

Gender Assessment and Action Plan (GAAP)

Objective of the Gender Assessment and Action Plan (GAAP):

- The GAAP should be developed in alignment with the Technical Assistance Response Plan, ensuring that gender mainstreaming is effectively integrated both throughout the implementation process and as a key outcome of the technical assistance.

Process for filling in the template:

- The GAAP form is filled by the assigned gender focal point, starting with gathering relevant data to inform the process. The form includes project details, an analysis of gender gaps using the assessment table, and actionable steps in the action plan with clear responsibilities and timelines. Once finalized, the GAAP is integrated into the TA implementation plan. Effective monitoring and reporting of gender-related outcomes should be documented in the closure report to ensure accountability and impact.

GAAP Overview and Context:

Project details	Title of technical assistance	Pre-feasibility Study on Ocean Energy focusing on Salinity Gradient Energy Technology and Electrochemical Ocean Thermal Energy Conversion
	TA Response Plan Reference Number	CTCN Request ID# 2024000020 (PCA Reference: CTCN 24-017)
	Implementing partner	Korea Institute of Energy Research (KIER) -Distributed Energy Team, Jeju Global Research Center
	Country(ies)	Papua New Guinea
GAAP purpose	Brief overview of the technical assistance objectives	The technical assistance is to conduct a pre-feasibility study of Salinity Gradient Energy (SGE), Electrochemical Ocean Thermal Energy Conversion (e-OTEC), and Blue Battery Technology in the coastal waters of Papua New Guinea. This involves assessment of technical, socio-economic and financial feasibility, oceanographic analysis using ocean models and satellite data with initial in-situ sampling, and development of a GCF Concept Note for follow-on financing. The TA also includes capacity-building activities to develop local technical and institutional capacity in cooperation with the University of Papua New Guinea (UPNG) and the National Energy Authority (NEA).
	How gender mainstreaming aligns with the TA goals	Integrating gender considerations into the technical assistance aligns with the TA goals by supporting inclusive capacity development and stakeholder engagement.

		This approach helps ensure that the benefits of the assessed marine renewable energy technologies are accessible to a diverse range of stakeholders, including women in coastal communities and women students at PNG academic institutions, and supports sustainable implementation in the national context.
Stakeholder engagement	List of stakeholders (e.g., government agencies, local organizations, community groups)	Climate Change and Development Authority (CCDA) - National Designated Entity, Water PNG; in the candidate area on the Central Province coast National Energy Authority (NEA) -Proponent Department of Petroleum & Energy Independent Consumer and Competition Commission (ICCC) Conservation and Environment Protection Authority (CEPA) PNG Power Limited (PPL) National Institute of Standards and Industrial Technology (NISIT) University of Papua New Guinea (UPNG) PNG University of Technology (Unitech) Local communities at the Kalo site (Central Province)
	Gender responsive representation demonstrating how women and marginalized groups are involved at each level	Women and marginalized groups are encouraged to participate in relevant consultations and capacity-building activities to ensure inclusive representation at different levels of the technical assistance. Specific gender-responsive measures include: (i) The KIER–UPNG young professionals workshop on marine energy held during the May 2025 PNG mission, designed with explicit gender equity considerations and providing opportunities for women students; (ii) Gender-disaggregated tracking of participation across all PSC meetings, technical seminars and the wrap-up workshop program.
Contact details	Point of contact for GAAP (Gender expert) implementation (Name, email, phone number)	Boseok Seo, Korea Institute of Energy Research (KIER) – gender focal point.

2. Gender Assessment

2.1 Overview of gender context

Brief analysis of gender roles, norms, and dynamics in the target region/sector	Papua New Guinea ranks among the lowest globally on gender equality indices with significant disparities in education, formal employment, political representation, and access to economic resources. Coastal and island communities, the principal beneficiaries of the marine renewable energy technologies considered under this TA, exhibit traditional gender divisions of labour, with women typically responsible for water collection, household energy management, fisheries-related processing, and subsistence agriculture, while men dominate technical, infrastructure, and decision-making roles in the formal energy sector; reflected in this TA, where women made up 14–22% of participants at online PSC meetings and one of the eight-member PNG delegation to the final workshop The energy and marine technology sectors in PNG are strongly male-dominated at both institutional and operational levels. Within the implementing institutions in PNG (NEA, CCDA, Department of Petroleum & Energy, PPL, ICCC, CEPA), women are present but generally underrepresented in senior technical positions. Similar gender dynamics are observed in the academic sector, although UPNG and Unitech enrol increasing numbers of women students in science and engineering disciplines. These dynamics may affect access to technical knowledge, participation in stakeholder consultations, and decision-making related to marine renewable energy technologies
A comprehensive analysis of gender barriers/necessities in the specific sector, i.e. energy, water, food systems, etc.	Gender barriers in PNG's energy and marine technology sectors include: limited access to technical training and tertiary engineering education for women; underrepresentation of women in formal energy-sector employment, particularly in operational and technical roles; limited participation of women in energy-related decision-making at household, community and institutional levels; and limited gender-disaggregated data on energy use, energy poverty and the differential impacts of energy access in coastal and island communities. Specific to ocean energy, women in coastal communities are typically among the most affected by unreliable electricity supply (which constrains healthcare, water pumping, food storage and small-business activity) and stand to benefit substantially from improved energy reliability; yet are often least represented in the technical and policy processes that shape energy investments.

	These barriers may also influence women's participation in marine renewable energy initiatives at the national level, in academic capacity-building programs, and in eventual operation and maintenance of demonstration installations.
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2.2 Gender Assessment Table

Aspect	Issues to be addressed	Findings	Sources of data
Access and use	Do women and men have equitable access to climate technologies, resources, and services provided through the TA?	Climate technologies and services supported through the TA are not inherently gender-exclusive; however, women and men in PNG may experience different levels of access due to differences in technical roles, formal-sector employment, and access to capacity-building opportunities; women were 10 of 28 people trained (~36%) The TA's training and stakeholder engagement activities, including lab-scale RED equipment installation training at UPNG, and the KIER-UPNG young professionals workshop are designed to be open and accessible to women and men participants.	Technical Assistance Response Plan and project documentation; training attendance records
	Are there gender-specific barriers to access these technologies or resources (e.g., cultural, social, economic, legal and policy framework)?	Potential gender-specific barriers in the PNG context may include: limited representation of women in formal technical training and engineering education; cultural norms that limit women's mobility and participation in technical workshops, particularly those requiring travel; limited gender-disaggregated data within PNG energy institutions; and underrepresentation of women in decision-making roles within the energy sector. These barriers can affect women's participation in marine renewable energy planning, capacity-building, and follow-on operational activities.	Technical Assistance Response Plan and project documentation.
	How does the TA address the barriers described in the general analysis in 2.2	The TA addresses identified access barriers by incorporating inclusive capacity-building activities and stakeholder consultations open to	Technical Assistance Response Plan and

		diverse participants. Specific measures include: hosting the KIER–UPNG young professionals’ workshop with explicit gender equity considerations; tracking gender-disaggregated participation in all PSC meetings, technical seminars and workshops; and ensuring that pre-feasibility study findings address the differential impacts of energy access on women and men in coastal communities. By ensuring that technical information and training opportunities are accessible to a broad range of stakeholders, the TA aims to reduce potential gender-based disparities in access to marine renewable energy technologies.	project documentation.
Participation	Are gender experts involved in all stages of the TA? Or Are consultations with women’s and gender rights organisations considered?	The gender focal point (KIER) supported the integration of gender considerations across key stages of the TA, including capacity-building and stakeholder engagement activities. No consultation with women’s or gender-rights organizations took place during the TA; this is recommended for the Funding Proposal stage.	Technical Assistance Response Plan and project documentation.
	What best practices can enhance women's participation in the TA?	Best practices applied in this TA include: designing inclusive capacity-building activities accessible to participants with varying levels of technical background; encouraging balanced participation in technical workshops and explicitly inviting women PSC members and women students; ensuring that workshop logistics (timing, location, format) accommodate diverse participants; using gender-disaggregated reporting for all events; and providing visibility for women researchers and professionals at events such as the CTCN TA cRD&D Marine Energy Specialist Workshop held on 11 March 2026 at GLAD Yeouido, Seoul. These practices help create an enabling environment for women's meaningful engagement in the TA and in the wider marine	Technical Assistance Response Plan and project documentation.

		renewable energy sector in PNG. Asking PSC institutions to nominate women alternates would have raised participation in PSC meetings.	
Leadership	Do women have leadership positions in climate technology and the specific sector?	Women remain underrepresented in leadership and decision-making positions within climate technology and the marine renewable energy sector in PNG. While the TA does not directly address leadership structures within PNG institutions, inclusive capacity-building and participation processes, and the young professionals' workshop, may contribute over time to strengthening women's technical expertise and future leadership potential in the sector.	Technical Assistance Response Plan and project documentation.
Scaling-up and transfer	Are the training materials and delivery methods designed to address gender-specific needs or challenges?	Training materials and delivery methods under the TA are designed to be inclusive and accessible to diverse participants. Materials prepared for the inception seminars, equipment training at UPNG and the young professionals workshop consider different levels of technical background and aim to minimise barriers to participation. While the technical content is not gender-specific (the underlying technologies, RED, e-OTEC and Blue Battery, apply equally regardless of operator gender), the design and delivery explicitly support balanced participation of women and men.	Technical Assistance Response Plan and project documentation.
	Are financial mechanisms or models in place to ensure accessibility for women and marginalized groups;	The TA does not involve direct financial mechanisms or cost-sharing models with end users. However, capacity-building workshops and technical seminars are designed to be accessible to participants without financial barriers. The follow-on GCF-financed project enabled by the GCF Concept Note will be expected to incorporate gender-responsive financing arrangements where applicable, in line with applicable	Technical Assistance Response Plan and project documentation.

		gender policies of the financing entity.	
	Is the technology easily maintained and operated by local communities.	The TA assesses technologies with explicit consideration for operational simplicity and local capacity. The lab-scale Reverse Electrodialysis (RED) equipment installed at UPNG provides a foundation for hands-on local operation by PNG technical staff and students, including women. By emphasising capacity-building and knowledge transfer through technical seminars, and the young professionals workshop, the TA supports the selection of technology configurations that can be operated and maintained by local institutions and, in time, by community-level operators of any gender.	Technical Assistance Response Plan and project documentation.

Gender Action Plan

Note: The information in the table below will be used by the CTCN to communicate the gender-related outcomes and expected results of the Technical Assistance (TA) through public platforms such as the CTCN website (www.ctc-n.org) and other communication channels.

The GAAP should emphasize how the TA integrates gender considerations, including i) Capacity building that addresses the specific needs of women, men, and marginalized groups in accessing and benefiting from climate technologies. ii) Gender-responsive data collection to inform equitable decision-making and policy development. iii) Actions promoting gender equity in leadership roles and access to resources within the context of climate technology.

i) Outline

Beneficiaries	Direct beneficiaries include technical experts, government officials, academic staff and students participating in the TA, including PSC members from CCDA, NEA, ICC, CEPA, PPL, NISIT, UPNG and Unitech; and attendees of KIER-UPNG young professionals workshop. Both women and men are included as direct beneficiaries. Indirect beneficiaries include local institutions and coastal/island communities, particularly in the candidate area on the Central Province coast and other PNG coastal communities, who will benefit from improved national capacity to plan and oversee marine renewable energy projects, and from the follow-on pilot/full project enabled by the GCF Concept Note. Women in these communities are expected to benefit disproportionately from improved energy reliability, given their roles in household energy management, water collection and small-scale economic activity.
Challenge	Integrating gender considerations into climate technology can be challenging in PNG, particularly in technical and infrastructure-related sectors where gender-disaggregated data and women's representation are often limited. Within the scope of this technical assistance, which focuses on analytical, capacity-building and concept-note development activities, the ability to directly address structural

	gender gaps in PNG's energy sector is constrained, but the TA supports a foundation for gender-responsive follow-on action.
Summary of gender-responsive TA implementation	Gender considerations are integrated into the technical assistance through inclusive project design, gender-responsive capacity-building activities, and stakeholder engagement processes designed to provide equitable opportunities for women, men and marginalised groups. Specific gender-responsive measures include: (i) A KIER–UPNG young professionals workshop on marine energy held during the May 2025 PNG mission with explicit gender equity considerations; (ii) Gender-disaggregated participation tracking in all PSC meetings, technical seminars and workshops; (iii) Integration of gender dimensions into the socio-economic analysis chapter of the pre-feasibility study; and (iv) Gender-responsive content in the safeguards and theory-of-change sections of the GCF Concept Note. Gender-responsive data, such as participation records from capacity-building activities, attendance at the wrap-up workshop program in Korea (8–13 March 2026), and qualitative observations on women's engagement in technical discussions, will be used to inform monitoring and reporting in the Closure and Data Collection Report.
Output statements	Key gender-responsive outputs and indicative targets: • Indicative target: approximately 30% women participation in technical workshops and stakeholder consultations under the TA (including technical seminars at UPNG, and the wrap-up workshop program). Achieved: ~22% overall (12 of 55 participants); ~36% in trainings (10 of 28); ~30% during the May 2025 mission; 14–22% in online PSC meetings; 1 of 8 PNG delegates in Korea. • Women trained on the operation of lab-scale RED equipment installed at UPNG. • Gender-disaggregated participation data captured for all PSC meetings, technical seminars, and workshops, and reported in the Closure Report (Annex 1, Output and Outcome Indicators). • Expected direct and indirect beneficiaries reported with gender disaggregation in the Closure Report Impact Statement.
Outcome statement	The technical assistance is expected to contribute to: • Short term: improved gender equity in participation and access to climate technology-related knowledge in PNG, through inclusive capacity-building and stakeholder engagement. • Long term: gender-responsive design of the follow-on GCF-financed marine renewable energy project enabled by the GCF Concept Note, and increased visibility and leadership potential of women in PNG's marine renewable energy sector.

ii) **Gender Responsive Activities** (These expected results will be revised and compared to the closure report at the end of the technical assistance)

Activities	Indicator	Expected results	Data collection ¹	Comments
Activity 1: Establishment of PSC, stakeholder mapping, and inception activities	Inclusion of gender considerations in PSC composition and inception activities. Gender-disaggregated participation in inception workshop.	Gender considerations reflected in PSC stakeholder mapping; women representatives identified within PSC member institutions where possible. Inception workshop conducted with gender-disaggregated attendance records.	PSC member lists. Inception workshop attendance sheets disaggregated by gender.	PSC member lists. Inception workshop attendance sheets.
Activity 2: Pre-feasibility study (technical, socio-economic, financial analysis)	Integration of gender perspectives in socio-economic analysis chapter. Gender-disaggregated demographic and socio-economic data on Port Moresby/ Central Province coastal communities.	Socio-economic analysis chapter to explicitly address differential impacts of energy access on women and men in PNG coastal communities. Pre-feasibility study findings to consider potential implications for diverse stakeholders, including women in coastal communities and women students at PNG academic institutions. Achieved: gender section included (PFS §7.2); community-level gender-disaggregated data not yet available; to be collected once the site is confirmed.	Pre-feasibility study report (final version).	Gender considerations integrated within analytical scope of pre-feasibility; do not imply direct operational interventions during the TA period.
Activity 3: KIER–UPNG young professionals workshop on	Number and percentage of women participants in the young	Workshop conducted at UPNG with explicit gender equity focus. Enhanced awareness	Workshop attendance sheets. Workshop	Workshop conducted as part of the May 2025 in-country mission to PNG; results

¹ Ensure data is gender-disaggregated.

marine energy (May 2025, PNG)	professionals workshop. Gender equity explicitly addressed as a workshop theme	of gender dimensions of marine energy among young professionals and students.	materials and report.	to be summarised in the Closure Report.
Activity 4: Capacity-building on lab-scale RED equipment installed at UPNG	Number of women trained on operation of RED equipment. Number of women involved in ongoing data collection from UPNG installation.	Women students and staff at UPNG actively engaged in operation and data collection from the lab-scale RED installation.	Training records. UPNG operation logs and reports.	Lab-scale RED equipment installed at UPNG provides ongoing platform for capacity-building beyond the TA period.
Activity 5: GCF Concept Note preparation and wrap-up workshop program (Korea, March 2026)	Integration of gender perspectives in GCF Concept Note safeguards and theory of change. Gender-disaggregated participation in wrap-up workshop program.	GCF Concept Note explicitly addresses gender dimensions in the C.4 safeguards section and the theory of change, in line with GCF gender policy. Wrap-up workshop program in Korea (8–13 March 2026, Jeju–Seoul–Incheon), including the CTCN TA cRD&D Marine Energy Specialist Workshop on 11 March 2026 at GLAD Yeouido, Seoul, conducted with gender-disaggregated participation; one woman (CCDA technical lead) in the eight-member PNG delegation; ~15% women at the final PSC meeting.	GCF Concept Note (final version). Workshop program attendance records disaggregated by gender.	Concept Note prepared in line with GCF Concept Note Template and accompanying gender guidance.

iii) Post-Implementation Impact Assessment

Question	Response options	Details/comments
How did gender relations impact the project implementation	Not at all, rarely, a lot, etc	[Implementer to provide brief explanation if needed.]
Did the project identify interventions to address	Explain	

gender gaps in access, use, and transfer of climate technology?		
Had your project impacted women?	Not at all, rarely, a lot, etc	[Implementer to provide brief explanation if needed.]
How did your project impact women?	○ By adapting climate tech to women's needs ○ By training women ○ Other (please specify)	[Implementer to provide brief explanation if needed.]
Success stories on gender and climate technologies	[Provide examples of success stories related to gender inclusion and climate tech.]	[Implementer to share relevant case studies or experiences.]