Terms of Reference (ToR)
To carry out baseline assessment of GHG emission of Nepal’s health sector and prepare action plan for developing sustainable low carbon health system

1. Background

The climate is changing, primarily because of the increasing emission of greenhouse gases (GHGs) attributable to human activity. Many countries including Nepal have been facing a range of acute to long-term health impacts from climate change. Health systems which are resilient to climate change can help protect their populations from the negative impacts; and sustainable low carbon health systems can make a substantial contribution to reducing national and global emissions.

Health sector is one of the contributors of global warming. Each nation’s health sector directly and indirectly releases greenhouse gases (GHG) while delivering care and procuring products, energy consumption, transport, services, and technologies from a carbon-intensive supply chain. The health sector is a substantial contributor to greenhouse gas emissions, accounting for around 4.6% globally. A sustainable low carbon health system can make a substantial contribution to reducing national and global emissions.

The Ministry of Health and Population (MoHP) of Nepal has formally committed to the UNFCCC COP26 Health Initiatives on Climate Resilient and Sustainable Low Carbon Health Systems. The commitment made in COP26 are a major step towards in tackling the greenhouse gas emissions from health care systems. The main aim of developing sustainable low carbon health system is to decarbonize health care facilities through the use of appropriate low-carbon technology for care; low-carbon or net zero emissions building design and construction; investment in renewable energy and energy efficiency; climate-smart cooling technologies; sustainable waste, water, and transport management; and minimizing the use of high global warming potential anesthetic gases among others.

With this background, Ministry of Health and Population with support from WHO intends to develop sustainable low carbon health system. In this line, this Terms of Reference (ToR) has been prepared to carry out baseline assessment of GHG emission of Nepal’s health system including supply chains and prepare action plan for developing sustainable low carbon health system.

2. Objectives

The main objective of this assignment is to carry out baseline assessment of GHG emission of Nepal’s health sector and prepare an action plan for developing sustainable low carbon health system for developing sustainable low carbon health system.

The specific objectives are following:
- Carry out a baseline assessment of greenhouse gas emissions of country’s health system and health care facilities, including supply chains. Determine a carbon footprint or the total GHG emissions caused directly and indirectly by health sector at national level.
- Prepare an appropriate and costed action plan to develop a sustainable low carbon health system (including supply chain) which contributes to meeting the emission targets of Paris Agreement.
- Develop action plan with consideration of relevant government policies on climate change and air quality.
- Describe and analyze the role of health sector in reducing the greenhouse gas emission and recommendation to develop sustainable low carbon health system.

3. Scope of Work

The assignment should address issues which are relevant to sustainable low carbon health system. It should consider following pertinent to health system and healthcare facilities but not limited to:

- Direct emissions from facilities or directly controlled sources such as use of fossil fuels
- Indirect emissions from purchased energy and all other emissions that occur in producing and transporting goods and services, including the full supply chain.
- Major sources of emissions e.g. energy consumption; travel and transport; infrastructure, technologies and products; supply chain and food; water sanitation, hygiene and healthcare waste etc. including
  - Health workforce (staff active travel, meetings, tele-health, digital health, energy use by staff actions, staff commuting, business travel, etc.)
  - Water, sanitation and health care waste (water use, water heating & cooling, wastewater management, healthcare waste management including waste generation, processing, recycling, waste incineration, waste disposal)
  - Energy (fossil fuel use, electricity, space heating and cooling, transport)
  - Supply chain (medical equipment, non-medical equipment, anesthetic products, IT equipment, construction, business services, other procurement, food supplies, refrigerant gases for cooling systems, fuel & lubricants, generator diesel, gas etc.)
- Assessments using either “top-down” or “bottom-up” approach or hybrid approach. The field assessment should be carried out in about ten healthcare facilities with due consideration of all categories of healthcare facilities representing hill, mountain and terai ecological regions.
- Training on measuring the carbon footprint of healthcare facilities with participation from health officials, selected healthcare facilities and experts. WHO will provide support for this event separately.
- Benchmarking of GHG emission from different types of healthcare facilities and services
- Costed Action plan to reduce health sector contribution to GHG emission with target. It also includes proposed activities, time frame, budget and responsibilities among others.

3. Suggested approach and methodology:

An institution will be engaged for carrying out of this assignment. The institution should propose suitable methodologies to achieve the above-mentioned objectives. However, the following activities could serve as complementary in designing the methodology.
a. **Preparatory phase:**

It includes following but not limited to

- **Literature review:**
  
  It includes comprehensive review of existing policies, plans, studies, relevant sectoral documents on climate change & health, sustainable low carbon health system, energy, greenhouse gas emission, climatic data and existing data on Nepal’s health facilities. Some examples are Constitution of Nepal, National Climate Change Policy 2076, National Health Policy 2019, Public Health Service Act 2075, Health National Adaptation Plan (2017-2021), National Adaptation Plan (2021-2050), National Climate Change Impacts Survey 2016, Nepal Health Sector Strategy, Nepal Health Sector Strategy Implementation Plan, Second Nationally Determined Contribution 2020, Vulnerability and Risk Assessment and Identifying Adaptation Options 2021 and climate change related programme documents including other relevant national and WHO/international publications. It is suggested to review these documents critically in relevant manner – description in terms of changed contexts and relevancy.

- Explore existing data sources (population census, meteorology, health reports etc.), types and limitation or gaps.

- Selection of about ten healthcare facilities representing all types of facilities and all three ecological regions.

- Collection and analysis of greenhouse gas emission data and climate data with health perspective.

- Facilitation of training on measuring the carbon footprint of healthcare facilities in collaboration with WHO.

- Inception meeting with Management Division/DoHS/MoHP, WHO Nepal and other stakeholders as appropriate.

- Inception report with revised methodology and workplan, if any.

b. **Establish a stakeholder process**

It consists of identification of relevant stakeholders and their role in assessing the greenhouse gas emission from health sector, health impacts of climate change and identifying possible policies and programs to develop sustainable low carbon health system. They are various centres, divisions within the MoHP, Ministry of Forests and Environment (MoFE), other government agencies, academia, I/NGOs, partners, training institutes, healthcare facilities and other institutions.

It includes Advisory Group meetings (about four) and extensive consultative meetings with relevant stakeholders such as MoHP and other health agencies i. e. DoHS (EDCD, MD, HMIS), NHRC, NHTC, NHEICC, MoFE, DoHM, AEPC, NEA, development partners such as WHO, UNDP, FCD, UNEP, NGOs, private sector, other civil societies, academia and research institution.
c. **Field work:**

The field work consists of baseline assessment using defined tool on measuring the carbon footprint of healthcare facilities. At this stage, the team should mainly cover on site collection of materials and greenhouse gas emission assessment of health care facilities. It includes physical observation of selected HCFs, collection of primary and secondary information, interaction with stakeholders, etc. In addition to officials at HCF, the assessment may consider consulting with officials of health, environment, WASH related agencies, municipalities and other as appropriate. It is recommended to cover all types of healthcare facilities e.g. federal/provincial/local level public and private hospitals, PHCCs, health posts, health academic institutions etc. as sample with representation from hill, mountain and terai and all seven provinces.

d. **Analysis and write-up**

The team will compile and consolidate relevant primary and secondary information/data (qualitative and quantitative) and will draft preliminary findings. The sustainable low carbon health system will be developed on the basis of assessment, primary information and available evidence, through the review of documents, use of secondary information and extensive consultative meetings with experts and relevant stakeholders with participatory approach. The hybrid of top down or bottom-up approach or any other suitable methodology could be used for analysis of GHG emission from Nepal's health sector.

The proposed action plan should be in line with other relevant plans and programmes with due consideration of institutional capacity, resources and time frame. It is recommended to prepare costed plan and determine linkage with other stakeholders who can contribute for successful implementation of the plan.

e. **Finalization of Report**

The report “Sustainable low carbon health system” is finalized through following process:

- A draft report on “Sustainable low carbon health system” will be shared with broad stakeholders as advised by MoHP. The draft report will be shared with relevant stakeholders who potentially may use this report in order to support for developing sustainable low carbon health system in Nepal.
- Incorporation of all the feedback and comments.
- Compile them and submit the final report for approval as appropriate.

4. **Human resources**

The institution will be selected through competitive bidding with defined selection criteria. With relevant experience and expertise, it will carry out this assignment with involvement of following personnel.
<table>
<thead>
<tr>
<th>S.N.</th>
<th>Position</th>
<th>Min. Qualification</th>
<th>Preferable Experience</th>
</tr>
</thead>
</table>
| 1   | Team Leader/Environmentalist  | Master’s degree in Environmental Science/Management/Engineering or related field. A PhD is preferable. | 10 years’ general experience in relevant technical area.  
• 3 years’ professional experience on environmental health issues (Climate change, Air Quality, Energy, etc.).  
• Experience on assessment of greenhouse gas emission, action plan/strategy development, energy audit, and research studies will be an advantage.  
• Experience to develop and/or evaluate environmental health policies and programmes.  
• Organize workshops, policy dialogues, consulting and interviewing all relevant stakeholders.  
• Excellent project management capability & having experience in working with national and local governments.  
• Excellent communication skills and an ability to prepare and the development of high-quality reports. |
| 2   | Public Health Expert          | Master’s degree in general medicine, public health or related field.                 | 7 years’ general experience in relevant technical area.  
• 3 years’ professional experience in environmental related public health issues.  
• Experience on assessment, action plan/strategy development, capacity building activities and research studies on public health issues. |
| 3   | Energy Expert                 | Master’s degree in Mechanical/Electrical/Biomedical                                 | 7 years’ general experience in relevant technical area.  
• Excellent analytical skills and ability to |
The Consultant's input will be intermittent and include time required for literature review, analysis, consultative meetings with relevant stakeholders, collection of data/information, field visits, consultation with MoHP and WHO and preparation, workshop and submission of reports. The ToR for each team member will be as follows:

<table>
<thead>
<tr>
<th>S.N.</th>
<th>Position</th>
<th>Detail Tasks</th>
<th>Inputs (Man-days)</th>
</tr>
</thead>
</table>
| 1    | Team Leader/ Environmentalist | - Overall responsibility with delivery of all documents (inception report, assignment reports, final reports etc.).  
- Develop working relationship with MoHP, Management Division, WHO and other stakeholders.  
- Lead team including coordination with the team.  
- Detail review of existing & relevant documents and reports.  
- Collection of all the required data/information from various sources. | 90                |

5. Input

4. Programme Assistance

Bachelor's degree in environmental science/management/engineering, public health or related development studies.

3 years' general experience on environment related public health issues.

- Professional experience on assessment, data collection, and data analysis skills.
- Experience on supporting report writing, workshop organizing and research studies.
- Experience on working with government organizations.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Facilitate training, consultative meetings with stakeholders.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prepare and final check of report and submission on time.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Public Health Expert</td>
<td>Detail reviews of relevant materials on public health issues.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collect and analyze data and information on public health issues.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review health policies and programs.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prepare related part of report.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support Team Leader and provide technical expertise to prepare all documents.</td>
</tr>
<tr>
<td>3</td>
<td>Energy Expert</td>
<td>Detail reviews of relevant materials.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review necessary documents.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Collect (primary and secondary) and analyze data and information from health care facilities.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Prepare related part of report.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support Team Leader and provide technical expertise to prepare all documents.</td>
</tr>
<tr>
<td>4</td>
<td>Programme Assistance</td>
<td>Provide logistic and administrative support to the team.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support to collect different documents and information.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Coordinate with different stakeholders under guidance of Team Leader</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Facilitate Team Leader to organize inception meeting, training and consultative meetings etc.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Support Team Leader to prepare all documents and in other task as assigned by Team Leader.</td>
</tr>
</tbody>
</table>

6. Deliverables

The terms of the assignment shall be effective from the date of signature by both the Parties. The proposed deadlines to carry out the assignment are:

- The consultant will be expected to submit an inception report and detailed work plan showing the consultant understanding of ToR in relation to scope of the assignment within one month after signing of the contract;
- Draft report preparation and submission by sixth month of contract agreement;
- Final report with incorporation of comments by end of contract.
All deliverables (database and reports) should be submitted in hard and digital copies. All documents should be written in English. All raw data should be submitted together with the final report.

The total duration for the completion of assignment is eight months. All deliverables as mentioned above should be completed within the contract period.

7. Implementation Arrangement
The following agencies will be involved in execution of the assignment:

a. Management Division:

The Management Division (MD) under Department of Health Services (DoHS) will coordinate with relevant stakeholders and facilitate to make avail of all necessary background materials concerning the assignment. It will provide support to coordinate with other agencies and organize different consultative meetings. It will also form an advisory group for providing overall guidance and supervision for successful completion of the assignment.

The composition of Advisory Group is suggested as follows:
1. Chair: Director of Management Division under DoHS
2. Members:
   a. Chief of Multi-sectoral Coordination Section, Health Coordination Division, MoHP
   b. Section chief/representative of EDCD, DoHS
   c. Representative of NHEICC
   d. Representative of NHTC
   e. Representative from NHRC
   f. Section chief/representative from Ministry of Forests and Environment (MoFE)
   g. Representative from Department of Urban Development and Building Construction (DUDBC)
   h. Representative from I/NGO working on air quality & health issues
   i. Representative from WHO Nepal
3. Member-Secretary: Chief of Multi-sectoral Coordination Section, MoHP

The representatives from other agencies and Experts could be invited as per need basis.

b. WHO: WHO Nepal will provide technical and financial support for this assignment. It will also facilitate to provide relevant materials and support for organizing training on measuring the carbon footprint of healthcare facilities.

c. An institution: The institution will be engaged for providing consulting services for this assignment to produce different deliverables including organization of consultative meetings, workshops, logistics and submission of reports as mentioned in the ToR.
8. Copyright
Copyright for the materials produced by the institution will remain with Management Division and WHO Country Office for Nepal and includes the right to distribute the material or parts of it to other partners in Nepal and abroad.

9. Contact and communication in WHO Nepal Office:
The consultant’s team should report and maintain close contact with National Professional Officer (Environmental Health/Climate Change) at WHO Country Office for Nepal, who will be responsible for contact and communication for this assignment.