



**environmental affairs**

Department:  
Environmental Affairs  
**REPUBLIC OF SOUTH AFRICA**

## **GUIDELINES FOR THE DEVELOPMENT OF POLLUTION PREVENTION PLANS IN RESPECT OF THE GREENHOUSE GASES**

2018

Note: These Guidelines must be read together with the Notice to declare greenhouse gases as priority air pollutant, published under the General Notice No. 710 in the Government Gazette No. 40996, and the National Pollution Prevention Plans Regulations promulgated for implementation under General Notice No. 712 in the Government Gazette No. 40996 of 21 July 2017 respectively.

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## 1. INTRODUCTION

On 19 October 2011 South Africa adopted the National Climate Change Response White Paper (NCCRWP). The White Paper has objectives to effectively manage inevitable climate change impacts, and to make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere. To manage greenhouse gas emissions, the Minister of Environmental Affairs published a Notice in the Government Gazette to declare greenhouse gases as priority air pollutant, under section 29(1) read with section 29(4) of the National Environmental Management: Air Quality Act (the Act), 2004 (Act No. 39 of 2004) on 21 July 2017. The greenhouse gases (GHGs) declared as priority pollutant are Carbon dioxide (CO<sub>2</sub>); Methane (CH<sub>4</sub>); Nitrous oxide (N<sub>2</sub>O); Hydrofluorocarbons (HFCs); Perfluorocarbons (PFCs); and Sulphur hexafluoride (SF<sub>6</sub>). The Minister also promulgated the National Pollution Prevention Plans Regulations (herein referred to as the Regulations) for implementation under section 53(a), o and p read with section 29(3) of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004) on the same day. The purpose of these Regulations is to prescribe the requirements that pollution prevention plans for GHGs declared as priority air pollutant need to comply with in terms of section 29(3) of the Act.

The Notice to declare greenhouse gases as priority air pollutants requires that a person conducting a production process set out in Annexure A to the Notice which involves emission of greenhouse gases in excess of 0.1 Megatonnes (Mt) annually, reported as carbon dioxide equivalents (CO<sub>2</sub>-eq) and/or if so directed by the Minister, is required to submit a Pollution Prevention Plan to the Minister for approval.

The Department of Environmental Affairs has prepared these Guidelines to help a person submitting a pollution prevention plan to understand the process for submission and approval of the pollution prevention plans and annual progress reports. The first pollution prevention plan must cover a period from 21 July 2017 up to 31 December 2020 and the subsequent pollution prevention plans must cover periods of five calendar years each.

## 2. PURPOSE OF THESE GUIDELINES

The purpose of these Guidelines for the Development of Pollution Prevention Plans in respect of GHGs is to provide guidance to persons submitting pollution prevention plans on the requirements prescribed in section 3 of the National Pollution Prevention Plans Regulations.

## 3. OVERVIEW OF PROCESS FOR SUBMITTING AND APPROVING POLLUTION PREVENTION PLANS AND ANNUAL PROGRESS REPORTS

The process for submitting pollution prevention plans (PPPs) and annual progress reports (APR), including the relevant timelines for each processing step, is shown in Figure 1 below.

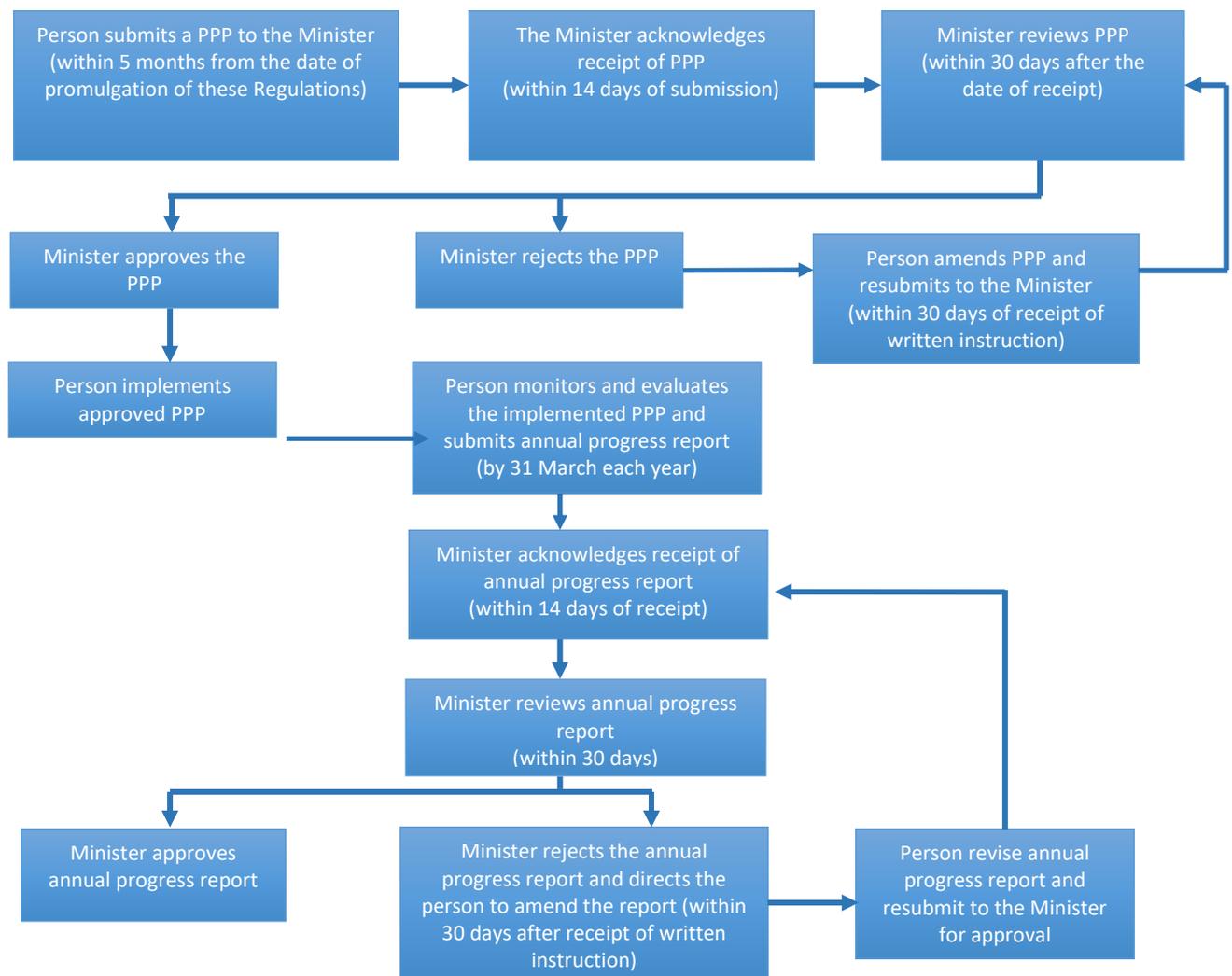


Figure 1: Process flow for the submission of PPP and APR

#### 4. GUIDANCE ON THE PREPARATION OF POLLUTION PREVENTION PLANS

The following information needs to be included in the PPP:

- a. Details of the person submitting the plan:
  - i. Name and contact details of a person submitting the PPP on behalf of the company (including contact details, including address, telephone number, mobile number, and email address).
  - ii. Company name and registration details (in terms of the Companies Act)
- b. Completed Declaration of Accuracy (Annexure 1)

In addition, the PPP must include the completed Tables 1 and 2. Examples of the information that is to be included in these tables are provided in Annexure I.

Table 1 is to be used to outline the production processes, greenhouse gas emissions as well as methodologies used to estimate the emissions. The following guidance is presented for completing

Table 1:

- Column 1 – **Activity/production processes**: this should be a brief description of the activities or production processes for which GHG data will be required. These activities should be presented in line with the published *Technical Guidelines for Monitoring, Reporting and Verification of Greenhouse Gas Emissions by Industry, 2017* (referred hereto as the Technical Guidelines).
- Column 2 - **GHGs**: insert type of each GHG emitted resulting from the production processes/activities in column 1.
- Column 3-7 – **Year 1 to Year 5**: in each of these columns, provide the amount of GHG emissions applicable for each calendar year. Note that data from year 1 to year 5 should be reported as from the period 2016 to 2020.
- Column 8 – **preceding year**: insert total greenhouse gas emissions from the production process for the calendar year preceding the submission of the pollution prevention plan.
- Column 9 - **Total GHG emissions**: these are total greenhouse gas emissions reported from the period 2016 – 2020.
- Column 10 - **Methodology**: information on the methodology used should be added as per the Technical Guidelines.

Table 2 is used for providing annual reporting on planned and implemented mitigation:

- Column 1 – **Mitigation measure:** this is a short description used to refer to the proposed mitigation measure as referred to in the National Pollution Prevention Plans Regulations, 2017.
- Column 2 – **Description of mitigation measure:** this should be a detailed description of the proposed mitigation measure, how it will reduce GHG emissions and the proposed level of penetration. Rows should be added as necessary for each of the proposed mitigation measures.
- Column 3 – **Anticipated implementation period:** this refers to the period that the mitigation measure will begin reducing GHG emissions.
- Column 4 - **Assumptions used to estimate anticipated GHG emission reductions.** In this column the methodology used to calculate annual GHG emissions reductions should be described if different to the guidance presented in the Technical Guidelines. The description should include the level of activity and any other assumptions used to define the baseline. Assumptions and detailed calculations may be provided in supporting documentation if necessary.
- Column 5 – **GHG to be abated:** The types of GHGs that the mitigation measure will reduce should be specified in this column. For mitigation measures that impact multiple GHG emissions, separate rows should be made for each GHG. See second example in Table 2.
- Column 6 – **Anticipated GHG emission reductions (from year 1 to year 5):** The annual anticipated GHG emission reductions for each GHG for each mitigation measure specified in Column 5 should be provided in this column. GHG emissions reductions should be reported in tonnes CO<sub>2</sub>eq for each year covered in the PPP.
- Column 7 - **Total over 5 years:** In the bottom row the anticipated GHG emission reductions for all mitigation measures should be added up to give total anticipated GHG emission reductions for in tonnes CO<sub>2</sub>eq.

## 5. GUIDANCE ON THE PREPARATION OF ANNUAL PROGRESS REPORTS

A person contemplated in regulation 4(1) must monitor and evaluate implementation of the approved Pollution Prevention Plan and submit Annual Progress Report to the Minister by 31 March each year for the preceding calendar year. Annual Progress Reports are required to

demonstrate progress against the implementation of the PPPs, including progress achieved in implementing the mitigation measures; deviations from the PPPs and the reasons for such deviations; and mitigation measures implemented as corrective measures. The annual progress reports need to include the following:

- a. Name of the person submitting annual progress report on behalf of the company (including Contact details, including address, telephone number, mobile number, email address and fax number)
- b. Company name and registration (in accordance with the Company Act):
- c. Full details of the person submitting the annual progress report:
  - i. Name and surname
  - ii. Position in the company
- d. Completed declaration as per Annexure I of this document.
- e. An overview of any material changes that are relevant to the PPP, such as the sale, purchase or transfer of a facility, a significant change in production outputs, or a significant change in the way operations are conducted.
- f. Completed Table 1 of Annexure I of this document. For guidance in completing this table, please see Section 4 of these Guidelines.

It is important to describe deviations from the approved PPP and remedial actions that may have occurred. Where deviation is applicable, the following information should be included as part of table 3:

- Column 1 – **Mitigation measure**: mitigation measure should be described as per the National Pollution Prevention Plans Regulations, 2017.
- Column 2 – **Deviations from approved PPPs and remedial actions put into place**: this column will require description of deviations from the approved pollution prevention plan (if any), and remedial actions put into place.
- Column 3 – **risk and limitations**: include any risks and limitations that may affect emission reduction efforts.

## **6. VERIFICATION OF INFORMATION**

If the Minister reasonably believes that any information submitted in the Pollution Prevention Plans or the Annual Progress Report is incomplete or false, the Minister must instruct, in writing, the person that submitted the information in terms of these Regulations to verify the information submitted within 60 days after receipt of written instruction.

## 7. ANNEXURE I

### TEMPLATES FOR PREPARATION OF THE PLAN

The following declaration and Table 1 and 2 must form part of the pollution prevention plan.

Name of Company: \_\_\_\_\_

Declaration of accuracy of information provided:

I, \_\_\_\_\_ (*full name*) \_\_\_\_\_, declare that the information provided in this report is in all respects factually true and correct to the best of my knowledge and as at the date of signature.

Contact details:

Telephone: \_\_\_\_\_

Physical address: \_\_\_\_\_

Email: \_\_\_\_\_

Signed at \_\_\_\_\_ on this \_\_\_\_\_ day of \_\_\_\_\_

\_\_\_\_\_

Signature

\_\_\_\_\_

Capacity of Signatory

The following two tables also need to be completed and submitted with the pollution prevention plan:

**Table 1: Template for production processes, greenhouse gas emissions and methodology to estimate the emissions**

Activity/production processes <sup>1</sup>	GHGs <sup>2</sup>	Y1	Y2	Y3	Y4	Y5	Preceding year <sup>3</sup>	Total GHG emissions (2016 -2020)	Methodology <sup>4</sup>
1a2a iron and steel	CO <sub>2</sub>								
	CH <sub>4</sub>								
	N <sub>2</sub> O								
	HFCs								
	PFCs								
	SF <sub>6</sub>								
Total by gas									

<sup>1</sup> Activities (or production processes) for which GHG data will be required for PPP reporting (activities are presented in the National GHG Reporting Regulations, 2017)

<sup>2</sup> All GHGs emitted by the company and for which the company has registered in terms of the GHG reporting regulations

<sup>3</sup> Total greenhouse gas emissions from the production process for the calendar year preceding the submission of pollution prevention plan

<sup>4</sup> As per the Technical Guidelines for Monitoring, Reporting and Verification of Greenhouse Gas Emissions by Industry

**Table 2: Template for providing annual reporting on planned and implemented mitigation measures**

Mitigation measure <sup>5</sup>	Description of mitigation measure	Anticipated implementation period (years) <sup>6</sup>	Assumptions used to estimate anticipated GHG emission reduction	GHG to be abated	Anticipated emission reduction (tonnes CO <sub>2</sub> e)					
					Y 1	Y2	Y3	Y4	Y5	Total over 5 years
<u>For example:</u> N <sub>2</sub> O abatement	N <sub>2</sub> O abatement for the nitrophos production plants	e.g. 2016–2020 or 2018 - 2020	N <sub>2</sub> O emissions removal efficiency of 98-99% can be achieved using various measures (e.g. Non-selective catalytic reduction (NSCR), Combined NOx and N <sub>2</sub> O abatement reactor and N <sub>2</sub> O decomposition in the oxidation reactor.	N <sub>2</sub> O	0	0	55	178	300	
<u>For example:</u> Improved boiler efficiency	Refurbishment and upgrade of 2 coal boilers	e.g. 2016–2020 or 2018 - 2020	Refurbishment of two of our coal boilers to original condition with additional upgrades of technology is assumed to increase the energy efficiency by 15%. This will result in 15% reduction of (coal) fuel input.	CO <sub>2</sub>	0	18502	24670	24670	24670	
				CH <sub>4</sub>	0	4	5	5	5	
<b>Total (CO<sub>2</sub>eq)</b>					<b>0</b>	<b>18594</b>	<b>41065</b>	<b>77473</b>	<b>113585</b>	<b>250717</b>

<sup>5</sup> It is acknowledged that project information may change, as one project gets replaced with another during the implementation process. Persons should therefore report on the efforts that have been made to reduce emissions against the baseline.

<sup>6</sup> Pollution prevention plan years of coverage

**Table 3: Deviations from approved Pollution Prevention Plans**

<b>Mitigation measure implemented</b>	<b>Deviations from approved PPPs (if any) and remedial action undertaken</b>	<b>Risk &amp; Limitations (if any)</b>
Furnace rebuilt	The efficiency of the furnace is less than expected. The remedial action is to investigate the furnace operation and optimization.	Planned emission reductions will be compromised.

## **8. ANNEXURE II**

### **Templates for preparation of the annual progress reports**

- (1) For each annual progress report, prepare a summary of the emissions for the previous calendar year, using Table 1 of Annexure I to this document as a template.
- (2) For each annual reporting on planned and implemented mitigation measures, complete Table 2.
- (3) For the mitigation measures that were implemented, deviations from the approved PPP (if any) and remedial action undertaken, as well as management of risks and limitations, complete Table 3.