Terms of Reference
for consultancy services for technical assistance with TIMES model to support the NDC implementation process in Georgia

for

the Climate Action Enhancement Package

Tentative Time period: 20.07.2020 – 01.02.2021

1. Background information

The Climate Action Enhancement Package (abbreviated CAEP, pronounced "cap") is a new offering of the NDC Partnership designed to deliver targeted, fast-track support to countries to enhance the quality, increase the ambition, and implement nationally determined contributions (or NDCs).

Under the Paris Agreement, countries revise their NDCs every five years to cut greenhouse gas emissions to limit Earth's temperature rise and implement solutions to adapt to the effects of climate change. The updating of NDCs presents countries with significant opportunities to align their climate and development agendas to promote sustainable growth, but also presents challenges in reinventing policies and operations and mobilizing enough investment.

Since its launch in July 2019, two rounds of CAEP support and a call for supplemental requests have been administered, and requests for support received from 65 member countries. Full details on CAEP support can be found here.

In the context of the CAEP programme, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH on behalf of the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) provides support to Georgia to strengthen their in-country capacities for the implementation of the country's NDC.

Georgia is in the process of updating its NDC and accordingly raising its ambition. Georgia plans to raise ambition every 5 years as it is required by the Paris Agreement mandatory NDC cycle. To ensure transparency and highest potential of the mitigation efforts and facilitate at a later stage the monitoring of progress towards NDC achievement, the use of internationally recognized and approved models is needed. The TIMES tool was selected by Georgia to produce a least-cost energy system, optimized according to a number of user constraints, over medium to long-term time horizons. It is used for, "the exploration of possible energy futures based on contrasted scenarios".

On its request to the NDC Partnership Support Unit, Georgia's Ministry of Environmental Protection and Agriculture (MEPA) requested technical assistance on the TIMES model to support the NDC implementation covering the following training activities: 1)TIMES tool calibration; 2)Managing Scenarios in ANSWER and Submitting a Model Run; 3)Adjusting the Load Duration Curve; 4)Forecasting Demands; 5)Development of reference and alternative scenarios; 6)Running the model and results analysis.
In order to increase the transparency and buy-in of the mitigation scenarios developed under the TIMES model supporting the NDC implementation process in Georgia, the results will be promoted among the stakeholders through awareness raising activities campaigns demonstrating the multiple benefits from the implementation of activities linked to low emissions development and NDC implementation.

In order to provide technical assistance for the TIMES model effective functioning an experienced team of experts will be hired to calibrate the model and develop reference and alternative scenarios, as well as delivering results from the model. Additionally, the experts are expected to develop a training programme adapted to Georgia's circumstances agreed with MEPA and conduct targeted trainings for the technical team at the relevant ministries responsible to develop the mitigation scenarios in the country. The training materials and manual will be delivered to MEPA and backstopping support will be provided during the operation of TIMES after the training is completed. Further, one expert will be participating in an initial meeting with key stakeholders from central government and municipalities, private sector and non-governmental representatives, scientific and research institutes for sharing the principles and basic assumptions used for the TIMES tool. Additionally, one expert will also participate at a scoping meeting with all key stakeholders for raising their awareness of the mitigation scenarios and potential programmes addressing the multiple benefits of NDC implementation and low emissions development. Finally, one expert will also participate at a validation meeting with all stakeholders for presenting the final results in form of cost-effective mitigation measures identified by the TIMES model.

2. Objectives

With this background, the technical assistance in the use of TIMES model in Georgia follows four overarching goals:

1. Use of the TIMES model to produce a least-cost energy system, optimized according to the country's national circumstances, over medium to long-term time horizons.
2. Contribution to ambition raising not only for this NDC update cycle, but also in the following cycles;
3. Build institutional and technical capacity relevant for the NDC update and implementation tracking processes; and
4. National experts are capacitated in the use of the TIMES model.

To achieve these objectives, the following two activities need to be undertaken.

3. Activities

3.1. Technical assistance on TIMES model development during NDC implementation

The first activity under the contract will consist in the calibration of the model and the development of scenarios in order to obtain the results from the modelling exercise[1]. This activity will be performed by an experienced team of experts (the contractor).

In parallel to the calibration of the model and the development of the scenarios, the contractor will be responsible to prepare training materials, including presentations and exercises, as appropriate, and develop a training programme on the TIMES model adapted to Georgia's circumstances that needs to be agreed with MEPA. Targeted trainings will be conducted for the staff responsible to develop the mitigation scenarios in the country (at MEPA and/or other line ministries, to be determined with MEPA). The contractor will also provide backstopping support will be provided during the operation of TIMES tool after the training is completed.

Main target audience of the trainings are staff of relevant government agencies involved in monitoring and reporting GHG emissions and climate change mitigation activities in Georgia. The target group may be expanded in consultations with MEPA, to include other potentially relevant stakeholders, such as national research institutions, as needed. The different sessions of the training need to be designed to be applicable for both unexperienced and experienced trainees. Experts being trained with these materials and in the use of this tool should be able to gain an understanding in the modelling exercise and be in a position to at least understand data requirements for model run and scenario development as well as be able to perform some modelling exercises or adjustments on their own. Building capacities so that trainees understand the results and can share them with other relevant stakeholders is also expected. The training programme and training materials can be developed based on already existing materials and trainings with regard to the topics requested.

3.1.1. Scope of the task

The contractor will be responsible for the following tasks:

a) TIMES tool calibration;
b) Managing Scenarios in ANSWER and Submitting a Model Run;
c) Adjusting the Load Duration Curve;
d) Forecasting Demands;
e) Development of reference and alternate scenarios;
f) Running the model and results analysis;
g) Development and compilation of training materials (presentations and subsequent exercises) adapted to Georgia's context to train relevant staff at line ministries;
h) Train relevant staff at line ministries;
i) Compilation of instructions (i.e. short users' manual) on how to use the TIMES model;
j) Provide backstopping support after finalizing the training.

[1] In order to perform this activity, and in consultation with GIZ and MEPA, the contractor may convert the existing MARKAL-Georgia model to TIMES-Georgia using Starter model.

3.1.2. GIZ's responsibilities

GIZ will make sure that MEPA provides the contractor with all existing background information as well as information on the required input and scope of the modelling exercise. Further, GIZ takes over the organisation and coordination of trainings, as needed.
GIZ will make sure that MEPA acquires license for the use of TIMES model under the EU4Climate Project implemented by UNDP.

3.1.3. Working steps

The technical assistance on the TIMES model development will run until December 2020, with a potential extension until March 2021. The training concept, including presentations, exercises and instructions should be finalised by September 2020, so that training activities can be initiated on this month. The current situation with the Covid-19 pandemic will be closely monitored and if face-to-face trainings are not possible, online formats will be the preferred option. Alternatively, and in consultation with GIZ and MEPA, face-to-face training may be postponed until they can take place, if other formats are not considered an option. The working steps for the TIMES model adjustment and development of scenarios, including training of relevant staff at line ministries, include the following steps:

Technical assistance on TIMES model development during NDC implementation	
Tasks	Total working days: Up to 55 days
1. Develop initial structure of TIMES-Georgia	Up to 5 days
2. Input data for base year and calibrate the model	Up to 5 days
3. Define the repository of new available technologies and adjust users' constraints	Up to 3 days
4. Develop demand projections for each sector	Up to 3 days
5. Prepare the Baseline Scenario	Up to 5 days
6. Prepare Simple Sample Scenario(s)	Up to 7 days
7. Development of supporting tools such as analytics workbook	Up to 5 days
8. Quality assurance of model and results	Up to 7 days
9. Prepare TIMES model users' Manual	Up to 8 days
10. Preparation and delivery of trainings	Up to 7 days

3.1.4. Deliverables

1. Description of TIMES-Georgia and main data sources upon the model runs (in English);
2. Instructions (TIMES manual) on how to run the TIMES model adjusted to the Georgian context, including background information and frequently asked questions (FAQ) – (in English);
3. Recommendations for further improvement of the TIMES model, as needed (in English);
4. Presentations and materials used during the training (in English and/or Georgian, as appropriate);

5. Results of the TIMES model and Presentation of these results (in Georgian, with a short English summary).

3.2. Activity 2: Stakeholder meetings

In order to increase the transparency of the process (adjustment of the TIMES model and development of scenarios) and the buy-in of the mitigation scenarios developed under the TIMES tool supporting the NDC implementation process in Georgia, stakeholder meetings will be organized with relevant stakeholders. The goal of these meetings will be to raise awareness on the modelling exercise and its results as well as highlight the multiple benefits arising from low emission activities as defined by the model.

In the framework of this contract, up to 3 stakeholder meetings will take place. These meetings may need to take place in form of virtual exchanges, provided the Covid-19 pandemic does not allow for physical meetings:

1) Initial meeting with key stakeholders from the central government and municipalities, private sector and non-governmental representatives, scientific and research institutes for sharing the principles and basic assumptions used for the TIMES tool;

2) Scoping meeting with all key stakeholders for raising their awareness on the mitigation scenarios and potential benefits of low emissions development;

3) Validation meeting with all stakeholders for presenting the final results delivered by the TIMES model (cost-effective mitigation measures).

3.2.1. Scope of the task

The contractor will be responsible for the following tasks:

a) Preparatory calls with GIZ and the project partner MEPA before the stakeholder meetings to meet the expectations;
b) Development of draft meeting(s) agenda and finalisation in collaboration with GIZ and MEPA;
c) Moderation and provision of technical input during the meetings;
d) Guiding discussions and exchange between the participants;
e) Compilation of main conclusions and next steps discussed during the meetings latest two weeks after each of them.

3.2.2. GIZ's responsibilities

The meetings will be organised by GIZ. The partner MEPA will nominate and invite the participants. Additionally, GIZ will provide information and support on specific requests by the contractor.

3.2.3. Working steps

The meetings will take place at the start of the contract, during the development of the scenarios and at the end of the contract before closing the activities.

Stakeholder meetings	
Tasks	Total working days: 5
1. Organisation of initial stakeholder meeting no later than one month after contract begin, including agenda development and moderation and provision of technical input	1,5 days
2. Organisation of scoping meeting with all key stakeholders for raising their awareness on the mitigation scenarios and potential benefits of low emissions development	2 days
3. Final validation meeting to present results from TIMES model	1,5 days

3.2.4. Deliverables

1. Agendas, presentations and handouts used at the stakeholder meetings (in Georgian);
2. Meeting minutes, including a summary of the main issues discussed and agreed, as well as the next steps to be delivered in English (and in Georgian, as needed) latest 2 weeks after the meetings.

3.3. Competences and experience

The tasks should be fulfilled by a contractor's team of up to three staff. To cover the competences and experiences requested below, the formation of consortia is possible, but the contract will be signed with a Georgian organisation.

The contractor is required to demonstrate in-depth experience in the process of data gathering for the modelling exercise and TIMES model use. The contractor should have a minimum of 5 years' experience in modelling exercises in the field of climate change mitigation, with a focus on the energy sector but with good command of other greenhouse gas emitting sectors. The consultants need experience with conceptualizing and conducting trainings on model development for national and local stakeholders and proof comprehensive didactical skills. Experience in providing trainings and advising on the use of tools on climate change mitigation, NAMAs and greenhouse gas inventories is necessary. The consultants need excellent command of the Georgian and the English language.