

**WORK PLAN OF THE NATIONAL ENVIRONMENTAL  
CONSULTATIVE AND ADVISORY FORUM IN TERMS  
OF SECTION 3A OF THE NATIONAL  
ENVIRONMENTAL MANAGEMENT ACT, 1998 (ACT  
NO. 107 OF 1998)**

**SUBMITTED TO**



**forestry, fisheries  
& the environment**

Department:  
Forestry, Fisheries and the Environment  
REPUBLIC OF SOUTH AFRICA

**6 SEPTEMBER 2022**

## 1. INTRODUCTION

The National Environmental Consultative and Advisory Forum (“**the Forum**”) has been established for a period of 12 months, under section 3A of the National Environmental Management Act, No. 107 of 1998 (“**the Act**”) by Minister Barbara Creecy (“**the Minister**”).

The purpose of the forum is to conduct an extensive consultative process with key interested and affected parties, to assess and present all significant relevant research and analysis for review and interrogation and to report to develop a comprehensive report to the Minister on the outcome, including practical options to resolve the issues arising.

This work plan has been developed by the Chairperson of the Forum, in consultation with its members in accordance with the terms of the reference.

## 2. PROJECT RISKS

This work plan has been developed before the Forum has had an opportunity to accurately quantify the volume of work it is required to do. Moreover, the nature of the work to be undertaken by the Forum is subject to many factors beyond its control. The timeframes set out herein and the Forum’s ability to adhere to the timeframes which have been allocated to each phase of its work are subject to the following risk factors:

<u>Risk Description</u>	<u>Level of concern (high, medium, low)</u>	<u>Required action</u>
<b>Stakeholder fatigue with respect to this process and the broader transition may result in reluctance to engage</b>	<u>High</u>	<u>An extension may be required if delays are significant</u>
<b>Stakeholder expectations may be mismatched to the process and outcomes</b>	<u>Medium</u>	<u>An extension may be required if additional consultations are necessary</u>
<b>Eskom representatives may be reluctant to share information or insight necessary to understanding or solution formulation</b>	<u>Medium</u>	<u>Appropriate strategies would need to follow initial meetings with Eskom</u>
<b>There is insufficient information regarding technical options available to Eskom to inform recommendations on solutions (abatement options, capital</b>	<u>Medium</u>	<u>Appropriate strategies would need to follow initial meetings with Eskom</u>

expenditure, operational expenditure)		
Available information (regarding various scenarios for addressing air quality) may not be adequate to inform the Forum's solutions	<u>Medium</u>	<u>Additional information/ modelling can be procured (with implications for project timing)</u>
Timeframes may be inappropriate to the scope of investigation, consultation and solution formulation required by the complexity of the matter at hand	<u>High</u>	<u>The final report needs to clearly rearticulate the scope, gaps and assumptions</u>
A cost-benefit analysis encompassing different kinds of information and costs to different stakeholders will not generate a universally acceptable outcome	<u>Medium</u>	<u>A clear framework for integrating and considering different kinds of information, and a clearly articulated rationale for recommendations needs to be clearly articulated and formulated ahead of particularly public consultations</u>
The politicised nature of the content of this process exposes it to the public/social media misinformation and disinformation tactics	<u>Low</u>	<u>The team needs to have clear public communication protocols</u>
It may not be possible to commission adequate and appropriate power system modelling required to assess the systemic implications of possible solutions, within the timeframes of the Forum's assessment.	<u>High</u>	<u>This will have implications for the timing of the Forum's work, and too for the Forum's ability to form view that is adequately independent from Eskom's.</u>

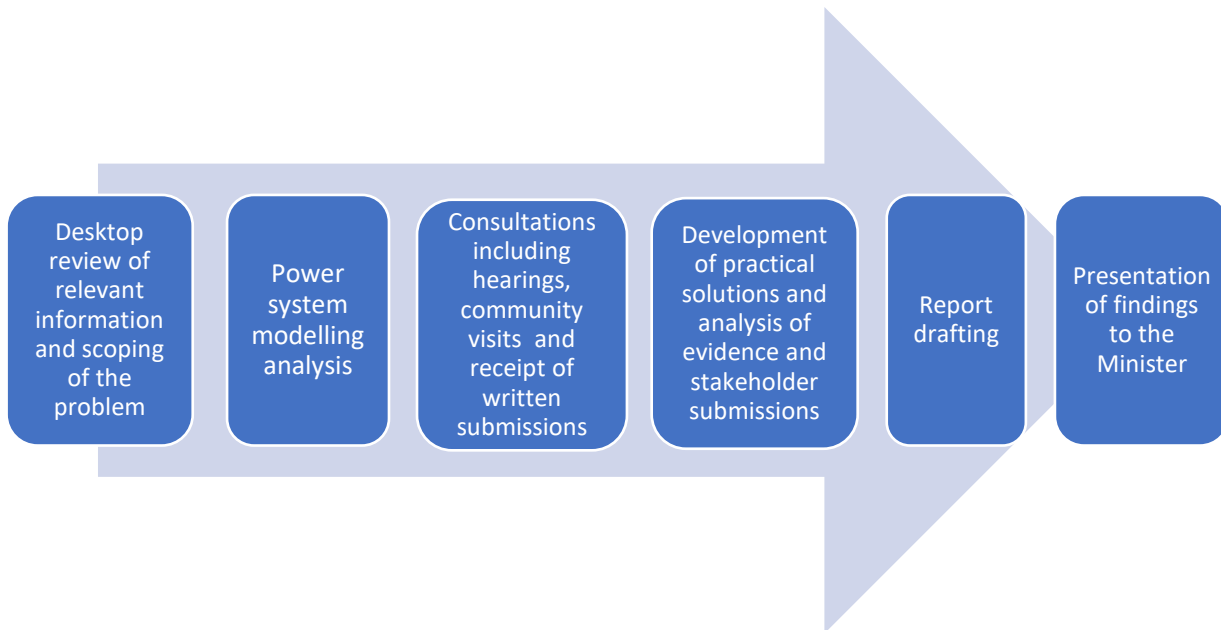
The Forum therefore will need to regularly assess its progress and where necessary, adapt this work plan. In accordance with the terms of reference, the Forum will keep the Department informed in this regard.

### 3. APPROACH AND HIGH-LEVEL PROJECT PLAN

Mr Peter Harris is the Chairperson of the Forum and is the primary contact person in this matter.

The following diagram outlines, at a high level, the Forum's approach and methodology, as envisaged by the terms of reference. Phases 2-4 (modelling, consultations and the development

of practical solutions) will be undertaken in parallel and iteratively. Each phase will be discussed in more detail below.



## **A. DESKTOP REVIEW OF RELEVANT INFORMATION**

This phase will involve reviewing the following documentary and technical reports:

- History of Minimum Emission Standards (“MES”) and decisions of the National Air Quality Officer to date, as well as various applications for provisional atmospheric emission licenses (“PAEL”);
- Summary of MES and PAEL appeals currently before the Minister; and
- Eskom’s compliance and non-compliance history with MES.

Furthermore, the Forum will conduct a review of the documents and technical reports with respect to:

- Health impacts of air emission and the constitutional right of the people to an environment that is not harmful to health and well-being;
- Costs of compliance with MES by Eskom and the co-benefit from reducing that pollution;
- What it means for Eskom’s coal fleet to meet the lower bound of the 2021 Nationally Determined Contribution Update (South Africa’s “Fair Share” on a 1.5<sup>0</sup> trajectory)?
- What is needed to achieve improved energy security in the country?

The Forum members will identify and review any additional documents and technical reports relevant to their work, that fall within their area of expertise.

From this review, and drawing on their areas of expertise, the Forum members will scope both an approach to assessing the issues, and the form of the possible solution set. This methodology will provide a way of collating and considering the different forms of information (desktop review, modelling, stakeholder input) throughout the project. It will further provide a systematic and evidence-based approach to our task, an approach that will underpin and support our report to the Minister.

## **B. POWER SYSTEM MODELLING ANALYSIS**

In terms of paragraph 3.1.7 the Forum is required to “conduct detailed technical and energy modelling work to address key questions arising from consultations.”

In addition, the Forum has been asked to develop practical options for the Minister to resolve issues arising from non-compliance with MES. In this regard, the Forum is required to consider implications for electricity security of supply, the cost of electricity provision and greenhouse gas (“GHG”) emissions, amongst others. These implications are determined at the electricity system level, and therefore require system level assessment through a tool such as power system modelling. This type of analysis will therefore prove an essential part of the Forum’s work.

### **What can electricity system modelling do?**

An optimising power system model can assess how an electricity system performs over time against various metrics (including cost, GHG emissions, local air pollutants, security of supply) and under various conditions (such as power plant availability and performance, upgrades etc). As with all modelling, its usefulness is dependent on the appropriateness of the model type for the questions being asked, the quality of assumptions and data, and appropriate interpretation of the results.

### **Modelling approach for the MES Forum work**

Modelling outputs are most useful when considered relative to each other, rather than in absolute terms. Therefore, energy system modelling typically considers a number of different system scenarios, including a reference scenario, and compares these across different dimensions (cost, GHG, security of supply).

Practical options to resolve Eskom’s MES non-compliance are anticipated to include prohibiting non-compliant plant from operating immediately or within a specific timeframe, requiring the retrofitting of abatement technologies (also immediately or within a specific timeframe), or reducing power output below particular levels. These types of options could then be applied across the non-compliant Eskom fleet in different configurations, to produce a limited set of

distinct solution scenarios. A reference 'do nothing' scenario would simultaneously be specified to provide a point of comparison.

Each scenario would be specified in terms of when particular plants / plant units need to shut down, whether the shut down is temporary (for abatement upgrades) or permanent, capital and operating cost implications of upgrading, time off for retrofitting, implications of plant efficiency post retrofit etc.

In order to assess the implications of scenarios that are differentiated at the plant level, the electricity system model used must have sufficient granularity (at least plant level, if not unit level).

Importantly, whilst power sector models can provide output information on local air pollutants, they are unable to accommodate the complexity of how these emissions impact human health / local environmental pollution levels. Further, the local pollutant outputs are determined by relatively simple algorithms linking abatement technologies to emissions levels. Work will therefore be required outside of the electricity sector model at the point of specifying the solution scenarios to capture these complexities. The modelling will then consider the solution scenarios only for security of supply, electricity cost and GHG emissions implications, providing insight into how the different scenarios perform in terms of these metrics.

### **Model choice and availability considerations**

Electricity system modelling at the national level is a highly specialised activity, undertaken by specialised teams using licenced models populated by data sets that evolve over time. This capacity is very constrained in South Africa currently. Given the Forum's time constraints, it would not be feasible to populate a model from scratch, or even start with a populated model that is not well understood by the Forum members. A model must also be appropriately populated with credible data and specified for the questions being asked, and, given the complexity of the modelling exercise, checked for irregularities and amended to ensure integrity of results. Another important consideration, given the nature of the Forum's work, is that the modelling assumptions, data and results are publicly available and not subject to confidentiality constraints.

The Forum is aware that the Council for Scientific and Industrial Research ("**CSIR**") , Boston Consulting Group ("**BCG**"), and Eskom run national South African electricity system models at a level of granularity that can accommodate plant, if not unit level differentiation (all use the Plexos platform)<sup>1</sup>. Whilst Eskom's modelling outputs will obviously form a critical stakeholder input to the Forum's deliberations, there is a clear conflict of interests in relying solely on their analysis.

---

<sup>1</sup> There are other teams that run Plexos (e.g., Mott MacDonald, Zutari), but don't run national electricity models, and teams that run open source models that could be upgraded to accommodate plant / unit granularity (e.g. Meridian Economics), but this would take more time than that available to the Forum.

Even if the Forum had full access to their analysis (not just the outputs), because of the inherent complexity of the modelling task, it would take considerable time and specialised resources to adequately interrogate this.

BCG is an international consulting firm that has been supporting the National Business Initiative (“NBI”) with modelling capabilities for their Net Zero Pathways project. Whilst Forum members have engaged to some extent with their model, we do not have a reliable understanding of its workings, nor its suitability for assessing MES scenarios, although this could be explored. One additional consideration is that the partisan nature of the NBI may undermine the legitimacy of the Forum’s findings.

The CSIR model was run in 2022 to understand the implications of achieving net zero GHG emissions in the power sector, in collaboration with Meridian Economics<sup>2</sup>. This model includes a reference scenario, and is sufficiently populated and interrogated to enable engagement with MES scenarios and provide insights into their relative performance. There may be some complications with the current software version that would need to be better understood. There is currently one person at CSIR with the requisite skills to lead such a modelling exercise. This person would require assistance from ex-CSIR modelling expertise (currently located in the private sector and others). Whilst these entities are in principle willing to assist, both have capacity constraints. The same is anticipated for the CSIR, who has not yet been approached in this regard. The analysis would then need to be funded and commissioned as early as possible. The overall external cost of this work would likely lie between ZAR500,000 to ZAR1 million, depending on how well it can be resourced. There may be donor appetite to assist in funding this.

The modelling work will be scoped immediately, and is anticipated to take until end November if sufficient resources (human and financial) can be put in place.

## **C. CONSULTATIONS WITH ALL STAKEHOLDERS**

Critical to this phase of the Forum’s work are the logistics. The Department will be responsible for making all the necessary arrangements in respect of the consultation processes to take place.

Members will be allocated to the consultation processes based on their expertise and experience.

The Forum intends to use suitable virtual platforms to consult with the relevant stakeholders as far as possible and where appropriate.

---

<sup>2</sup> This work was contracted through Meridian, and funded by AgoraEnergiewende, a European non-profit think tank advancing the goal of climate neutrality. The outputs and data associated with this work will be made public shortly.

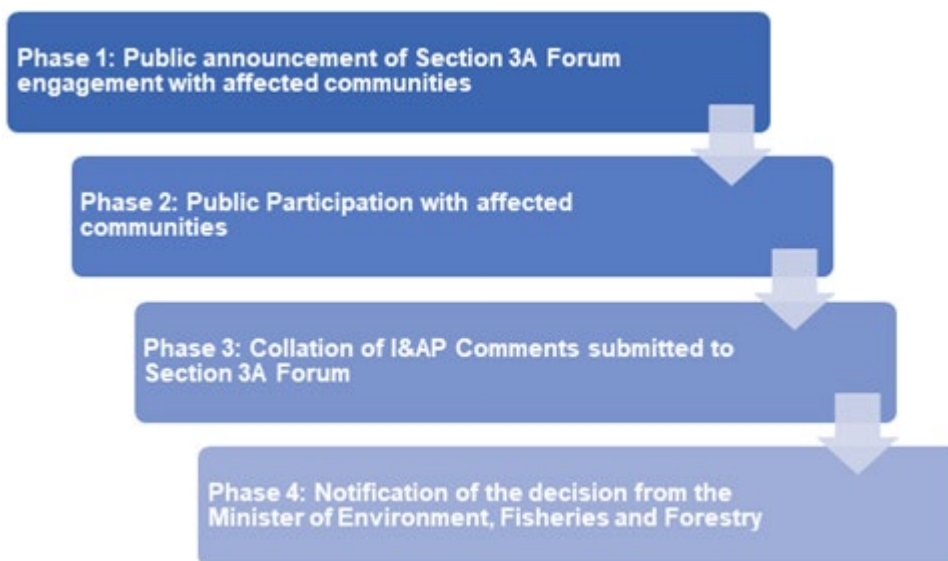
As part of this phase, the Forum will undertake the work envisaged in paragraphs 3.1.3 to 3.16 of the terms of reference, which includes the following:

### (i) Preliminary Hearings

According to the terms of reference, “all interested parties” are to participate in this phase and make verbal and written submissions. A public participation process (“**PPP**”) will be conducted as part of the Forum’s work. The process followed, will allow potential interested and affected parties (“**I&APs**”) an opportunity to comment on or raise concerns relevant to the work of the Forum and the matters which it is obligated to consider. The principles on public participation as explained in the National Environmental Management Act, 1998 (Act 107 of 1998) will inform the process. The principles that we bring to bear in conducting the public participation will include *inter alia*:

1. Consultation that is clear and concise;
2. Consultation that is informative; and
3. Consultation that considers the groups being consulted and provides meaningful and easily accessible information, which is in culturally appropriate local language(s).

The four phases of our PPP are illustrated in the diagram below:



We have received instruction from the Department that the process to be followed should be less formal than the process outlined above and as such, we will proceed accordingly. Work is currently being done on a detailed consultation framework. The period of consultation will be from 1 September 2022 to 15 October 2022.



## (ii) One on one consultations

The Forum is obligated to conduct one on one consultations with key I&APs to understand their positions in more detail. The Forum will use databases obtained from the Department as a starting point for identifying these stakeholders and the period of consultation will be from 1 September 2022 to 15 October 2022. At this stage, the Forum has identified the following key I&APs:

<b>Period of Consultation:</b> 1 September 2022 to 15 October 2022	
<b>[Category A] – EMITTERS</b>	
1.	Eskom Limited
2.	ArcelorMittal
3.	Hulamin Limited
4.	Green Oil and Lubricants
<b>[Category B] – Air Quality Control Officer and Municipalities</b>	
5.	National Air Quality Control Officer
6.	<b>Eastern Cape</b>  District municipalities: Amthole, OR Tambo, Sarah Baartmen, Alfred Nzo, Chris Hani and Joe Gqabi  Local municipalities: Cacadu, Dr Beyers Naudé, Emahaleni, Makhanda and Ndlambe  Metropolitan municipalities: Nelson Mandela Bay and Buffalo City
7.	<b>Free state</b>

	<p>District municipalities: Lejweleputswa, DEFF Thabo Mofutsanyana, Senqu, Fezile</p> <p>Kopanong Local Municipality</p> <p>Managaung Metropolitan Municipality</p>
8.	<p><b>Gauteng</b></p> <p>District municipalities: Sedibeng and West Rand</p> <p>Local municipalities: Emfuleni, Merafong, Mogale City, Moretele, Rand West, Midvaal</p> <p>Metropolitan municipalities: Johannesburg, Ekurhuleni and Tshwane</p>
9.	<p><b>Northern Cape</b></p> <p>District municipalities: Dr Ruth Segomotsi Mompati, Frances Baard, John Taola Gaetswe, Namakwa, Pixley Ka Seme, Thabo Mofutsanyana</p> <p>Renosterberg Local Municipality</p> <p>ZF Mgcawu Municipality</p>
10.	<p><b>North West</b></p> <p>District municipalities: Bojanala, Dr Kenneth Kaunda, Dr Ruth Segomotsi, Ngaka Modiri Molema</p> <p>Local municipalities: Rustenberg, JB Marks, Kannaland, Madibeng, Merafong, Moretele</p>
11.	<p><b>Mpumalanga</b></p> <p>Local Municipalities: Bushbuckridge, Emakhazani, Emalahleni, Steve Tshwete, Thembisile Hani, Victor Khanye</p> <p>District municipalities: Gert Sibande, Nkangala</p>
12.	<p><b>Kwa-Zulu Natal</b></p>

	<p>District Municipalities: Amajuba, Ilembe, King Cetshwayo, Ugu, Umgungundlovu, Umkhanyakude</p> <p>Local Municipalities: Dannhauser, Matzikama, Mothonjaneni, Msunduzi, Nomongoma, uMngeni, eThekwini, KwaDukuza, uMhlatuze</p>
13.	<p><b>Limpopo</b></p> <p>District Municipalities: Capricorn, Ehlanzeni, Greater Sekhukhune, Mopani, Vhembi, Waterberg</p> <p>Local Municipalities: Greater Giyani, Greater Tzaneen, Lepelle-Nkumpi, Makhado, Musina, Polokwane, Thabazimbi</p>
14.	<p><b>Western Cape:</b></p> <p>District Municipalities- Cape Winelands, Central Karoo, Garden Route, Overberg, DEFF Overberg, West Coast</p> <p>Local Municipalities: Beaufort West, Bergrivier, Bitou, Breede Valley, Cape Agulhas, Cederberg, Drakenstein, George, Hessequa, Knysna, Laingsburg, Langeberg, MaTzikama, Mossel Bay, Oudtshoorn, Overstrand, Prince Albert, Saldanha Bay, Stellenbosch, Swartland, Swellendam, Theewaterskloof, Witzenberg</p> <p>Metropolitan Municipalities: City of Cape Town</p>
<b>[Category C] – Non-profit organisations</b>	
15.	Centre for Environmental Rights
16.	Highveld Environmental Justice Network
17.	Vaal Environmental Justice Alliance

18.	Middelburg Residents Organisation MRO
19.	South African Green Revolutionary Council
20.	Guqa Community Service
21.	Groundwork
22.	Emalahleni Recyclers Association
23.	Pure Air S.A
24.	Greenpeace
25.	Vukani <i>Environmental</i> Justice Movement in Action
26.	EEWMC
27.	MYACC
28.	VEM
29.	GMRA

### (iii) Consultations with the public sector

In accordance with clause 3.1.5 of the terms of reference, the Forum will conduct virtual consultations with the following public sector stakeholders:

	<b>Period of Consultations:</b> 1 September 2022 to 15 October 2022
	<b>Name of Department / functionary</b>

1.	Department of Water and Sanitation
2.	Department of Minerals and Energy
3.	Department of Public Enterprise
4.	Department of National Treasury
5.	Department of Science and Innovation
6.	Department of Trade, Industry and Competition
7.	MECs responsible for the environment in the Provinces
8.	The South African Local Government Association

#### **(iv) Visiting the affected communities**

The Forum must visit the affected communities in airsheds affected by Eskom power stations and the applicants for PAELs that are subject to appeal. The Forum will rely on the Department to identify the affected communities with which it must consult. Subject to the community members' availability, this phase of consultations will take place from 1 September 2022 to 15 October 2022.

### **D. ANALYSIS OF EVIDENCE AND SUBMISSIONS**

#### **TIME PERIOD: 1 OCTOBER 2022 TO 15 NOVEMBER 2022.**

As the consultation process progresses, the Chairperson will allocate members to analyze, process and report on different aspects of the evidence and submissions collected by the Forum.

The terms of reference envisage that the Forum will propose practical resolutions on matters of air pollution to ensure that compliance with the MES can be achieved in a manner that gives consideration to a number of competing factors. In order to do this, the Forum will need to carefully consider the evidence before it and take into account the submissions made by the stakeholders.

## **E. DRAFTING OF REPORT TO THE MINISTER**

### **TIME PERIOD:**

**DRAFTING REPORT – 15 OCTOBER 2022 TO 20 JANUARY 2023**

**EDITING AND SUPPLEMENTING REPORT – 30 JANUARY 2023 TO 20 FEBRUARY 2023**

The Forum's analytical work, including the proposal of practical resolutions, will be documented in a written report with recommendations to the Minister.

The Forum is comprised of a highly qualified and multidisciplinary team, who will be expected to collaborate and work individually to contribute to the final report.

Based on a review of the information listed in paragraph 3.2 of the terms of reference, the report will also seek to address the questions set out in the table below. The list of information set out in the terms of reference is not exhaustive and where necessary, the responsible member of the Forum must do additional research.

	<b>Question</b>
1.	What are the health impacts from emissions from Eskom's power stations?
2.	What are the costs of compliance with MES?
3.	What are the co-benefits from reducing that pollution?
4.	What does meeting the lower bound of the 2021 NDC Update (South Africa's "Fair Share" on a 1.5° trajectory) mean for Eskom's coal fleet?
5.	What is needed to achieve improved energy security?

Should the Forum require specialist advice from any person who is not a member, it may do so in consultation with the Department.

## **F. PRESENTATION OF REPORT TO THE MINISTER**

The Forum will present its report to the Minister on 28 February 2022, for her consideration and comment.

## G. SUBMISSION OF FINAL REPORT

The comments from the Minister may necessitate that the Forum conduct further work. Once it has conducted further consultations, if any, it will finalise the report and submit it to the Minister.

## 4. FORUM MEETINGS

The Forum has agreed to meet from 15h00 to 17h00 on the following dates:

- |                     |                    |
|---------------------|--------------------|
| ○ 8 September 2022  | ○ 1 December 2022  |
| ○ 22 September 2022 | ○ 15 December 2022 |
| ○ 6 October 2022    | ○ 12 January 2022  |
| ○ 20 October 2022   | ○ 26 January 2022  |
| ○ 3 November 2022   | ○ 9 February 2022  |
| ○ 17 November 2022  | ○ 23 February 2022 |

With prior notice to the members, the Chairperson of the Forum may reschedule or cancel one or more of the above meetings. Should the need arise for additional meetings to be scheduled, the Chairperson will do so with notice to the members and with due consideration to their schedules.

The Chairperson will be responsible for furnishing the Department with a progress report, on a monthly basis.

## 5. TIMELINE

There are several factors which are beyond the control of the Forum that may impact on its ability to do its work in accordance with the estimated timeline, set out below.

	TASK	START DATE	END DATE
1.	Desktop review	1 September 2022	Ongoing
2.	Consultation process	1 September 2022	15 October 2022
2.1.	Preliminary hearings		
2.2.	One on one consultations		

2.3.	Consultations with public sector		
2.4.	Community visits		
3.	Modelling and analysis of evidence	1 October 2022	15 November 2022
4.	Report drafting	15 October 2022	30 January 2023
5.	Editing and supplementing of report	30 January 2023	20 February 2023
6.	Present findings to Minister		28 February 2023



Chairperson of the Forum

6 September 2022



