



27 October 2021

## CONCEPT NOTE: GAS AMENDMENT BILL [B – 2021] PUBLIC HEARINGS

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### 1. INTRODUCTION

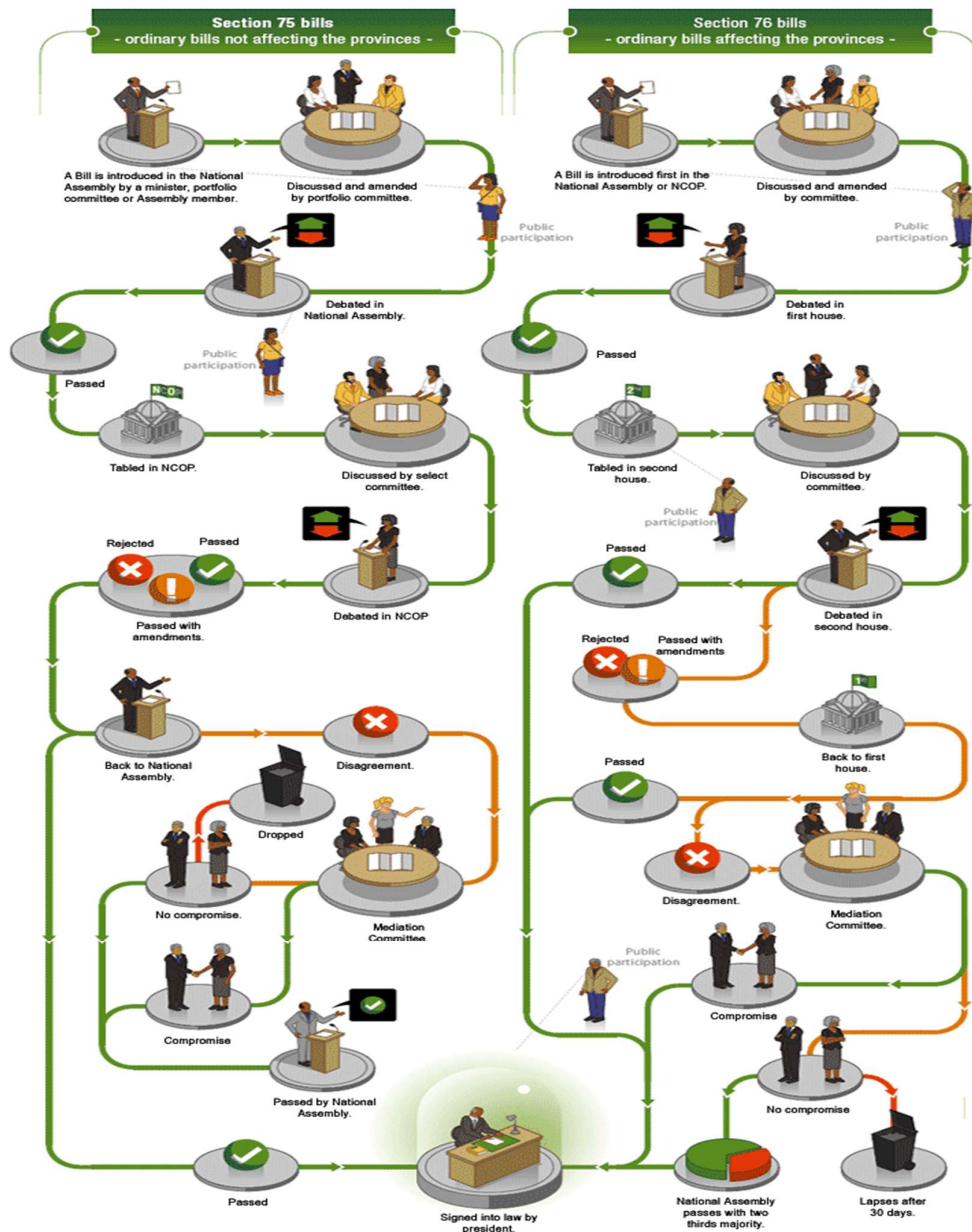
The Minister of Mineral Resources and Energy, Mr Gwede Mantashe, tabled the Gas Amendment Bill to Parliament on 15 April 2021. The Bill was officially referred to the Portfolio Committee on Mineral Resources and Energy (henceforth the PCMRE or Committee) on 29 April 2021. Four main types of Bills come before Parliament and these are as follows:

- Ordinary Bills that do not affect provinces (Section 75 of the Constitution);
- Ordinary Bills that affect the provinces (Section 76 of the Constitution);
- Money Bills (Section 77 of the Constitution); and
- Bills amending the Constitution (Section 74 of the Constitution).

Bills are often loosely referred to by the section of the Constitution which describes their procedure. For instance, “Section 75 Bills” refers to the Bills that do not affect provinces. The Gas Amendment Bill is a section 76 Bill. This means that when the National Assembly (NA) has completed its process, such as pass the Bill, it will be referred to the National Council of Provinces for concurrence. Figure 1 below details the law making process.



**Figure 1: Sample of the Law Making Process**



**Source:** Parliament of South Africa, (2021)

The concept note aims to highlight the process the Gas Amendment Bill needs to go through to be passed into law. The different types of gas available is discussed, before turning the attention to the need for the amendments to the Gas Bill.



## 2. WHAT IS NATURAL GAS AND WHERE DOES IT COME FROM IN SOUTH AFRICA?

Natural gas is a hydrocarbon gas formed over thousands of years from the burying of dead plants and animals. The intense heat and pressure caused by the burying of this material triggers a reaction, which leads to the creation of natural gas, primarily methane (CH<sub>4</sub>).<sup>1</sup> Natural gas is referred to as 'conventional' when it can be extracted from the earth either through naturally occurring pressure, or pumping mechanisms. This is opposed to unconventional gas sources such as shale gas, tight gas, and coal bed methane which require novel technologies to unlock.

**Conventional oil or gas** comes from formations that are "normal" or straightforward to extract product from. Extracting fossil fuels from these geological formations can be done with standard methods that can be used to economically remove the fuel from the deposit. Conventional resources tend to be easier and less expensive to produce simply because they require no specialised technologies and can utilize common methods. Because of this simplicity and relative cheapness, conventional oil and gas are generally some of the first targets of industry activity.<sup>2</sup>

In contrast to this, **unconventional** oil or gas resources are much more difficult to extract. Some of these resources are trapped in reservoirs with poor permeability and porosity, meaning that it is extremely difficult or impossible for oil or natural gas to flow through the pores and into a standard well. To be able to produce from these difficult reservoirs, specialised techniques and tools are used. An example of an unconventional gas that is currently being researched in South Africa is shale gas.<sup>3</sup>

Shale gas is a natural gas that is occurring and can be extracted from Shale. The natural gas can be utilised for energy production. "South Africa has an estimate of 390 trillion cubic feet (tcf) of technically recoverable natural gas that can be extracted from Shale and this is embedded in the Karoo Basin".<sup>4</sup> The natural gas estimates of the country are technically unproven. Detailed research studies are very crucial for the country because Shale gas exploration in South Africa could be facing two major unknown geological questions:

- The amount of economically recoverable gas trapped in the Karoo formations;
- "The geo-environmental problems linked to the nature and the structure of the rock, the ground water migration and the micro-seismicity."

### **Shale Gas Research Project at Council of Geoscience (CGS):**

The CGS is embarking on a shale gas research project that is aimed at unlocking the unknowns and assumptions about shale gas exploration in the country. The project is also aimed at building scientific skills in the area of shale gas exploration as this is a new concept to the country at large.

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<sup>1</sup> Student Energy, [ Accessed on 26 October 2021 from <https://studentenergy.org/source/conventional-gas/>]

<sup>2</sup> Ibid

<sup>3</sup> Ibid

<sup>4</sup> Department of Mineral Resources



The programme is funded by the Department of Mineral Resources and Energy (DMRE) and will assist the government in making a well informed decision about shale gas in South Africa.

The objectives of the programme is to collect and review new geological information of the Karoo Basin, to define an environmental baseline, to assess the amount of recoverable gas mainly from the Whitehill and Prince Albert Formations, to cover various geo-environmental impacts like ground water dynamics with possible contamination, and monitor potential seismic interferences.

The CGS Shale gas project will serve as a baseline study for future shale gas research work and play a vital role in the review of Petroleum Exploration and Exploitation Regulations. The National Environmental Management Act (NEMA) regulations will be utilised as a framework in identifying shortfalls of the environmental impacts of the shale gas.

## 2.1 Where does gas come from in South Africa?

- South Africa imports 78 percent of its natural gas consumption.
- Currently, the majority of South Africa's gas demand is supplied by the Pande-Temane development in Mozambique. However, energy demand in the country has been growing at a much faster rate than can be supplied. The gas from Mozambique is imported through a pipeline to chemical and fuel plants operated by Sasol Ltd. Massive new gas deposits have been found off the coast of Mozambique's northern Cabo Delgado province, though their development has been delayed by an Islamist insurgency.
- In February 2019, a massive gas reserve was discovered off the coast of South Africa by French energy conglomerate, Total. The gas field, called **Brulpadda Block**, covers an area of 19 000 square kilometres under the Indian Ocean between George and Jeffreys Bay.

## 3. ENVIRONMENTAL IMPACT OF GAS

Natural gas has many qualities that make it an efficient, relatively clean burning, and economical energy source. However, the production and use of natural gas have some environmental and safety issues to consider.<sup>5</sup>

**Drilling** a well can affect wildlife and land use. With this intervention, local ecosystems could collapse: breaking migration patterns, pollute rivers and streams, causing erosion of dirt and pollutants are all side-effects of natural gas extraction.<sup>6</sup> Hydraulic fracturing (fracking) can cause earthquakes and it overburdens the local water sources.<sup>7</sup> Moreover, the drilling and extraction of natural gas from wells and its transportation in pipelines results in the leakage of

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<sup>5</sup> U.S Energy Information Administration, [ Accessed on 26 October 2021 from <https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php>]

<sup>6</sup> MET Group, [ Accessed on 26 October 2021 from <https://group.met.com/fyoutube/natural-gas-environmental-impact/64>]

<sup>7</sup> Ibid



methane, primary component of natural gas that is 34 times stronger than CO<sub>2</sub> at trapping heat over a 100-year period and 86 times stronger over 20 years.<sup>8</sup>

Building infrastructure to transport the gas from the wells to natural gas power plants is also a polluting process. Laying pipelines can cause habitat fragmentation and cross key areas from the perspective of nature.<sup>9</sup> Gas leaks from pipes can cause big environmental trouble in the groundwater levels (and even on the surface). Furthermore, in areas where natural gas is produced at oil wells but is not economical to transport for sale or contains high concentrations of hydrogen sulfide (a toxic gas), it is burned (flared) at well sites.<sup>10</sup> Natural gas flaring produces CO<sub>2</sub>, carbon monoxide, sulfur dioxide, nitrogen oxides, and many other compounds, depending on the chemical composition of the natural gas and on how well the natural gas burns in the flare. However, flaring is safer than releasing natural gas into the air and results in lower overall greenhouse gas emissions because CO<sub>2</sub> is not as strong a greenhouse gas as methane.

Natural gas is the most environmentally friendly fossil fuel because it burns cleaner. According to the U.S Energy Information Administration, burning natural gas for energy results in fewer emissions of nearly all types of air pollutants and carbon dioxide (CO<sub>2</sub>) than burning coal or petroleum products to produce an equal amount of energy.<sup>11</sup> In power plants, natural gas emits 50 to 60 percent less carbon dioxide (CO<sub>2</sub>) than regular oil or coal-fired power plants. It also emits greenhouse gases with a lower life cycle into the atmosphere.<sup>12</sup> The clean burning properties of natural gas have contributed to increased natural gas use for electricity generation and as a transportation fuel for fleet vehicles in many parts of the world.<sup>13</sup> However, combustion also releases methane and lowers air quality. Moreover, natural gas is reliable: storing and transporting it is effective, thus the use of this energy is guaranteed.

#### 4. WHAT DOES THE AMENDMENT TO THE GAS BILL AIM TO ACHIEVE?

The Gas Amendment Bill seeks to amend the Gas Act, 2001 (Act No. 48 of 2001), in the following ways:

- Promote the orderly development of the gas industry;
- Promote broad-based black economic empowerment;
- Provide for socio-economic and environmentally sustainable development;
- Provide for new development and changing technologies in the gas sector;
- Facilitate gas infrastructure development and investment; and
- Strengthen enforcement and improve compliance.

The current Gas Act:

- Is primarily dedicated to the regulation of piped natural gas to the exclusion of:

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<sup>8</sup> U.S Energy Information Administration, [ Accessed on 26 October 2021 from <https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php>]

<sup>9</sup> Ibid

<sup>10</sup> Ibid

<sup>11</sup> Ibid

<sup>12</sup> Ibid

<sup>13</sup> Ibid



- other gas sources (Landfill Gas and unconventional gas like Shale- gas and Coal Bed Methane(CBM);
- new technologies for storage and transportation for Liquid Natural Gas (LNG); and
- Compressed Natural Gas (CNG).
- Does not adequately empower NERSA to monitor and enforce compliance with the Act;
- Has no timeline for carrying out some stipulated obligations; and
- Does not incorporate recent technological developments in the gas sector;
- No penalty for licensees for failure to comply with NERSA's directives (Section 34A Offences Bill);
- The Act does not enforce immediate cessation of unlicensed activities and enforce registration of unlicensed operation (Section 26 Compliance Notice Bill);
- It is not clear on sanctions regarding a licensee's failure or refusal to provide the required data / information to the Regulator or Department or the provision of incorrect or false data / information; (Section 34A Offences Bill);
- Has no timeline for carrying out some stipulated obligations:
  - ✓ Section 17 of the Act provides how a notice of application for a licence should be published, but no timeframe within which the notice must be published; (Section 17 publication of notice of application Bill).
- ✓ The current Gas Act-
  - ✓ only empowers NERSA to monitor, approve and if necessary, regulate transmission and storage tariff, instead of empowering it to set, monitor, approve and regulate transmission, storage and distribution tariffs (**Section 4(g) of the Bill provides for regulation of tariffs and prices in accordance with the requirements of section 22B of the Bill**);
- Does not adequately empower NERSA to monitor and enforce compliance with the Act:
  - NERSA is not empowered to gain entry into the premises where an illegal gas operation or activity is (suspected to be) taking place, but only to a licensed activity. (Section 29 of the Bill of provides for entry, inspection by the Energy Regulator into any regulated activity facilities and the gathering of information by the Energy Regulator).
- The current Act only allows persons authorized by the licensee to enter any premises or land not necessarily belonging to the licensee but to which the licensee is supplying gas (Section 33(5) written authorisation for entry will be obtained from NERSA).
- Has no timeline for carrying out some stipulated obligations:
  - Section 17 of the Act provides how a notice of application for a licence should be published, but no timeframe within which the notice must be published (Section 17 of Bill provides for publication of notice of application); and
  - Section 28(1) requires owners of operations for certain activities to register with NERSA, but no stipulated time period for registration (Section 28 of the Bill provides for application for registration will be prescribed by the Energy Regulator).
- Has some omissions, drafting shortcomings and inconsistencies that need to be corrected in line with proper legislative drafting principles.
- Proper definition of existing terms and new ones, elimination of ambiguous words, expressions or provisions.





## 5. THE POSSIBLE TARGET AUDIENCE FOR THE PUBLIC HEARINGS

Key stakeholders would be the companies/individuals who supply gas, companies or individuals who are registered to supply gas but not yet supplying, Non-Governmental Organisations (NGOs) that are in the sector (environmental and fossil fuel advocates). Communities affected by the gas infrastructure, either the infrastructure passed through the community or the community is living adjacent to it. Community involvement is important for the following reasons:

- Gas Pipelines sometimes crossover residential areas. Companies must clearly mark those areas and make sure pipelines are deeply buried underground.
- Pipeline encroachment is a serious concern – raising awareness on this is crucial.
- Steel pipes get stolen by people who make a living out of selling scrap metals – this pose a risk to communities because gas is hazardous.
- The environmental impact associated with gas production impact negatively on the communities surrounding the project area.

The table below list some of the stakeholders relevant for the Gas Amendment Bill public hearings.

**Table 1: Suggested Stakeholders**

Stakeholder	PROVINCE
1. National Energy Regulator of SA (NERSA)	Gauteng
2. Environmental – unknown	Opposing the Bill itself
3. Western Cape Department of Local Government, Environmental Affairs and Development Planning	Western Cape
4. Sakeliga	Gauteng
5. Chenelles Albertyn Attorneys for Green Connection	Western Cape
6. South Durban Community Environmental Alliance	Durban
7. Centre for Environmental Rights	Western Cape
8.Tetra4	Gauteng
9. iGas	Gauteng
10. Onshore Petroleum Associations of SA (ONPASA)	Gauteng
11. SASOL	Gauteng
12. Oceans not Oil	Durban
13. Marilyn Lilley - Interested and Affected Party....Treasure Karoo Action Group	Northern Cape
14. Cosatu	Western cape
15. Climate Justice Charter Movement	Gauteng



16. Novo Energy	Johannesburg
17. Business Unity SA (BUSA)	Gauteng
18. South African Chamber of Commerce and Industry ("SACCI")	Johannesburg
19. South African Pipeline Gas Association ("SAPGA")	Johannesburg
20. Eskom	Johannesburg
21. ROMPCO	Johannesburg
22. IGas	Johannesburg
23. Egoli Gas	Johannesburg
24. Gigajoule South Africa	Pretoria
25. Molopo Energy Ltd	Johannesburg
26. City of Johannesburg	
27. Columbus Stainless	Mpumalanga
28. Reatile Gastrade	Gauteng
29. Spring Lights Gas	KZN
30. Virtual Gas Network (CGN HOLDINGS)	Johannesburg
31. DNG Energy	Johannesburg
32. Volco Power	Johannesburg
33. South African Gas Association (SAGA)	Johannesburg
34. Southern African Oil and Gas Alliance (SAOGA)	Cape Town
35. Southern Africa Compressed Gases Association	Johannesburg
36. Industrial Gas Users Association of Southern Africa	Johannesburg
37. Climate Justice Charter Movement	Johannesburg
38. Afrox	Mpumalanga
39. Ferrogas	Mpumalanga
40. Veritas Fuel Distributors (Pty) Ltd	Mpumalanga
41. Sasol	Mpumalanga
42. Communities living nearer gas facilities/or where gas infrastructure passes.	

## 6. REFERENCES

U.S. Energy Information Administration, n.d. *Natural Gas Explained: Natural Gas and the Environment*. [ Accessed on 26 October 2021 from <https://www.eia.gov/energyexplained/natural-gas/natural-gas-and-the-environment.php>]

MET Group, n.d. *Natural gas environmental impact: problems and benefits* [Accessed on 26 October 2021 from <https://group.met.com/fyoutube/natural-gas-environmental-impact/64>]

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