

**Strategic Environmental Assessment for
Shale Gas Development in South Africa
Meeting Notes**



Shale Gas Strategic Environmental Assessment Public Outreach, Round 1b:

Key Issues Raised by Stakeholders

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List of acronyms

AEON	Africa Earth Observatory Network
ANC	African National Congress
ANCYL	African National Congress Youth League
ASSAf	Academy of Science of South Africa
CGS	Council for Geoscience
Cllr	Councillor

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CSIR	Council for Scientific and Industrial Research
DA	Democratic Alliance
DEA	Department of Environmental Affairs
DEADP	Department of Environmental Affairs and Development Planning
DEDEAT	Department of Economic Development, Environmental Affairs and Tourism
DMR	Department of Mineral Resources
DOE	Department of Energy
DWS	Department of Water and Sanitation
EC COGTA	Eastern Cape Department of Cooperative Governance and Traditional Affairs
EIA	Environmental Impact Assessment
EMPr	Environmental Management Programme
GCIS	Government Communication and Information System
GKDF	Great Karoo Development Forum
IDP	Integrated Development Plan
IPACED SA	Indigenous People’s Association for Community Economic Development of South Africa
KEJM	Karoo Environmental Justice Movement
NEHAWU	National Education, Health and Allied Workers’ Union
NMMU	Nelson Mandela Metropolitan University
NORMS	Naturally Occurring Radioactive Materials
PCG	Process Custodians Group
PEC	Project Executive Committee
PPP	Public Participation Process
SA	South Africa
SAFCEI	Southern African Faith Communities’ Environment Institute
SAMWU	South African Municipal Workers’ Union
SANBI	South African National Biodiversity Institute
SANParks	South African National Parks
SEA	Strategic Environmental Assessment
SKDM	Central Karoo District Municipality
Tcf	Trillion cubic feet
WITS	University of the Witwatersrand

Agenda for Public Briefing

- It was proposed that an agenda be drafted for the public briefing, which took the following structure:

Action	Responsible Party
1. Opening and welcome by Camdeboo Municipality	Member of Camdeboo Municipality
2. Introduction by National Government	Muzi Mkhize (DoE/ DEA)

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3. Introduction by the Independent Facilitator	Hendrik Kotze
4. Overview of the Scientific Assessment Process	Bob Scholes
5. Questions from the Community on the Scientific Assessment	Project Team
6. Closure and way forward	Hendrik Kotze and Greg Schreiner
7. Vote of thanks	Member of Camdeboo Municipality

Facilitation of the public briefing

- It was suggested that a Municipal member should act as facilitator at the public briefing; however concern was raised as to the community's perception of the municipal member and whether they perceive him/ her positively or not. Furthermore, it was noted that the Municipality is regarded as a stakeholder and is therefore not entirely independent of the process. As such, the Municipality should refrain from facilitating the meeting. It was agreed that Hendrik Kotze remain independent facilitator and be introduced as such and not as a member of the Project Team.

Stakeholder engagement

- It was noted that the Municipality had engaged with stakeholders about the public briefing, and it would be announced over loudhailer in the area on the day of the meeting. Concern was raised as to the radio station(s) used to distribute notice of the meeting, and it was requested that the Mdantsane FM radio station be used for the next round of public briefings in July.

Graaff-Reinet Public Meeting

Location	Venue	Date	Time	Attendance number
Graaff-Reinet	Masizakhe Community Hall	16 May 2016	17:00- 20:00	~86

Attendance Register

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Concerns Raised

Attendees raised the following concerns:

- The consultation process and opportunities provided to stakeholders to be involved in the process prior to release of the Second Order Draft.
- Representation of the affected communities at the meetings.
- Misconception that the SEA and the public participation process (PPP) undertaken in 2009 by Department of Mineral Resources (DMR) are linked.
- Concerns about meaningfulness of the SEA, and that Government will continue with shale gas development (SGD) regardless of outcome/ findings of the SEA or potentially detrimental consequences.
- Concerns that Government have already decided to pursue shale gas and this consultation is a guise.
- Concerned about the nature of the Terms of Reference provided by Government.
- The time (5 weeks) allocated to stakeholders to review the Second Order Drafts (SODs).

Questions and Answers on Scientific Assessment Process

- Why is SGD proposed in the Karoo?

It is known that gas is present in the Karoo due to the geology which is conducive to the formation of fossil fuels during the Carboniferous Period on the geological timescale. Furthermore, during the 1970's, Soekor drilled boreholes in an unsuccessful search for oil, however, they discovered carbon containing layers which in principal contain gas. At that point, the extraction of such a resource was not possible in South Africa, but with the development of the hydraulic fracturing process in the 2000's, it became possible to potentially extract the gas, but we are still uncertain as to the quantity of the resource as well as its feasibility.

- What is the outcome of the scientific findings based on other countries and experts? What are the risks and what are the strategies to manage those risks?

The scientific assessment is still underway, but the document in which such answers are provided will be available in one month. All the issues being considered are legitimate and important concerns, for which evidence has been found to indicate the potential risks, represent them spatially, indicate what measures can reduce the risks, and what monitoring should be done to

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gauge success of the mitigation measures. A better scientific answer will be available in July at the next round of public briefings.

- Will the jobs from SGD be sustainable?

The Scientific Assessment does assess what kinds of jobs may be created and lost (local, international, skilled, unskilled, permanent, temporary), over what timeframes and under what scenarios. Any activity like SGD, i.e. mining non-renewable resources, represents a boom-bust possibility which is examined in the Assessment across the entire lifecycle of development. It is important to consider the relevant timeframes, which are relatively extended for SGD e.g. exploration may extend over 10 years, and small scale SGD over 20-30 years.

- With regards to the Governments constitutional obligations with respect to environmental rights, and the relatively limited success of SGD in Australia, Denmark and USA, there are questions around land demarcation, indigenous/ Bantu peoples etc.

Everyone involved in the process is aware of the constitutional obligations. The DEA, who commissioned this assessment, are to ensure the clause around the right to a safe and healthy environment (amongst others) in the constitution is satisfied.

- Complex relationships and many layers of relationships are present between the different strategic issues. A main question is the issue of the impacts on governance at a local, provincial and national level. What are the demands on governance likely to be? If we understand the demands we understand the roles and if we understand the roles we know what actions to take. How does an assessment like this link in to planning and planning documents like IDPs?

Governance issues have been repeatedly raised by stakeholders and the expert teams. The chapters unpack this issue, including laws, current human capacity and current status of coping. Government duties increase as scenarios increase in terms of scale of SGD, some of which are new or differ from what has been previously required. The chapters make recommendations for this. Additionally, an independent assessment was conducted on this issue by the Academy of Science of South Africa (ASSAf), which will be made available to the authors to assess and include in their chapters.

- Why is SGD proposed only in the Karoo if there is shale gas applications have been made in other parts of South Africa?

When the study was commissioned there were only three applications in the Karoo in which shale gas is most likely to exist, however, since then new applications have been lodged in KwaZulu Natal. The findings of this Assessment will to some degree be relevant to other applications, but those areas will be required to undergo separate assessments as well. Those applications are also not for shale gas, they are for other types of unconventional gas extraction such as coal-bed methane. If shale gas development occurs, the chances are that it will be in the Central Karoo and not in KZN – a host of evidence supports this hypothesis.

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- There is a lack of ground-truthing with regards to the information being used for the biodiversity layers used in this Assessment.

With regards to biodiversity, one could always improve the knowledge base, however in a global context, the biodiversity database for the Karoo and South Africa is relatively extensive. Partner organisation, SANBI, have organised bioblitzes to fast track sampling in the Karoo, which aims to rapidly collect data for the Karoo.

- The information that will be presented at the next outreach session (round 2) in July will be very technical... Could the key outcomes be presented in a way that is easy to understand?

Each chapter is aiming to write in language understandable for a lay person/ in a non-jargonistic manner. Each chapter includes an executive summary and a summary for policy-makers which describe all the key issues and findings. Furthermore, a glossary of terms will be provided to explain scientific terms which cannot otherwise be simplified.

- Are you satisfied that the consultation process is what it was contemplated in the government terms of reference for this study and is it adequate? This is a feature visit but it is indicated that the report is almost complete?

The consultation process followed for this SEA is far superior to that followed during an EIA. Great lengths have been taken in this process to ensure that stakeholders have the opportunity to provide questions and approve the processes. The process is not closed to input. The actual reports have been reviewed by external international experts after which general stakeholders have an additional opportunity to comment.

- In order for it to be meaningful the SEA should have asked a primary question - should we develop shale gas, can it be done safely and can it be governed properly? Government failed in its terms of reference. It has told you what the answer is and you want to help them get there.

The purpose of the SEA is to answer: if we were to develop shale gas, under which circumstance and how could it occur? Additionally, the SEA is tasked with assessing the consequences of SGD at a local, regional and national scale. Site specific EIA assessments provides binary: "yes" or "no" answers (although obviously conditional), not strategic levels assessments. Asking a very limiting question for a strategic level study is not useful. The binary questions need to be posed within the processes mandated to take up those questions, which include a number of decisions from EIAs to water licences to air quality licences to zoning applications etc., all of which will need to take place over a protracted period (decades). The point of the SEA is to inform those decision-making processes.

- It seems that a central outcome government is expecting from the SEA is to guide the development of regulations... therefore, the SEA aims to reduce regulatory complexity; making it easier for applicants to quickly exploit shale gas.

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The SEA is not a decision-making process; it provides the tools for decision-making. Part of this is regulatory burden, if there is an aspect of the law which is either over or under regulated or effectively unregulated. Part of this process is trying to see where those gaps are and advising government where to fill them.

- The Camdeboo Municipality is going to be amalgamated into a larger area. The municipal demarcation board did a study on whether it would be financially viable, and found it would be not, however the government still decided to continue with the amalgamation. In that sense, it is questionable whether government will actually consider the findings and advice provided by this assessment.

No actions of yet have given reason to believe government will not consider this study in their decisions.

- The question of proper consultation is poignant, since the consequences of fracking will impact the people who are not present at the meeting. Government has funded a study by NMMU, of which the institution is far removed from the study area itself, while money should be invested into colleges/ institutions in the area. There are concerns as to what of agricultural potential in the area will remain, and measures of prevention are necessary.

The Scientific Assessment seeks to answer these and other questions, and considers the consequences, as well as the activities which may cause those consequences. It is important to remember that the SEA is performed at a strategic level and this does not remove the need for site specific assessments (EIA) for the various applications, and it does not remove the other regulatory processes that are in place with regards to shale gas. Efforts to communicate the notice for this round of meetings included sending Ministerial instruction letters to affected local municipalities to request distribution of notice, sms's were sent to registered stakeholders, emails were sent to all registered stakeholders and to the district municipalities, advertisements were placed in local and provincial newspapers, and the meetings were advertised on local radio stations. Suggestions of how to broaden the reach of notification of public briefings are welcome.

- Who funds the study? Who would benefit from SGD?

The SEA is funded by the Department of Environmental Affairs. The Economics Chapter considers the potential benefactors and beneficiaries and also recommends measures on how to reduce the effects of possible inequitable distribution of benefits.

- Do you have the concentrations and composition of fracking fluid? Groundwater in the Karoo is already saline and any water management schemes that may be proposed already come with great treatment costs.

South African draft legislation requires that fracking fluid contents be declared. The likely composition of fracking fluid is examined in the Scientific Assessment.

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- When the SEA is completed, will recommendations from Government follow a yes/ no response? If this is not the case, what types of decisions will be made?

Realistically, it isn't a yes/no answer; but rather strives to guide what activity can be done in which areas with which mitigation measures and at what intensity, based on spatially explicit risk assessments.

- Chapter 1 (Scenarios and Activities) will inform the risk assessment but it is inaccurate, for example 10 wells per well pad are assumed in Chapter 1, while Shell proposes 32 wells per well pad, especially considering that each well can be fracked multiple times. The data is incorrect and will skew the assessment.

Specifics of chapter 1 came from extensive consultation with industry and have been reviewed by external experts. We believe they are entirely robust and defensible. If you believe otherwise, stakeholders are welcome to comment on this information and provide evidence to the contrary if they so believe.

Beaufort Stakeholder engagement

- The Municipality informed the Ward Councillors of the meeting, which was placed on their agendas. Ward Councillors would be reminded of the meeting via sms that day. Notice of the meeting would be announced over loudhailer in the area on the day of the meeting in English and Afrikaans, and a slot was arranged with Gamka radio station in which to communicate the meeting details.
- Concerns were raised about the community's disappointment about shale gas opportunities that were presented to them previously, which may cause difficulty in attracting an audience for the meeting.

Beaufort West Public Meeting

Location	Venue	Date	Time	Attendance number
Beaufort West	Rustdene Community Hall	17 May 2016	17:00- 20:00	~93

Attendance Register

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Concerns Raised

Attendees raised the following concerns:

- Representation of the (potentially) affected communities at the meetings.
- Questions about the purpose of a dispute resolution specialist as a facilitator.
- Misconstrued link between DMR process and SEA.
- Questions around training of labour force for SGD.
- Concerns regarding the (lack of) inclusion of valuable shale gas information in Integrated Development Plans (IDPs).
- Misunderstanding of expected timeframes of SGD.
- The amount of time allocated to stakeholders to interact with the Scientific Assessment.

Questions and Answers on Scientific Assessment Process

- Considering approximately 200 people are a part of this process as experts, who is representing the community's which will be directly affected?

A soccer referee analogy can be used to explain the structure that guides the process, whereby a set of rules and procedures are in place to do so. The structure to referee this process is by means of the Process Custodians Group (PCG) which is comprised various stakeholder groups. The PCG do not determine content, but they ensure that the questions being asked are addressed fairly and in a balanced way. Broader stakeholders can be involved by providing comments on the assessment.

- Is dust pollution being addressed in the Scientific Assessment?

Issues relating to dust and air quality are covered in the Air Quality and Greenhouse Gas Emissions chapter, as well as the Human Health Chapter.

- Is employment addressed, given that Beaufort West has a high unemployment rate?

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Jobs are addressed in the Economics Chapter and include the types of jobs that would be available and who would be able to fill them.

- Last year DMR indicated that licenses were going to be issued while the SEA was still underway. What will happen in the event that a license is issued by DMR and the information is still being gathered, as this will be to the detriment of the community?

In the media there has been a commitment to issue exploration permits, however even if they are issued, the applicants would still have to go through a site specific EIA process. This process is likely be completed by the time any applications for Environmental Authorisation is lodged by gas companies.

- What body is involved by regulating boreholes being sunk? And does South Africa have the institutions and ability to enforce regulations to tidy up after processes (post decommissioning)?

Authors are investigating what measures need to be in place to ensure efficient regulation and enforcement thereof. A separate investigation of institutional capacity has been conducted by the ASSAf.

- Government must enforce renewable energies, considering South Africa has high wind potential; so there are alternatives. Why is shale gas still being considered?

The Energy Chapter considers the energy alternatives that are feasible in the Karoo and looks at how shale gas would change South Africa's energy mix, along with the potential risks and opportunities.

- These industries require high qualification jobs which would increase influx of people into the nearby towns, not to mention the farm workers on the farms that are bought, who would be forced into towns to wait for housing.

An influx of people from outside the region is typical in investment areas. This issue is extensively addressed in the Social Fabric Chapter, which looks at the potential strain that would be placed on local infrastructure, services etc.

- There are concerns regarding the balance of power in the decision making process and questions as to whether the big corporates/ industrial organisations would benefit the most from SGD?

By participating in this process stakeholders can hold the decision makers and organisations accountable for all the issues that were addressed, as this is a transparent process. This question is also thoroughly addressed in the Social Fabric chapter under new power dynamics.

- Young people should be taken into universities and trained with the skills that would be useful to the gas companies. What are the timelines for SGD?

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The Scientific Assessment is described for three scenarios, of which the first is an exploration process which draws out over ~5 years. The next scenario assumes a discovery of ~5tcf, which would draw out over many more years and the reserve would last ~25 years. If a relatively large resource is discovered (~20 tcf) the development process would be ~20-30 years and the resource would last ~40-50 years. Therefore there are opportunities to educate the younger generation(s) on shale gas according to three potential futures that might play out; however there is lots of uncertainty. SGD will not happen overnight; there will be warning for government and communities to educate and capacitate, to take advantage and be responsible.

- IDPs do not speak clearly to the issue of shale gas and how it should be governed. Valuable information should get into the IDP and the 'referee' (the PCG) should play this role.

This is considered in the Impacts on Land, Infrastructure and Settlement Development Chapter (i.e. Planning), and it is recognized that currently IDPs are not equipped to address shale gas and the potential changes it might bring. SGD will bring about services and responsibilities that the municipalities and Government have never performed. This chapter takes this into account and assesses how they would have to adjust to these responsibilities etc.

- What measures are in place if the groundwater is contaminated with radioactive compounds from the uranium in the Karoo? Also, it is assumed many of the sites would be restored- how do we ensure our heritage is restored/ areas (e.g. Nelspoort, Fraserburg, Carnarvon, Baviaans) kept pristine for future generations?

Large parts of Karoo do have uranium deposits, which is a concern addressed in the Surface Water and Groundwater resources Chapter. Must keep in mind that deep water retrieved by flowback may be naturally saline and radioactive, and once it comes out it may be toxic, and this is being addressed in the chapter. South African legislation states that any of that kind of waste could not be disposed of in the Karoo, and would have to be exported from the Karoo to a registered disposal facility. The Heritage Resources Chapter looks extensively at palaeontological heritage, pre-colonial heritage, colonial heritage etc. and emphasises that the heritage council, SAHRA, must be involved in the regulation of these issues and where the council falls short (e.g. data gaps), there must be measures in place to “remediate” this. Also during an EIA all heritage resources must be identified and classified on site.

- Regarding timeframes, within the Municipalities shale gas is sold as happening tomorrow and this builds community expectations with regards to training opportunities and scholarships. Councillors are being inundated for requests to attend EIA meetings for all the integrated mining and development initiatives in the Karoo, but there is no integrated platform where all these developments are presented. It is important that truthful, realistic timeframes are communicated to the communities.

Timelines have been pushed back because currently, South Africa doesn't have the required infrastructure for this development and due to the current oil market etc. Government is there to

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make political decisions, and the government can make that decision, however this is not entirely a political decision; unless economics and environmental factors are favourable for applicants to actually develop, investment may not be realised and SGD may not be viable.

- How is the process being communicated to people in the area? If 2 hours before the meeting, a loudhailer was used to announce the meeting, how serious can we be? How many people did we expect at the meeting, and what type of audience is expected (e.g. level of education)?

It was realised the importance of stakeholders at the outset of the project (commissioned in 2015). There are dedicated persons in the Project Team who work with stakeholders on a daily basis. Every effort was made to engage with the communities throughout the process, including i.e. phone calls, sms's, emails, post. It is a constant ongoing process. Suggestions on how to improve stakeholder engagement are welcome. Letters were sent from the Minister of Environmental Affairs to the municipalities to mobilise structures and inform the community, emails were sent to registered stakeholders, newspaper advertisements were placed at local and provincial level, there were meetings with all provinces which distributed notices through their provincial structures, SALGA and district municipalities were notified and asked to distribute notice of the meetings.

- In a meeting by Shell in Victoria West, it was indicated that 20 million litres of water would be required per day per well, which was based on the Van Tonder 2010 report. Since then, the Karoo has experienced severe drought, hence we do not have the water. Should there not be a rule that states the reports they use must be updated regularly to ensure the most up to date data/ information is used?

This Scientific Assessment estimates ~15 million litres of water per well, but remember that some of that water (~ 30-50%) is reused. Regardless, this is a lot of water and freshwater resources in Karoo cannot sustain this development. One option is to bring water in from outside the Karoo, or to intercept aquifers that are too saline for freshwater purposes. Water sources are designed against worst case scenarios.

- How far is the report from being finalised? Is it still subject to commentary, or is the content set? They are still busy with bioblitzes and there are many unknowns with regards to biodiversity. Do we have enough biodiversity information to inform a decision?

The report is about two-thirds complete and commentary may still change the content. Biodiversity experts are never satisfied, but relative to other parts of the world, we know a lot about biodiversity. There are data gaps but we have the helicopter view necessary for this SEA. The bioblitz will feed into the SEA due.

- Will the area not clash with areas proposed for uranium? What happens if we don't frack?

The Karoo is not a static environment, and shale gas is not the only activity proposed in the Karoo. Therefore, whether SGD occurs or not, the Karoo will change for various reasons e.g. uranium

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mining, renewable energies, changing agriculture etc. The baseline scenario in the Scientific Assessment takes into account the changing Karoo without shale gas development.

- How many job opportunities are expected from SGD?

Jobs covered in the report, but the numbers are not what might be expected. It might help address the employment problems, but will not solve it.

- Is the shale gas a distraction from uranium? No EIAs have been done for uranium? How will you reach people on the ground, more specifically; how can the Scientific Assessment be conveyed to people in a way that they can understand e.g. not in academic language?

The best way to do so is for people who understand the question and answer to convey this to other people and explain it to them in a way they will understand. A SEA is done when there are uncertainties around the proposed activity and where it will be done (has a “big picture” outlook), while an EIA is a decision making process for an activity that you are certain about what you want to do and where you want to do it. It is uncertain as to why an SEA was not conducted for uranium, but the process is catching on, with SEA’s being done for renewable energy and electricity grid planning.

- How will communities and normal people benefit from shale gas (other than jobs)?

The Economics Chapter examines the issues of who will benefit and how to maximise benefits and recommends measures on how to reduce the effects of possible inequitable distribution of benefits.

- Would the matters of non-disclosure which are associated with negative (health) impacts in Canada, USA etc. happen in South Africa?

In South Africa, the law leans toward disclosure (i.e. fracking fluid composition), but alternatively one does not have to go through the courts to obtain information- there are alternative means to do so e.g. studies etc. People in the study area generally do not have good health because they are poor. SGD might cause health impacts, but it may also raise the economic status and therefore raise overall health status of people living in the area. Both sides are considered in the Scientific Assessment report.

Suggestions/Recommendations for future meetings

- It was suggested that a PowerPoint presentation be used as well as people speaking.
 - It was noted that a PowerPoint presentation was not used in a deliberate attempt to engage with the audience.
- Deliver the meeting in Afrikaans.