



Climate Change Impact Assessments Terms of Reference

# NSOVO ENVIRONMENTAL CONSULTING

Project Reference 1020-P001-NSO DNG CCIA TOR

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This document describes the Terms of Reference for Climate Change Impact Assessments in support of the proposed DNG Energy gas to power stations in Saldanha Bay Mossel Bay, Coega, Malelane and Komatipoort.



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## **1. INTRODUCTION**

### **1.1 PROJECT OUTLINE**

EHRCON (Pty) Ltd was commissioned by Nsovo Environmental Consulting (Nsovo) to assess the climate change impacts associated with the proposed gas to power stations of DNG Energy (Pty) Ltd (DNG), in Saldanha Bay, Mossel Bay, Coega, Malelane and Komatipoort.

The objectives of the Climate Change Impact Assessments are to characterise and describe Greenhouse Gas (GHG) emission from the proposed gas to power stations. The findings of the studies will provide DNG, relevant government departments, and other stakeholders with a fair account of the GHG emissions of the proposed projects.

A climate change vulnerability assessment will assess the potential impact of climate change on the gas to power stations.

## 1.2 PROJECT DESCRIPTION

The proposed gas to power stations include the development of a 300 MW Open Cycle Gas Turbine (OCGT) power plant at Saldanha Bay (Saldanha Bay SunShine). Phase two of the Saldanha Bay SunShine project will see the capacity increased to 1 605 MW by means of a Combine Cycle Gas Turbine (CCGT) power plant.

A 310 MW OCGT power plant is planned for Mossel Bay (Mossel Bay Eagle). Phase two of the Mossel Bay Eagle project will see the capacity increased to 1 000 MW by means of a Combine Cycle Gas Turbine (CCGT) power plant.

Coega includes the development of two gas to power stations, Coega Aloe and Coega Seaweed. Coega Aloe will be a 620 MW OCGT power plant, with a phase two capacity increase to 1 000 MW by means of a CCGT power plant. Coega Seaweed will see the development of a 50 MW power plant comprising of reciprocal generators.

A 620 MW OCGT power plant is planned for both Malelane (Malelane Tlou) and Komatipoort (Komatipoort Tau). Phase two of the Malelane Tlou and Komatipoort Tau projects will see the capacities increase to 1 000 MW by means of CCGT power plants.

## **2. CLIMATE CHANGE IMPACT ASSESSMENT**

### **2.1 TERMS OF REFERENCE**

The assessment of the potential climate change impacts associated with the proposed gas to power stations of DNG Energy, will comprise the following terms of reference:

- A review of the relevant framework, protocol, legislation, regulations and strategies.
- A process description and a greenhouse gas (GHG) inventory.
- A global, national and regional climate change synopsis.
- An assessment of the contribution and outcome of the gas to power stations' effects on climate change.
- Benchmarking the climate change impact of the GHG emissions against South Africa's national emissions inventory and the global GHG inventory.
- A description of the geographical, environmental and climatic contexts and future climate change scenarios.
- A summary of the key current and expected future climate hazards and the associated potential climate-related risks/implications.
- Management and mitigation measures for the identified climate-related risks/implications.