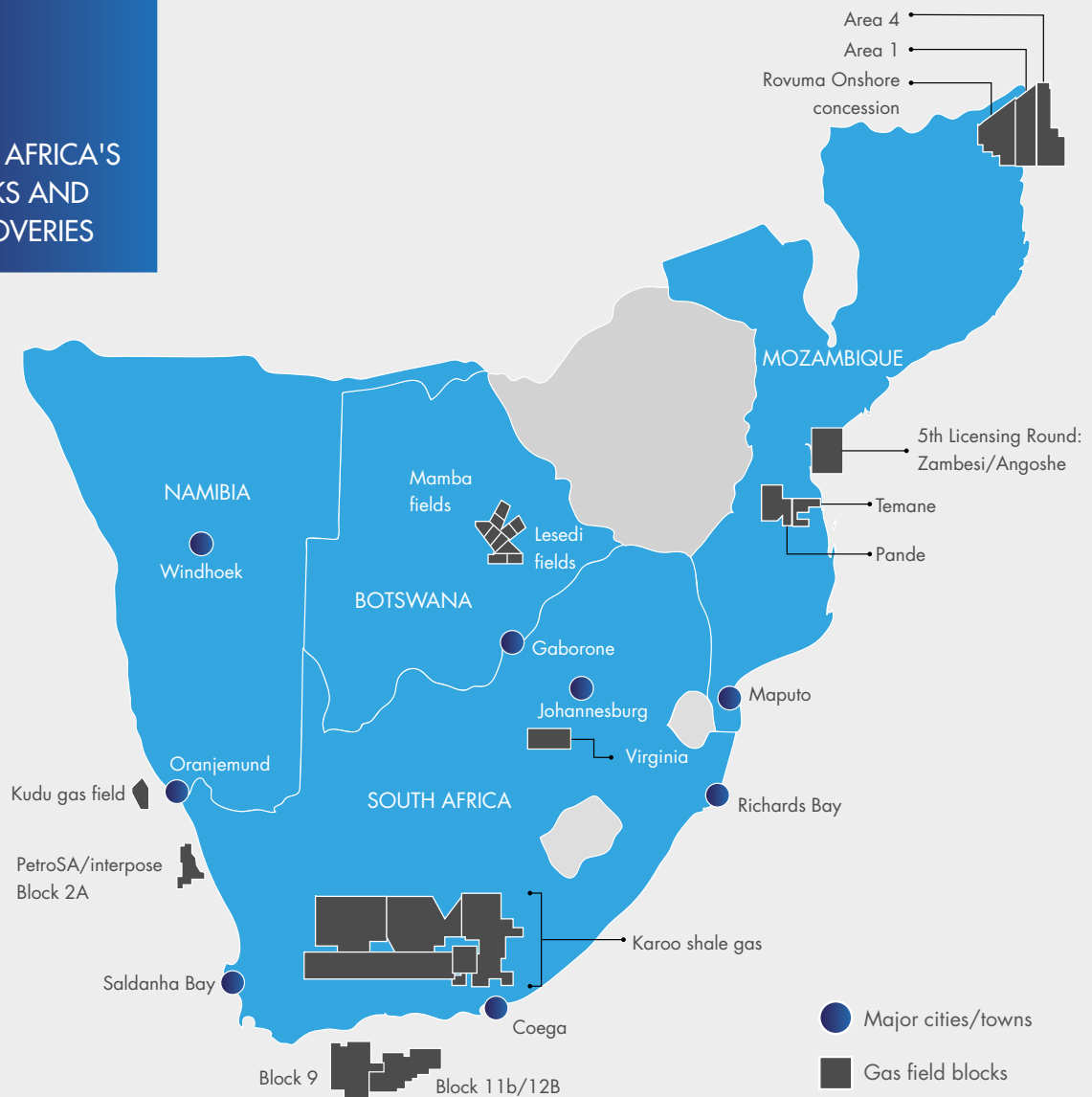
April 2019 saw IGUA-SA formally joining Business Unity South Africa (BUSA) as part of the National Economic Development and Labour Council (Nedlac) - the vehicle by which Government, labour, business and community organisations seek to cooperate on economic, labour and development issues and related challenges facing South Africa. This resulted in an opportunity for the IGUA-SA to directly participate in the finalisation of the draft IRP 2018 and the drafting of the Gas Act Amendment Bill. The IGUA-SA also participates in the BUSA Energy Sub-Committee that feeds private sector views directly to policy makers. Gas related matters have been placed on the agenda since May 2019.

Focussed engagements with key stakeholders NERSA, Sasol and DoE took place during the months of April, May and June 2019. Various meetings and information exchanges have taken place with NERSA who supports the formation of an industry and government dialogue to address matters relating to gas energy availability and policy.

The IGUA-SA have formally written to the DoE detailing its concerns on gas energy availability and policy, followed by various meetings with the DoE and Central Energy Fund. As a result, the DoE is intent on urgently establishing an intergovernmental task team with the IGUA-SA to address industry concerns and to speed up delivery on gas energy requirements for South Africa.

As part of the IGUA-SA's strategy to develop the market for gas energy and infrastructure, it also established since May 2019 ongoing dialogues with oil majors that actively participate in the development of gas in the region i.e. Anadarko, ExxonMobil and ENI.

SOUTHERN AFRICA'S GAS BLOCKS AND FIELD DISCOVERIES



Emerging supply scenarios

June 2019 also saw the consolidation of the IGUA-SA technical workstream on emerging supply scenarios and associated value chain implications on gas pricing. It also finalised an initial assessment of the current gas demand and supply deficit for Gauteng, Kwazulu-Natal and Western Cape.

The emerging supply scenarios include

- 1) LNG through Richards Bay;
- 2) LNG through Maputo;
- 3) LNG through Coega;
- 4) piped gas from Rovuma; and
- 5) piped gas from Zambesi/Angoshe.

The economic or cost analyses of these scenarios point towards natural piped gas supply from Mozambique as the most economic option as opposed to LNG imports via Richards Bay, Coega and Maputo. With regards to IGUA-SA's assessment of high-level demand and supply of gas for Gauteng, KZN and the Western Cape, it concluded that the short-term supply deficit of gas is estimated to be 10mGJ/a, 20mGJ/a and 25mGJ/a for Kwazulu-Natal, Western Cape and Gauteng respectively. Overlaying these numbers with gas requirements for gas-to-power (i.e. Avon, Ankerlig, Kelvin Power Station, new plant IRP 2018), the supply deficit of gas could be as high as 45mGJ/a, 80mGJ/a and 75mGJ/a for Kwazulu-Natal, Western Cape and Gauteng respectively.



SOLUTIONS THROUGH DIALOGUE

South Africa is a developmental state, and this requires the unified cooperation and focussed approach by public and private stakeholders to come up with economically sound and expedient solutions to the impending gas energy crisis. However, South Africa is faced with another energy challenge if immediate action is not taken by public and private stakeholders to develop the gas economy.

This holds significant environmental, social and economic risk for South Africa. The IGUA-SA will therefore continue with its mandate to advocate the efficient and expedient development of the gas economy in South Africa. This active, continued and fact-based engagement with public and private stakeholders requires the support of all industry with interests in gas energy.

I therefore extend an invitation to all public and private organisations and institutions with an interest in the development of the gas economy to engage and/or join the IGUA-SA to enable the development, coordination and implementation of suitable gas energy solutions for South Africa.

I would like to conclude by saying that a significant amount of work has been completed over a relatively short period of time where the IGUA-SA managed to establish itself as a credible, objective and fact-based advocacy group. This does not simply materialise and I would like to take this opportunity to thank Mr. Jaco Human for working tirelessly to advance the mandate of our association as well as for his inputs and coordinating role he plays with the various work streams. I also want to thank my fellow Exco members for their ongoing support and all our member organisations, who have all been involved and actively participated financially and otherwise, to the work of the IGUA-SA. I also would like to commend the level of cooperation between our members with the work we do and the efficient manner in which we reach decisions to advance our mandate.

We have concluded, since the establishment of the IGUA-SA some months ago, that no organisation in South Africa today, whether public or private, has firm and tangible plans to develop the gas economy and meet the current and future supply deficit for gas energy.

I look forward to our continued engagement, and making a positive impact on the gas landscape in South Africa to the benefit of the South African economy and society at large.

Yours sincerely

Tom Shaw

IGUA-SA Chairperson



IGUA-SA

Industrial Gas Users Association - Southern Africa

Thank you

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