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TERMS OF REFERENCE (TOR)

Technical support for Energy Efficiency (EE) on Refrigeration and Air Conditioning (RAC) Sector
Regulations Development options for Papua New Guinea

CTCN request ref: 2016000055

1 BACKGROUND INFORMATION

The Climate Technology Centre and Network (CTCN) is the operational arm of the United Nations Framework Convention on Climate Change (UNFCCC) Technology Mechanism and co-hosted by the United Nations Environment (UNEP) in collaboration with the United Nations Industrial Development Organization (UNIDO) and supported by 11 partner institutions with expertise in climate technologies. The mission of the CTCN is to promote accelerated development and transfer of climate technologies at the request of developing countries for energy-efficient, low-carbon and climate-resilient development.

These requests for Technical Assistance (TA) are being submitted to the CTCN by the National Designated Entity (NDE) of the respective country. Eligible requests are processed by a group of selected experts who develop a Response Plan. The scope of services under these Terms of Reference shall be executed based on a restricted solicitation process where only accepted Members of the CTCN Network, are eligible to submit proposals.

In case you are not a CTCN network member yet, you may bid for implementation of the technical assistance, subject to the condition that you submit your completed application for CTCN Network membership before the last date of the bid closure and the same is acknowledged by the CTCN. Furthermore, the contract award – should your bid be selected – is conditional to your network membership application having been successfully approved by the Director of CTCN. The requirement to join the CTCN network is only relevant to the main bidder and no sub-contractors.

The maximum estimated budget for this contract is USD 95,800 and subject to a competitive bidding.

2 PROJECT CONTEXT

In Papua New Guinea (PNG), the Climate Change Development and Authority (CCDA) is the mandated government authority responsible for coordinating and implementing all activities related to climate change. The CCDA has recently adopted the Climate Change Management Act (CCMA) of 2015 and the Climate Compatible Development Management Policy (CCDM) both providing the framework to regulate and promote climate actions in PNG. The Conservation Environment and Protection Authority (CEPA) is in charge of the Refrigerant and Air Condition (RAC) sector and implements PNG's commitments under the Montreal Protocol and the phase out of Ozone Depleting Substances (ODS) from the RAC Industries. CEPAs decisions are based on the Environment Act 2000.



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Under CCMA, the draft Energy Labelling and Minimum Energy Performance Standards for Appliances, Equipment and Lighting Products Regulation 2017 is formulated and the main objective of the regulation, in accordance with Section 11(1)(c) of the Act, is to reduce anthropogenic emissions of greenhouse gases in the electricity generation sector. Electricity generation is a regulated sector under Section 53(2)(b) of the Act, the reduction of GHG emissions is expected to materialise by increasing the energy efficiency of electrical appliances, equipment and lighting products imported as well as manufactured in PNG. The regulation is addressing six product groups (Refrigerators and freezers, ACs, Incandescent Lamps, Linear Fluorescent Lamps, Compact Fluorescent Lamps, Fluorescent Lamp Ballasts) and a particular focus is made towards as the RAC sector and related equipment as these contribute to a large share of GHG emissions from electricity use.

In addition to reduce GHG emissions in the RAC sector, the CCDA has also worked collaboratively with the Conservation and Environment Protection Authority (CEPA) Unit to phase out the use of ODS in the RAC sector. It is envisioned that the phasing out of ODS will support the national AC manufacturing industry to tap into the use of cleaner alternative gases. Since PNG depends heavily on the import of AC systems, one of the key focus areas of CCDA and DEC is to create a database in order to categorise and monitor the refrigerants being imported in the ACs as well as energy efficiency of imported systems. Having such a database in place will enable the national authorities to effectively regulate imported refrigerants and AC systems to be in line with PNG's efforts to phase out HCFC gases in refrigerant and to promote air conditioning system with higher efficiency.

CCDA is currently in the process of bringing the Energy Labelling and Minimum Energy Performance Standards for Appliances, Equipment and Lighting Products Regulation 2017 into effect. The regulation is expected to be approved by the Cabinet by the end of 2017.

3 AIM OF THE CONTRACT

The overall objective of this technical assistance is to support the Government of PNG to execute and promote Energy Labelling and Minimum Energy Performance Standards for ACs. The scope of the technical assistance is limited ACs only hence the other product classes will not be directly addressed. Within ACs, the main focus of the MEPS and energy labelling standards is to ensure energy efficiency but also to ensure the phase out of ODS in the applied refringent. The MEPS and energy labelling standards address both importers and domestic manufacturers of ACs.

Within the framework of this Contract, which shall be concluded within 8 months, the Contractor will produce the following five main outputs:

- Output 1: Development of implementation planning and communication documents;
- Output 2: A market assessment, classification and database of ACs imported and manufactured in PNG, development of GHG baseline for ACs;



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- Output 3: A gap assessment analysing and providing recommendations on the enabling environment for implementation, compliance and enforcement of the MEPS and energy labelling standards;
- Output 4: Technical assessment of certification methods and processes for AC systems;
- Output 5: Training programme for relevant staff and stakeholders on implementation of MEPS and energy labelling standards.

4 SCOPE AND ACTIVITIES OF THE PROPOSED CONTRACTED SERVICES

To get a better understanding of the objectives of the request for technical assistance, the work elaborated beforehand by CTCN, as well as the necessary collaboration with the request proponent and National Designated Entity, it is recommended that the bidder refer to the complete Response Plan 2016000055 attached to this tender.

The tender includes the following Outputs, Activities and Deliverables:

Output 1: Development of implementation planning and communication documents.

The subcontractor must undertake the following activities at the beginning and at the end of the CTCN technical assistance.

Activity 1.1: Prepare a detailed work plan of all activities, deliveries, outputs, deadlines and responsible persons/organizations and detailed budget to implement the Response Plan. The detailed work plan and budget must be based directly on this Response Plan;

Activity 1.2: Based on the work plan, prepare a monitoring and evaluation plan with specific, measurable, achievable, relevant, and time-bound indicators used to monitor and evaluate the timeliness and appropriateness of the implementation. The monitoring and evaluation plan should apply selected indicators from the Closure and Data Collection report template and enable the lead implementer to complete the CTCN Closure and Data collection report at the end of the assignment (please refer to item iv below and section 14 in the Response Plan);

Activity 1.3: Prepare two-page CTCN impact description formulated in the beginning of the technical assistance and update/revised once the technical assistance is fully delivered (a template will be provided);

Activity 1.4: Complete a closure and data collection report at the end of the technical assistance (a template will be provided).



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Deliverables 1:	Delivery date
Deliverable 1.1: Detailed work plan	1 month after signing contract
Deliverable 1.2: Monitoring and evaluation plan	1 month after signing contract
Deliverable 1.3: CTCN impact description	1 month after signing contract
Deliverable 1.4: Closure and data collection report	8 months after signing contract

Output 2: A market assessment, classification and database of ACs imported and manufactured in PNG, development of GHG baseline for ACs

Activity 2.1: Undertake a market assessment to understand the (i) types of AC technologies being imported and manufactured in PNG, main channels for import and distribution, price levels, value chain, etc. (ii) current energy efficiency level of the AC equipment in the country as well as ODS content in applied. The market assessment will include collection of empirical data from importers, national authorities (customs) and manufacturers as well as interviews with stakeholders.

Activity 2.2: By applying pre-defined classifications methodologies and definitions for AC systems¹, undertake a classification and grouping of the national AC systems in PNG. Classified and grouped data should be presented in Excel database which will serve as an initial national inventory for AC systems.

Activity 2.3: Use market assessment data and CDM approved Standard Baseline tool² to establish standardized baseline for ACs as well as estimate GHG emissions reduction potential of the MEPS and labelling. The baseline will not be subject to UNFCCC approval.

Deliverable 2:	Delivery date
Deliverable 2.1: Market assessment of AC systems being imported and manufactured in PNG as described in activity 2.1.	3 months after signing contract
Deliverable 2.2: Initial national inventory for AC systems and estimation of GHG emission reduction potential by the MEPS and energy labelling standards as defined in activity 2.2.	3 months after signing contract
Deliverable 2.3: Standardized baseline for ACs as well as estimate GHG emissions reduction potential of the MEPS and labelling as defined in activity 2.3	3 months after signing contract

¹ The classification should be done in accordance with the national MEPS and energy labelling standards as per the CCMA as well as international best practises.

² Link to UNFCCC methodology: http://cdm.unfccc.int/methodologies/PAmethodologies/tools/am-tool-29-v1.pdf/history_view



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Output 3: A gap assessment analysing and providing recommendations on the enabling environment for implementation, compliance and enforcement of the MEPS and energy labelling standards.

Activity 3.1: Assess the existing energy regulations, policies and institutional framework to support implementation of MEPS and Labelling programme in PNG.

Activity 3.2: Undertake gender mainstreaming assessment and related recommendations.

Activity 3.3. Based on activity 3.1 and 3.2 identify gaps and provide recommendations for an effective implementation of the MEPS and labelling programme for ACs. Furthermore, design an operational implementation plan for the MEPS and energy labelling.

Deliverable 3:	Delivery date
Deliverable 3.1: Assessment of energy regulations and policy and framework supporting MEPS and labelling for ACs.	6 months after signing contract
Deliverable 3.2: Assessment of institutional structures, mandates and responsibilities for the implementation of MEPS and labelling for ACs.	6 months after signing contract
Deliverable 3.3: Gender mainstreaming assessment.	6 months after signing contract
Deliverable 3.4: Identification of gaps, provide recommendations and define an implementation plan for the MEPS and energy labelling.	6 months after signing contract

Output 4: Technical assessment of certification methods and processes for AC systems

Activity 4.1: Undertake an assessment of national capacities and options for certification of AC systems in accordance with the MEPS and energy labelling standards. The assessment must identify the most feasible certification method to be applied by the national authorities in PNG. Assed certification methods such includes adopting mutual recognition agreements with international laboratories, possibility of establishing a domestic laboratory for testing, self-certification etc.

Deliverable 4:	Delivery date
Deliverable 4.1: Report on national capacities and options for certification of AC systems in accordance with the MEPS and energy labelling standards.	7 months after signing contract



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Output 5: Training programme for relevant staff and stakeholders on implementation of MEPS and energy labelling standards

Activity 5.1: Applying the topics and findings from Output 2, 3 and 4, develop a training programme for relevant national authorities engaged with the implementation of the MEPS and energy labelling standards for ACs.

Activity 5.2: Conduct a 1-week training programme for each of the following thematic focus areas: i) Policy and regulation; ii) import customs and tracking/classifying of AC equipment; iii) certification and technical assessment. Each training will include app. 20 relevant stakeholders.

Deliverable 5:	Delivery date
Deliverable 5.1: Training programme, training reports from three training sessions, agenda and training evaluations	8 months after signing contract

5 GENERAL TIME SCHEDULE

The activities under this contract should follow the timeline presented for each deliverable and must be completed within a period of eight (8) months from signing the contract.

6 PERSONNEL IN THE FIELD (PROFESSIONAL EXPERIENCE AND QUALIFICATIONS)

The bidder shall as a minimum present the following qualifications of the team. Please note the requirement to have national experts in the team. Additional qualifications and experts may be added to the proposal.

Experts required	Brief description of required profile
Energy efficiency policy and regulatory framework international and national experts	<p>Experience as a technical expert or implementer on standard and labelling processes, technical content, implementation and related issues, including experience in ACs sector and testing labs.</p> <p>Knowledge and practical experiences in integrated policy approach encompasses: minimum energy performance standards (MEPS); supporting policies; monitoring, verification and enforcement (MVE); and, environmentally sound management.</p> <p>Excellent skills in policy and technical writing.</p> <p>Experience with multi-cultural teams.</p> <p>Excellent communications skills.</p>



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	<p>Excellent desk research and analytical skills, combining air conditioners technology knowledge and good understanding of cooling vis-à-vis climate change mitigation, energy efficiency and developing country needs.</p> <p>Experience in capacity building and trainings.</p> <p>Fluent English.</p>
Market assessment and inventory international and national experts	<p>Experience as a market assessment expert on energy-efficient AC systems in the region</p> <p>Knowledge in the area of energy efficiency policies with a focus on developing countries in the region.</p> <p>Excellent skills in technical writing.</p> <p>Experience with multi-cultural teams.</p> <p>Excellent communications skills.</p> <p>Excellent desk research and analytical skills, combining air conditioners technology knowledge and good understanding of cooling vis-à-vis climate change mitigation, energy efficiency and developing country needs.</p> <p>Experience in capacity building and trainings</p> <p>Fluent English.</p>
Testing and certification international and national experts	<p>Experience in technical assessments and certification standards for AC systems in the region</p> <p>Experience with MEPS and energy labelling standards for AC systems, incl. underlying testing and certification.</p> <p>Excellent skills in policy and technical writing.</p> <p>Experience with multi-cultural teams.</p> <p>Excellent communications skills.</p> <p>Excellent desk research and analytical skills</p> <p>Experience in capacity building and trainings</p> <p>Fluent English.</p>



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Gender international and national experts	Experience in gender assessments and recommendations in the region
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The CVs of the respective experts assigned to this project by the Contractor must be provided.

7 LANGUAGE REQUIREMENTS

The working language for the purposes of this project is English and Tok Pisin, thus an excellent command of English and Tok Pisin is required of the proposed personnel. The final deliverables must be submitted in English. The technical and financial proposal under this tender must also be submitted in English.

All delivered documents must be of such a quality that no further editing will be required.

8 DELIVERABLES SCHEDULE

The table below details the indicative schedule for this assistance.

Deliverables 1:	Delivery date
Deliverable 1.1: Detailed work plan	1 month after signing contract
Deliverable 1.2: Monitoring and evaluation plan	1 month after signing contract
Deliverable 1.3: CTCN impact description	1 month after signing contract
Deliverable 1.4: Closure and data collection report	8 months after signing contract
Deliverable 2.1: Market assessment of AC systems being imported and manufactured in PNG as described in activity 2.1.	3 months after signing contract
Deliverable 2.2: Initial national inventory for AC systems and estimation of GHG emission reduction potential by the MEPS and energy labelling standards as defined in activity 2.2.	3 months after signing contract
Deliverable 2.3: Standardized baseline for ACs as well as estimate GHG emissions reduction potential of the MEPS and labelling as defined in activity 2.3	3 months after signing contract
Deliverable 3.1: Assessment of energy regulations and policy and framework supporting MEPS and labelling for ACs.	6 months after signing contract
Deliverable 3.2: Assessment of institutional structures, mandates and responsibilities for the implementation of MEPS and labelling for ACs.	6 months after signing contract
Deliverable 3.3: Gender mainstreaming assessment.	6 months after signing contract
Deliverable 3.4: Identification of gaps, provide recommendations and define an implementation plan for the MEPS and energy labelling.	6 months after signing contract



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Deliverable 4.1: Report on national capacities and options for certification of AC systems in accordance with the MEPS and energy labelling standards.	7 months after signing contract
Deliverable 5.1: Training programme, training reports from three training sessions, agenda and training evaluations	8 months after signing contract