
**ALLOCATION OF SECTORAL EMISSIONS TARGETS (SETs), Project number/
IMPROVEMENT OF THE INTEGRATED SOCIO-ECONOMIC MODEL cost centre:
AND UPDATE OF THE PATHWAY SCENARIOS OF THE 20.9087.6-001.00
INTEGRATED MITIGATION MODEL**

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0. List of abbreviations

CBs	Company-level Carbon Budgets
CV	Curriculum Vitae
DFFE	Department of Forestry, Fisheries and the Environment
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GHG	Greenhouse Gas(-es).
GTCC	General Terms and Conditions of Contract (GTCC) for supplying services and work 2022
MCA	Multi Criteria Analysis
MPA	Mitigation Potential Analysis
MtCO ₂ e	Mega Tonnes of Carbon Dioxide Equivalence
NDC	Nationally Determined Contribution
PAMs	Policies and Measures
PPD	Peak, Plateau and Decline
PSC	Project Steering Committee
SAM	Social Accounting Matrix
SDG	Sustainable Development Goal
SETs	Sectoral Emission Targets
ToRs	Terms of Reference
UNFCCC	United Nations Framework Convention on Climate Change

1. Context

This work is commissioned by the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH. It forms part of the ongoing collaboration between GIZ and the Department of Forestry, Fisheries, and the Environment (DFFE) in the areas of climate change, sustainable development and a just transition to a climate-resilient and low carbon economy and society.

As a signatory of the Paris Agreement of the UNFCCC, South Africa submitted its revised NDC in 2021, committing to a mitigation target range of 398 to 510 Mt CO₂eq in 2025 and 350 to 420 Mt CO₂eq in 2030. The country has also made reference to an ambition of achieving net zero in 2050 in the Low Emissions Development Strategy.

In order to ensure that South Africa meets its stated emissions reduction commitments, while remaining cognisant of economic and social development considerations, the DFFE has leveraged comprehensive GHG mitigation modelling through the use of the DFFE Integrated Emissions Model and has also proposed and implemented policies and measures to achieve tangible impacts. This initial work is to be expanded upon to further provide analysis of policies and measures and their related mitigation activities and to construct Development Pathways that can both achieve developmental aspirations of the country and achieve net zero in 2050. Development Pathways can be defined as realistic and logical scenarios constructed to meet the country socio-economic objectives and also result in net zero emissions.

This ToR addresses a number of distinct scopes of work, namely the review of the existing DFFE Integrated Model to improve the social, environment and economic modelling, updating of the GHG Emissions Reductions Pathways model, evaluation of policies and measures and related mitigation activities to 2030, the construction of Development Pathways to 2050 and the development of Sectoral Emissions Targets for 2023 to 2038. The modelling update, evaluation of mitigation measures and development pathways will inform the sectoral emissions targets. For additional background information on the country's mitigation system and the role of SETs, please see the Annexure in section 7 of these ToRs.

The scopes of work are to be completed by a single successful service provider or consortium over a 24-month period (October 2022- November 2024) and are described in detail below. It is envisioned that the Development of Sectoral Emissions Targets (section 1.3) will be completed after Scopes 1.1 and 1.2.

1.1 Model Improvement and Update: Development / improvement of the Socio-Economic model as part of the Integrated Model

The DFFE developed the Integrated Model to analyse and develop different emission reduction scenarios for the country. The Integrated Mitigation Model includes a set of four sub models including the Mitigation Potential Analysis, Policies and Measures, GHG Emissions Pathways Model and Ex-Post Model. The model is built on Lumina Analytica, a visual software package developed by Lumina Decision Systems for creating, analysing, and communicating quantitative decision models. A license is required to work with Lumina Analytica, however, the department will loan one license for the duration of this project.

The GIZ is seeking a service provider to improve and/or develop a socio-economic model as part of the integrated model which is owned by the DFFE. The scope of work in terms of the DFFE Integrated Model update is as follows:

- Update the model assumptions with the most up to date available data that includes gross domestic product (GDP), population growth, technology, and energy prices,
- The Integrated Mitigation Model includes a social accounting matrix and a multicriteria analysis tool, but it is only linked to the MPA and not the GHG Emissions Pathways sub model. The current GHG Emission Pathways model does not adequately assess socio-economic and other non-GHG environmental impacts/externalities. In order to guide the choice of the preferred emission reduction pathway for South Africa, it is critical that a comprehensive analysis of costs, socio-economic impacts and other non-GHG environmental implications of the each of the projected GHG emissions scenarios be provided in order to allow Government to make informed choices. Considering this, the appointed service provider is expected to develop a dynamic social, environmental and non-GHG model to support these analyses. Alternative solutions to a social accounting matrix (SAM) model would be welcomed.
- It is envisaged that the appointed service provider will conduct a comprehensive review on how SAM and multi criteria analyses (MCA) could be enhanced and improved to address these shortcomings for example amongst other the SAM is static, and the MCA is a qualitative rather than quantitative. If applicable / where appropriate, a new tool can be recommended (preferably an off-the-shelf product).

1.2 Evaluation of PAMs to 2030 and Construction of Net Zero Development Pathways to 2050

Two outputs will result from this scope of work:

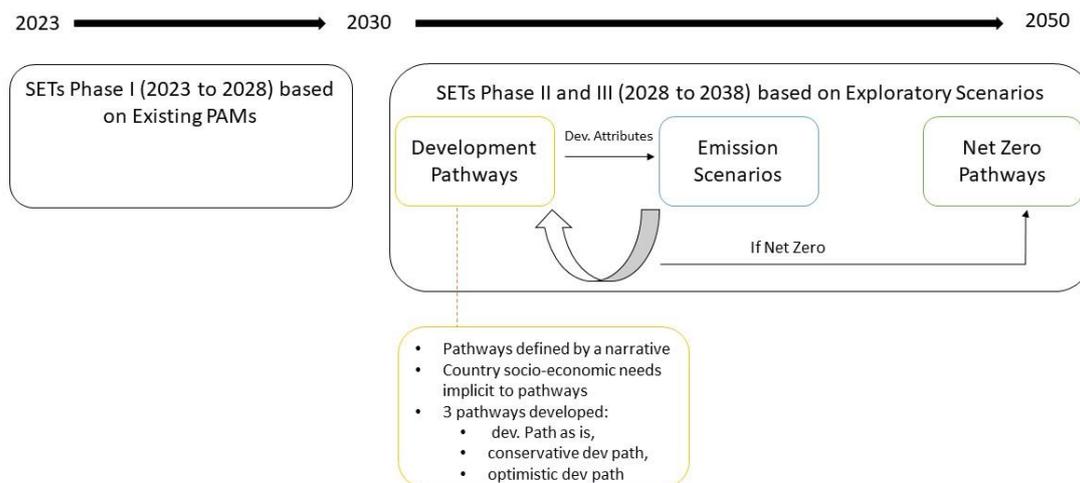
The first being an evaluation of policies and measures (including all environmental and socio-economic PAMs that may be considered in the SETs process) and mitigation activities through to 2030 using the DFFE Integrated model. It will involve assessing existing policies and measures in terms of a) policies and measures and related activities are implemented as is, b) policies and measures and related activities do not achieve implementation as planned and c) policies and measures and related activities implemented with increased ambition. This component of the work will result in updating the GHG Emissions Pathways and PAMs sub models of the DFFE Integrated model. This assessment will feed into the development of the near-term SETs (2023 to 2028) in Scope 3 of these ToRs.

The second output will be a set of three Development Pathways that achieve net zero in 2050. The Development Pathways are to be developed similar to the way that the Dinokeng scenarios (visit <https://www.dinokengscenarios.co.za/>) on governance were developed except that they will consider (but not be limited to) country circumstances (e.g. national development plan), sectoral transformation objectives and targets (these in turn will help to inform future sectoral policy making) to deal with the triple challenge of poverty, inequality and unemployment and general improvement in the quality of life of an ordinary South African Citizen, assessment of the land-water-energy nexus, transport-human settlement-spatial planning nexus, plausible investment programs and new technologies. A consultation process with relevant stakeholders facilitated by an experienced social scientist will be part of this process.

The Development Pathways will have the ambition to achieve the socio-economic needs of the country as described in the NDP and to achieve the Sustainable Development Goals (SDGs). Objectives and targets from these Development Pathways shall be used for parametrization and construction of climate change mitigation pathways and ran in an iterative

fashion until net-zero GHG emissions are achieved. The mitigation measures will be amended to achieve the developmental aspirations and net zero as close as possible. These development pathways will be modelled into the DFFE Integrated Model, using the PAMs and GHG Emissions Pathways sub models, with comprehensive socio-economic results for each developed scenario together with the associated model/s, based on the developed tool. See Figure 1 below for an illustration of the above:

Figure 1: Illustration of the process to develop SETs before 2030 and beyond 2030



1.3 Development of Sectoral Emissions Targets

The DFFE has proposed (and is currently in the process of implementing) a mitigation system to ensure that South Africa meets its international obligations highlighted above. The mitigation system comprises of three distinct but interrelated policies and measures, namely the Carbon Tax (implemented in 2019 and administered by the National Treasury), Carbon Budgets (following the gazetted Transition Period, which runs from January 2021 to December 2025, a mandatory allocation phase (Phase II) will commence on 1 January 2023), and finally SETs.

The SETs allocation framework was finalised in the 2021. These emissions reduction targets are applied at a national sectoral policy level, with responsibilities devolved to regional and local government level, and are determined through the quantification of applicable Policies and Measures (PAMs).

Within the scope of collaboration with DFFE, GIZ is seeking a service provider to develop and allocate quantitative and qualitative SETs to 7 sectors (Energy, Industry, Transport, Land, Agriculture, Waste and Environment, through the identification and quantification of applicable PAMs for the period 2023 to 2038.

The overall project objectives can be summarised as follows:

- Develop an alternate socio-economic analysis approach and development of a tool or enhancement of the existing SAM model in the DFFE Integrated Model.
- Assess the impact of policies and measures and their related activities to 2030
- Develop three (3) Development Pathways to tackle the triple challenge of unemployment, inequality and poverty as well as to transform South Africa's economy to improve the quality of life of an ordinary South African,
- Create Net Zero Development Pathways to 2050 that will allow the country to achieve developmental ambitions and net zero by 2050. These pathways will consider developmental attributes, mitigation activities (including technological and behavioural) and sector policies
- Highlight just transition related interventions (associated with the risks of the transition) that will ensure protection of jobs and safeguarding of livelihoods. Building on the Sector Jobs Resilience Plans the just transition related domestic interventions must include the assessment of the jobs and livelihood related impacts of the SETs
- Determine annualised quantitative and qualitative policy-based targets for 7 sectors (Energy, Transport, Industry, Agriculture, Land, Waste and Environment for the 2023-2050 period);
- The service provider is expected to work closely with the Chief Directorate for research and shall provide in-depth on the job training on all data analysis processes, methodologies, and models used for the analysis, and produce appropriate training materials to be used by the Department.

2. Tasks to be performed by the contractor

The contractor is responsible for providing the following services:

2.1 Project Inception Report

The appointed service provider, within 2 (two) weeks of signing of contract is expected to participate in the project inception meeting as scheduled by Project Steering Committee (PSC). The PSC will consist of the DFFE and GIZ. In this meeting, the service provider must present on high-level project methodology, schedule and implementation timelines for both scopes of work.

The appointed service provider is then expected to develop an Inception report and submit this document to the PSC within two weeks of the inception meeting. The report should document the agreements, decisions, and timelines. In addition, the report must contain an Analytical Framework, to be reviewed and approved by the PSC. The Analytical Framework should include (but not be limited to) the following content:

- Scopes of work and goal definition
- Data requirements and data acquisition plan. DFFE will support in this regard with providing available data, providing guidance on data availability and providing contacts for further data sources.
- Proposed plan to investigate update and/or develop tool to meaningfully analyse socio economic impacts of policies and measures
- Proposed method and plan to construct Net Zero Development Pathways, including the developmental attributes and consultation process

- Proposed methodology/ methodologies for the quantification of policies and measures for the development of SETs
- Proposed methodology/methodologies for the identification and determination of qualitative SETs considering the sectors that play a key role in SA meeting its updated National Determined Contribution (NDC).

Output and Deliverables

- Inception Report
- Analytical Framework

2.2 Model Improvement and Update: Development/ improvement of the Socio-Economic model as part of the integrated Model

2.2.1 Review of Existing Model

The service provider will be required to conduct a detailed review of the existing models (SAM and MCA) and evaluate these against other existing dynamic existing socio-economic models in order to identify areas for improvement and/or the possibility of adopting an off-the-shelf tool. The tool should allow for the following scenarios to be assessed, amongst others:

- A robust estimate of the investment costs required, including capital and operational costs; infrastructure required to support the path;
- An estimation of savings in term of cost and any other possible benefits and disadvantages resulting from shifting, substituting or closure of assets and/or activities as a result of the new pathway (net cost/benefit of the new pathway).
- Analyse associated activities in terms of jobs created and/or lost. This includes direct and indirect jobs that are skilled, semi-skilled or unskilled and the permanence of the jobs on a national and sectoral level.
- Analyse the increase or decrease of market demand of a sector or sub-sector (gross value added) and the associated change in overall GDP. This includes, inter alia, the increase in production and/or increase in imports to meet the needs of the country in terms of energy, raw materials, vehicles, etc.
- Analyse any other co-benefits associated with the PAMs and Projected GHG Emissions Pathways sub-models, where possible, inter alia:
 - Health impacts, e.g., reduced pollution (air, land, water, etc.)
 - Education needs: e.g., what new skills are going to be needed in a new pathway?
 - Environmental sustainability, e.g., reduced pollution (air, land, water, etc.)

A proposal of the changes, improvements and updates recommended to improve the socio-economic assessment capabilities of the Integrated Model will be presented to GIZ and DFFE.

Output and Deliverables

- A report presenting proposal of the changes, improvements and updates recommended to improve the socio-economic assessment capabilities of the Integrated Model presented to GIZ and DFFE

2.2.2 Model Improvement

The service provider will execute model improvement to address the gaps identified. Where the existing model cannot be suitably updated, or where issues cannot be rectified within the current framework, the service provider will develop additional modelling capability to address this. (Please note the intellectual property of any additional modelling capability or tools must remain with GIZ and DFFE after the closure of the project.) The service provider is tasked with ensuring the socio-economic model is dynamic, allows for qualitative and quantitative assessment of mitigation measures and provides meaningful outputs.

Output and Deliverables

- Updated Model with enhanced capacity to provide meaningful socio-economic analysis

2.2.3 Model Update Report

A Model Update Report will be produced, describing all the updates and the rationale for each, with appropriate references to best practice.

Output and Deliverables

- Model Update Report

2.2.4 Training and Training Materials

The service provider is expected to work closely with the Chief Directorate for Research and shall provide in-depth on the job training on all data analysis processes, methodologies, and models used for the analysis. This will include regular meetings with DFEE staff during data collection and input, model development process as well as structured training sessions when the actual work has been completed. For a smooth transition, the operational manual must be developed together with a “train the trainers” manual to enable DFEE to train other staff appropriately. The manual should be written in an easy-to-understand language and user-friendly step-by-step user guide.

Output and Deliverables

- Updated Train the Trainers Manual
- Structured training sessions with GIZ and DFEE

2.3 Evaluation of PAMs to 2030 and Construction of Net Zero Development Pathways to 2050

2.3.1 Evaluation of PAMs to 2030

An evaluation of policies and measures (including all environmental and socio-economic PAMs that may be considered in the SETs process) and mitigation activities through to 2030. A list

is to be compiled of the PAMs that are relevant along with the rationale for selecting particular PAMs.

The PAMs and associated activities will be evaluated for their GHG emission impacts and socio-economic impacts in the following three scenarios to 2030:

- (i) policies and measures and related activities are implemented as is,
- (ii) policies and measures and related activities do not achieve implementation as planned and,
- (iii) policies and measures and related activities implemented with increased ambition.

Quantification of approved PAMs and associated activities will take place to 2030 using the Integrated model. This may require additional modelling of PAMs that are not yet included in the Integrated Model. The appointed consultant through their designated modelling team will work closely with DFFE to update the model with the respective PAMs.

The GHG impacts and socio-economic impacts should be presented on an annual basis of the modelled PAMs.

Output and Deliverables:

- A list is to be compiled of the PAMs that are relevant along with the rationale for selecting particular PAMs
- Quantification of approved PAMs and associated activities using the Integrated Model and GHG and socio-economic impact results

2.3.2 Construction of Development Pathways to 2050

The objective of this component of the work is to construct a set of three Development Pathways that achieve net zero in 2050.

Three Development Pathways will be created through a consultative process (see reference to Dinokeng Scenarios above) with the aim of achieve the socio-economic needs of the country. The three Development Pathways to be developed include:

- Development Pathways as is,
- Conservative Development Pathway,
- Optimistic Development Pathway

The process to define the development pathways will include the drafting of draft development scenarios and refinement of the development pathways based on inputs from stakeholders in government, civil society, sectoral experts and industry. Two (2) Consultation process(es) with relevant stakeholders facilitated by an experienced social scientist will be implemented to create the Development Pathways (as per the Analytical Framework above). The service provider, in conjunction with DFFE will develop a list of relevant stakeholders to participate in the engagements.

A report to present the narrative of the pathways above in terms of the overall path, sectoral activities and socio-economic attributes will be developed and this will feed into the construction of net zero development pathways to 2050 as illustrated in Figure 1 above.

Output and Deliverables:

- Stakeholder Engagement Plan
- Draft development pathway narratives highlighting the key juncture points that require stakeholder inputs
- Collated stakeholder consultation inputs for each consultation
- Final narratives/ illustrations with substantiating information of 3 Development Pathways

2.3.3 Construction of Net Zero Development Pathways to 2050

The process will begin with translating the Development Pathways into identified economic activities that will be required to meet the developmental aspirations. These will further be described by their potential to emit GHGs, reduce GHGS or enhance carbon sequestration. These activities will also be mapped against a future policy environment, considering the policies that will drive and affect their implementation. A report is to be created that present the identified economic activities linking these with low carbon/net zero development and to a future policy environment. Considering of the evolving policy environment is needed, i.e., policies may or may not already exist.

The DFFE Integrated Model is to be used to assess for emissions scenarios based on the Development Pathways. If the emissions do not achieve net zero, the activities will be amended until national emissions reach net zero in 2050. The plausible emissions scenarios based on the development pathways will need to be workshopped with external stakeholders.

The stakeholder inputs are to be synthesized to inform a final set of Net Zero Development Pathways that will be programmed into the Integrated model. The projected socio-economic and GHG emissions impacts from the DFFE Integrated model will be presented on an annual basis.

The Development Pathway narratives developed in 2.3.2 above will be updated to reflect the path to achieve net zero by 2050.

Output and Deliverables:

- Report is to be created that present the identified economic activities linking these with low carbon/net zero development measures and to a future policy environment. This report should be accompanied by a visually appealing power point slide deck that can be used to convey the content to interested third parties
- Collated stakeholder consultation inputs
- Final Net Zero Pathways narrated with substantiating information based on the Development Scenarios derived in the previous component
- Net Zero Pathways programmed into the Integrated Model
- Presentation of GHG and socio-economic impacts of the Net Zero Pathways

2.4 Development of Sectoral Emissions Targets: Tasks

2.4.1 Confirmation of PAMs to be used for the development of SETs and preparation of draft SETs

The appointed service provider will be required to identify and/or confirm the full list of Environmental (relevant DFFE Directorate PAMs) and non-Environmental (relevant PAMs from other sectors) PAMs which have direct or indirect mitigation impacts. These are to be used for the development of SETs. The basis of the selected PAMs should be justified using the results of the 2030 mitigation pathways and the 2050 Development Pathways.

The service provider will then be required to produce a draft list of PAMS to be used as the basis for SETs, for review by GIZ and DFFE. This draft, upon approval and finalisation, will inform the Stakeholder Engagement Plan (see 2.4.2 below).

Output and Deliverables:

- Draft list of PAMs to be used for the basis of SETs, including the rationale

2.4.2 Preparation of Stakeholder Engagement Plan and Engagement with PAM Custodians

The service provider will be required to produce a Stakeholder Engagement Plan which identifies relevant PAM custodians from all sectors. A draft of this plan will be submitted to GIZ and DFFE for approval.

Following approval of the Stakeholder Engagement Plan, it is the responsibility of the service provider to execute the Plan. Once again, DFFE will provide guidance and assistance in facilitating engagements with its own Directorates, as well as other relevant Government Departments and Directorates. It is envisaged the majority of engagements will be conducted virtually.

Output and Deliverables:

- Stakeholder engagement plan
- Collated Stakeholder engagement Inputs

2.4.3 Determination of Quantitative and Qualitative SETs

The service provider will employ the methodologies highlighted in the Analytica Framework to determine qualitative and quantitative SETs.

The service provider will take into consideration the stakeholder inputs and any other information from the model analysis to prepare final draft sectoral emissions targets.

Output and Deliverables:

- Final draft of qualitative and quantitative SETs

2.4.4 Socio-Economic and Just Transition implications for Proposed SETs

Building on the Sector Jobs Resilience Plans as well as other Just transition related domestic work including the assessment of the jobs and livelihood related impacts of the SETs, the Service provide, is expected to propose Just Transition related interventions associated with the SETs implementation.

Output and Deliverables:

- Proposed Just Transition related interventions associated with SETs presented to GIZ and DFFE

Certain milestones, as laid out in the table below, are to be achieved by certain dates during the contract term, and at particular locations:

Table 1: Project Milestones

<i>Expected Output/Deliverable</i>	<i>Timeline(s)</i>
(2.1) Project Inception: (i) Inception Meeting; and (ii) Inception Report (iii) Analytical Framework	(i) Within one (1) week after signing of the contract (ii) Two (2) weeks after inception meeting (iii) One month (1) after inception meeting
(2.2.1 – 2.2.2) Model Improvement and Update: (i) A report presenting proposal of the changes, improvements and updates recommended to improve the socio-economic assessment capabilities of the Integrated Model presented to GIZ and DFFE (ii) Improved/Updated dynamic socio-economic model	(i) Three months (3) months after signing of the contract (ii) Seven (7) months after inception meeting
(2.2.3) Model update report (i) Report detailing all model updates (content and functionality)	(i) Eight (8) months after inception meeting
(2.2.4) Training and Training Material	(i) Twelve months (12) after project inception meeting

<ul style="list-style-type: none"> (i) Structured training sessions during and/or following completion of actual work (ii) Operational manual and train the trainers manual 	<ul style="list-style-type: none"> (ii) Twelve months (12) after project inception meeting
<p>(2.3.1) Evaluation of PAMs to 2030</p> <ul style="list-style-type: none"> (i) A list is to be compiled of the PAMs that are relevant along with the rationale for selecting particular PAMs (ii) Quantification of approved PAMs and associated activities using the Integrated Model and GHG and socio-economic impact results 	<ul style="list-style-type: none"> (i) Three (3) months after project inception (ii) Nine (9) months after project inception
<p>(2.3.2) Development Pathways to 2050</p> <ul style="list-style-type: none"> (i) Identification of socio-economic attributes to be included (ii) Stakeholder Engagement Plan (iii) Collated stakeholder consultation inputs for each consultation (iv) 3 Development Pathways narratives with substantiating information 	<ul style="list-style-type: none"> (i) Three (3) months after project inception (ii) Four (4) months after project inception (iii) Six (6) and Ten (10) months after project inception (iv) Ten (10) months after project inception
<p>(2.3.3) Net Zero Development Pathways to 2050</p> <ul style="list-style-type: none"> (i) Report is to be created that present the identified economic activities linking these with low carbon/net zero development measures and to a future policy environment and draft Net Zero Pathways (ii) Collated stakeholder consultation inputs (iii) Final Net Zero Pathways narrated with substantiating information based on the Development Scenarios derived in the previous component 	<ul style="list-style-type: none"> (i) Thirteen (13) months after project inception (ii) Fourteen (14) months after project inception (iii) Fifteen (15) months after project inception (iv) Sixteen (16) months after project inception (v) Sixteen (16) months after project inception

<p>(iv) Net Zero Pathways programmed into the Integrated Model</p> <p>(v) Presentation of GHG and socio-economic impacts of the Net Zero Pathways</p>	
<p>(2.4.1) Confirm PAMs to be used for SETs allocation</p> <p>(i) Draft list of SETs and associated PAMs submitted for GIZ and DFFE review</p>	<p>(i) Eighteen (18) months after inception meeting</p>
<p>(2.4.2) Preparation of Stakeholder Engagement Plan and Engagement</p> <p>(i) Draft Stakeholder Engagement Plan submitted for review and approval</p> <p>(ii) Stakeholder Consultation Report, including comments and response database</p>	<p>(i) Eighteen (19) months after inception meeting</p> <p>(ii) Twenty-two (22) months after inception meeting</p>
<p>(2.4.3) Determination of Quantitative and Qualitative SETs</p> <p>(i) Complete report including all quantitative and qualitative SETs and supporting rationale and calculations</p>	<p>(i) Twenty-four (24) months after inception meeting</p>
<p>2.4.4. Socio-Economic and Just Transition implications for Proposed SETs</p> <p>(i) Proposed Just Transition related interventions associated with SETs presented to GIZ and DFFE</p>	<p>(i) Twenty-four (24) months after inception</p>
<p>General Project Management:</p>	<p>(i) Bi-weekly catch-up meetings with PSC</p>

<p>(i) Regular meetings with DFEE staff during data collection and input, model development process</p> <p>(ii) Final project report</p>	<p>(ii) Twenty-four (24) months after inception</p>
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Period of assignment: From 1 October 2022 until 1 October 2024.

3. Concept

In the bid, the bidder is required to show how the objectives defined in Chapter 2 are to be achieved, if applicable under consideration of further specific method-related requirements (technical-methodological concept). In addition, the bidder must describe the project management system for service provision.

Technical-methodological concept

Strategy: The bidder is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1). Following this, the bidder presents and justifies the strategy with which it intends to provide the services for which it is responsible (see Chapter 2).

The bidder is required to present the actors relevant for the services for which it is responsible and describe the **cooperation** with them.

The bidder is required to present and explain its approach to **steering** the measures with the project partners and its contribution to the results-based monitoring system.

The bidder is required to describe the key **processes** for the services for which it is responsible and create a schedule that describes how the services according to Chapter 2 are to be provided. In particular, the bidder is required to describe the necessary work steps and, if applicable, take account of the milestones and contributions of other actors in accordance with Chapter 2.

The bidder is required to describe its contribution to knowledge management for the partner and GIZ and promote scaling-up effects (**learning and innovation**).

Other specific requirements

The service provider will be required to successfully coordinate, implement and achieve the above set out objectives in Section 1 and deliverables in Section 2.

Project management of the contractor

This project will be managed by GIZ with guidance and support provided by the DFEE through an established project steering committee. The project steering committee will be established which will be responsible for providing technical guidance to the project.

The bidder is required to explain its approach for coordination with the GIZ project, the relevant DFEE Chief Directorate and stakeholders.

In addition to the reports required by GIZ, in accordance with General Terms and Conditions of Contract (GTCC) for supplying services and work 2022, the contractor submits the following reports:

- Inception report;
- Brief bi-monthly reports on the implementation status of the project (max 5 pages), with bi-weekly project summary emails; and
- Overall project Final report.

The bidder is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the bid; the plan includes information on assignment dates (duration and expert days) and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule.

The bidder is required to explain its approach for coordination with the GIZ project.

- The bidder is responsible for selecting, preparing, training, and steering the experts (international and national, short and long term) assigned to perform the advisory tasks.
- The bidder makes available equipment and supplies (consumables) and assumes the associated operating and administrative costs.
- The bidder manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.
- The bidder reports regularly to GIZ in accordance with the GTCC of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH from 2022

Details about Backstopping

The bidder is required to describe its backstopping concept. The following services are part of the standard backstopping package, which (like ancillary personnel costs) must be factored into the fee schedules of the staff listed in the bid in accordance with section 5.4 of the GTCC:

- Service-delivery control
- Managing adaptations to changing conditions, including expert change/replacement.
- Ensuring the flow of information between GIZ staff and DFFE.
- Process-oriented technical-conceptual steering of the consultancy inputs
- Securing the administrative conclusion of the project
- Ensuring compliance with reporting requirements
- Providing specialist support for the on-site team by staff at company headquarters
- Sharing the lessons learned by the bidder and leveraging the value of lessons learned on site

The Service Provider/s must guarantee the presence of a senior technical person in charge throughout the duration of the contract. If the senior person has to leave the project, a period of at least a month is required, in which the senior person must work parallel with the next person (senior consultant with similar expertise and equal years of experience) appointed to be able to transfer skills and knowledge.

4. Personnel concept

The bidder is required to provide experts who are suited to filling the roster described below, on the basis of their CVs, the range of tasks involved and the required qualifications.

The below specified qualifications represent the requirements to reach the maximum number of points. Special emphasis will be on the experience in benchmarking processes.

The service provider is to present a team that can deliver on the scope outlined in section 2 above. The experts listed below are therefore to be seen as a recommendation in terms of the composition of the team. The team must consist of:

- Team leader
- Expert 1 (Stakeholder Engagement)
- Expert 2 (Climate Change Mitigation Modelling)
- Expert 3 (Socio-economic modelling and issues expert)
- Expert 4 (Lumina Analytica expert)
- Expert 5: Project intern

If a different composition is proposed then the team must still have a dedicated team leader.

However, if the bidder has an approach that requires less or more experts to conduct the work, the bidder is free to present a different approach, outlining the composition change. In that case, the maximum number of 560 days as per section 5 below shall not be exceeded.

It is expected that a multidisciplinary team or consortium will be required to successfully undertake this work. The successful service provider will have, but not necessarily limited to the following competencies:

The service provider must demonstrate sufficient technical capacity to implement the project including the number of experts who will be involved in the project. This should outline the technical backstopping capacity for the project, excluding the core (at least 4 required experts) project team.

Team leader

Tasks of the team leader

- Overall responsibility for the advisory packages of the service provider (quality and deadlines)
- Coordinating and ensuring communication with GIZ, partners and others involved in the project
- Personnel management, identifying the need for short-term assignments within the available budget, as well as planning and steering assignments and supporting local and international short-term experts
- Regular reporting in accordance with deadlines

Qualifications of the team leader

- Education/training (2.1.1): A Master's degree in the field of engineering, environmental management, economics, finance or equivalent.
- Language (2.1.2): Professional proficient business language skills in English language.
- General professional experience (2.1.3): 10 years of professional experience in the field of climate change mitigation modelling
- Specific professional experience (2.1.4): 10 years of experience in working on climate change policy, especially in the Energy, Transport, Land, Agriculture, and Waste sectors.

- Leadership/management experience (2.1.5): 6 years of management skills of complex projects or programmes.
- Regional experience (2.1.6): 5 years of experience in projects in the country of South Africa.
- Development Cooperation (DC) experience (2.1.7): N/A
- Other (2.1.8): N/A

Expert 1 (Stakeholder Engagement)

Qualifications of expert 1

- Education/training (2.2.1): A Master's degree in the field of engineering, environmental management, economics or equivalent.
- Language (2.2.2): Professional proficient business language skills in English language. Knowledge of additional official South African languages will be an added advantage.
- General professional experience (2.2.3): 6 years of experience in facilitation of large and diverse stakeholder groups.
- Specific professional experience (2.2.4): N/A
- Leadership/management experience (2.2.5): N/A.
- Regional experience (2.2.6): 5 years of experience in projects in the country of South Africa.
- Development Cooperation (DC) experience (2.2.7): N/A.
- Other (2.2.8): N/A.

Expert 2 (Climate Change Mitigation Modelling)

Qualifications of expert 2

- Education/training (2.3.1): A Master's degree in the field of engineering, environmental management, economics or equivalent.
- Language (2.3.2): Professional proficient business language skills in English language. Knowledge of additional official South African languages will be an added advantage.
- General professional experience (2.3.3): 5 years of experience in the field of climate change mitigation modelling
- Specific professional experience (2.3.4): N/A
- Leadership/management experience (2.3.5): N/A.
- Regional experience (2.3.6): 5 years of experience in projects in the country of South Africa.
- Development Cooperation (DC) experience (2.3.7): N/A.
- Other (2.3.8): N/A.

Expert 3 (Socio-economic modelling and issues expert)

Qualifications of expert 3

- Education/training (2.4.1): A post-graduate degree in the field of social sciences, development studies or equivalent.
- Language (2.4.2): Professional proficient business language skills in English language. Knowledge of additional official South African languages will be an added advantage.
- General professional experience (2.4.3): 6 years of experience in conducting socio-economic modelling. Training and/or experience in Future Studies would be an added advantage.
- Specific professional experience (2.4.4): 6 years of experience in working on socio-economic issues and solutions to developmental problems that exist in South Africa.
- Leadership/management experience (2.4.5): N/A.

- Regional experience (2.4.6): 5 years of experience in projects in the country of South Africa.
- Development Cooperation (DC) experience (2.2.7): N/A.
- Other (2.2.8): N/A.

Expert 4 (Lumina Analytica expert)

Qualifications of expert 4

- Education/training (2.5.1): A Master's degree in the field of engineering, environmental management, economics or equivalent.
- Language (2.5.2): Professional proficient business language skills in English language. Knowledge of additional official South African languages will be an added advantage.
- General professional experience (2.5.3): 3 years of experience in using Lumina Analytica.
- Specific professional experience (2.5.4): N/A
- Leadership/management experience (2.5.5): N/A.
- Regional experience (2.5.6): 5 years of experience in projects in the country of South Africa.
- Development Cooperation (DC) experience (2.5.7): N/A.
- Other (2.5.8): N/A.

The Climate Support Programme (CSP) has a project-based intervention which aims to enhance capacities within the field of climate change and related topics in South Africa. As a means of implementation, it is required that the appointed service provider takes on board an additional capacity in the form of an intern, to capacitate and expose them to various tasks during project implementation. The training should range from meeting attendance and participation, data collection, support project management and conducting research activities. To measure the involvement of the intern, DFFE/GIZ will interview the intern and their mentors/supervisors to see what skills they were exposed to during project execution. The intervention targets individuals from a previously disadvantaged background who possess an undergraduate and/or postgraduate qualification or equivalent in a similar field as the project in question. The appointment period is always recommended to be linked with the project period in question.

Expert 5: Project intern

Qualifications of project intern

- Education/training (2.6.1): An undergraduate or post-graduate degree in environmental science, geography, chemical engineering, science, or economics, or related field.
- Language (2.6.2): Proficiency in the English language as a medium of communication.
- General professional experience (2.6.3): Basic computer and communication skills, reliable and available to participate full-time in the project or may be studying part-time.
- Specific professional experience (2.6.4): N/A
- Leadership/management experience (2.4.5): N/A
- Regional experience (2.6.6): N/A
- Development Cooperation (DC) experience (2.6.7): N/A
- Other (2.6.8): N/A

Soft skills of team members

In addition to their specialist qualifications, the following qualifications are required of team members:

- Team skills
- Initiative

- Communication skills
- Sociocultural competence
- Efficient and client-focused working methods
- Interdisciplinary thinking

The Service Provider/s must **guarantee** the presence of a senior technical person in charge throughout the duration of the contract. If the senior person has to leave the project, a period of at least a month is required, in which the senior person must work parallel with the next person (senior consultant with similar expertise and equal years of experience) appointed to be able to transfer skills and knowledge.

The Service Provider/s **must** inform the GIZ **in writing** of any staff changes to the project team as set out in the technical proposal. The Service Provider **must also submit the CV** of the relevant expert that will join the team in addition to the written communication after which the GIZ will approve the personal change.

5. Costing requirements

Assignment of personnel

Team leader: On-site assignment

- Expert 1: Assignment in country of assignment
- Expert 2: Assignment in country of assignment
- Expert 3: Assignment in country of assignment
- Expert 4: Assignment in country of assignment
- Expert 5 (Intern): Assignment in country of assignment for 90 expert days

The service provider is expected to cost for all 560 expert days including the interns 90 days.

These should also include **travel days** and **stakeholder engagement meetings**.

Travel

The bidder is required to calculate the travel by the specified experts and the experts it has proposed based on the places of performance stipulated in Chapter 2 and list the expenses separately by daily allowance, accommodation expenses, flight costs and other travel expenses.

If restrictions are introduced to combat coronavirus/COVID-19 (restrictions on air travel and travel in general, entry restrictions, quarantine measures, etc.), GIZ and the contractor are obliged to make adjustments to their contractual services to reflect the changed circumstances on the basis of good faith; this may involve changes to the service delivery period, the services to be delivered and, if necessary, to the remuneration Workshops, meetings, and presentations.

The contractor must implement the following meetings in addition to the inception meeting:

- Monthly project progress meetings.
- Presentation of the preliminary and the final results to the PSC.

Workshops, training

The service provider implements the following workshops/study trips/training courses:

- Six (6) Bi-weekly trainings to DFFE officials on the updated model. The training is to be linked to the Train the Trainers manual specified in section 2.2.4.
- At least thirteen (13) Stakeholder engagements are expected as part of the following components:
 - 2.3.3 Development Pathways to 2050: At least two (2) stakeholder engagements
 - 2.3.4 Net Zero development pathways to 2050: At least two (2) stakeholder engagement
 - 2.4.2 Preparation of Stakeholder Engagement Plan and Engagement for determining SETs: At least seven (7) bilateral engagements and at least two (2) inter-governmental engagements

6. Inputs of GIZ or other actors

DFFE will make the following available:

- The latest version of the DFFE Integrated Model in Lumina Analytica.
- Official project letters for the purposes of stakeholder consultations.

7. Requirements on the format of the bid

The structure of the bid must correspond to the structure of the ToRs. In particular, the detailed structure of the concept (Chapter 3) is to be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). It must be legible (font size 11 or larger) and clearly formulated. The bid is drawn up in English language.

The complete bid shall not exceed 10 pages (excluding CVs).

The CVs of the personnel proposed in accordance with Chapter 0 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages. The CVs must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English language.

If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment.

Please calculate your price bid based exactly on the aforementioned costing requirements. In the contract the contractor has no claim to fully exhaust the days/travel/workshops/ budgets. The number of days/travel/workshops and the budget amount shall be agreed in the contract as 'up to' amounts. The specifications for pricing are defined in the price schedule.

8. Other Requirements

- Please submit your proposal (technical and price proposal) in separate files/folder to ZA_Quotation@giz.de no later than **7th October 2022** all documents must be in PDF.
- Please do not mention any price for this measure on your cover letter/Technical proposal.
- Please submit your tax clearance certificate with the bidding documents.
- Please submit your price proposal in ZAR.
- Our General Terms of Conditions (attached) shall not be changed/amended should you be the winner of this tender. These General Terms and Conditions will form part of the contract should you be awarded this contract. By submitting your proposal, we will conclude that you have read and accepted these terms and conditions.
- Participating more than once in same tender is not allowed and it will lead to your proposal as well as that of the company where you appear more than once being disqualified. The responsibility rests with the companies to ensure that their partners/experts are not bidding/participating more than once in same tender.
- **Bidders are not allowed to communicate directly with any other person regarding this bid other than the procurement official/s. Failure to comply with this requirement may lead to your bid being disqualified.**
- Bidders must strictly avoid conflicts with other assignments or their own interests. Bidders found to have a conflict of interest shall be disqualified. Without limitation on the generality of the above, Bidders, and any of their affiliates, shall be considered to have a conflict of interest with one or more parties in this EOI and tender process, if they:
 - a) are or have been associated in the past, with a firm or any of its affiliates which have been engaged by GIZ or the Interim Supply Chain Management Council to provide services for the preparation of the design, specifications, Terms of Reference, cost analysis/estimation, and other documents to be used for the procurement of the services in this selection process;
 - b) were involved in the preparation and/or design of the programme/project related to the services requested under this EOI and tender;
 - c) are serving or have been serving in the past three months in the structures of the Interim Supply Chain Management; or
 - d) are found to be in conflict for any other reason, as may be established by, or at the discretion of GIZ.

Scientific data

In the event of any uncertainty in the interpretation of a potential conflict of interest, Bidders must disclose to GIZ, and seek GIZ's confirmation on whether or not such a conflict exists.

- Similarly, the Bidders must disclose in their proposal their knowledge of the following:

- a) if the owners, part-owners, officers, directors, controlling shareholders, of the bidding entity or key personnel are family members of GIZ staff involved in the procurement functions and/or the Interim SCM Council or any Implementing partner receiving services under this EOI or tender; and
- b) all other circumstances that could potentially lead to actual or perceived conflict of interest, collusion or unfair competition practices.

NB: Please note that a non-compulsory information session, hosted by the GIZ and DFFE, will be held on the 28th September 2022 @ 11h00 at the GIZ South Africa office Pretoria offices. This session will aim to provide further context and information regarding the TOR and answer any questions that potential bidders may have. Only one representative per company

- **Failure to disclose such an information may result in the rejection of the proposal or proposals affected by the non-disclosure.**
- **Questions & Answers will be placed on the link provided.**
- **Bids sent via Dropbox and WeTransfer will not be accepted.**

Annexes

Annexure A: Additional Background to the role of SETs in the Mitigation System

The purpose of this addendum is to provide additional context to the purpose of the ToRs to better inform potential service providers of how this work will fit into the short- and long-term work of the Department.

The Climate Change Act (forthcoming) identifies key components of the national climate change mitigation system to include a carbon tax (administered by National Treasury), Carbon Budgets and Sectoral Emission Targets. These mechanisms will jointly contribute to the National climate objectives, targets and ambitions of the country, which is communicated within the Nationally Determined Contribution (NDC) and the South Africa's Low Emissions Development Strategy (SALEDS). The NDC includes a climate mitigation target in the near and medium term, and it will be updated at 5-year intervals. The current NDC, South Africa's

First NDC, 2020/21 Update, includes a GHG emissions target for 2025 (398 to 510 MT CO₂e) and 2030 (350 to 420 Mt CO₂e). Furthermore, a long-term climate ambition has been stated in the country Low Emissions Development Strategy (LEDS) to achieve net zero emissions by 2050.

The SETs mechanism is intended to drive transformative climate action across key sectors of the economy and they will be directly interlinked with sector Policies and Measures (PAMs). The SETs will not directly be linked to industry, however, they will contribute to providing an enabling environment for industry to make deeper GHG emission reductions. The sectoral targets are to be allocated for two time horizons as follows; (a) mid-term (2021-2030) and for the long term (2031-2050). The mid-term SETs are meant largely to drive the implementation of the updated Nationally Determined Contribution (NDC). The SETs aligned to the long-term period are indicative in nature and meant to drive the transformative agenda to realise Net-Zero carbon emissions by 2050.

The social and economic issues facing the country are significant and Government recognises that a low carbon future cannot be planned outside the urgent socio-economic needs of the country. It is with this acknowledgement that DFFE plans to ground the climate mitigation work within the socio-economic needs of the country. This is to say that Net Zero is not itself an objective function but rather an outcome of a positively transformed socio-economic reality as an objective function.

The GIZ and DFFE, with the assistance of the procured service provider, is conducting this work to be used as a basis to inform SETs over the short, medium and long term, up to mid-century. The SETs allocated in the short term will need to be forward looking to be able to contribute to a low carbon development path along an adequate timeline that will achieve the long-term aspirations found within the Development Pathways to be constructed in this work.

As presented in the ToRs, the core of this work is the creation of Net Zero Development Pathways that seeks to achieve a just, fair, prosperous and equitable country, that maps out economic activities, technology needs, behavioural change, key linkages between important clustering such as energy-water-land nexus and transport-spatial planning-human settlements and will lead to a net zero climate outcome. The starting point of this work and the emphasis should be to define who we want to be in terms of socio-economy and to work backwards within the plausible availability of technology, economic activities and institutional structures of the country that will allow for a net zero climate future. It is in our perspective that the changing variables of the development pathways to achieve net zero will be economic activities.

The end of this project will result in the identification of sectoral emissions targets over three 5-year phases that are grounded in a future, defined policy landscape that will enable society to achieve the developmental aspirations and a net zero climate future for the country.