

South Africa-UK PACT

Terms of Reference: climate strategy and clean energy

Project 3: Comprehensive Feasibility Study for an Integrated Waste to Energy Complex in eThekweni

Grant value:

Up to £500,000 per project per financial year (Apr-Mar)

Project duration:

15 – 24 months, assumed to start in February 2025.

Deadline for submission of applications:

23 October 2024, 17:00 SAST/ 15:00 UTC

Apply through Call for Proposals web page:

www.ukpact.co.uk/south-africa-cfp-climate-strategy-and-clean-energy

The UK and South Africa have committed to work together to accelerate action on climate change while creating green jobs. To support this partnership, the UK Government is looking to extend its UK Partnering for Accelerated Climate Transitions (UK PACT) programme in South Africa with technical assistance and capacity-building projects supporting the climate strategy and clean energy sectors.

This call for proposals aims to support activities which are strategically aligned to national priorities on climate change mitigation and key policy areas identified through consultations with government counterparts.

What is South Africa-UK PACT?

UK PACT is a unique capacity-building programme. Jointly governed and funded by the UK Government's Foreign, Commonwealth and Development Office (FCDO) and the Department for Energy Security and Net Zero (DESNZ) through the UK's International Climate Finance, it works in partnership with countries with high emissions reduction potential to support them to implement and increase their ambitions for tackling climate change.

UK PACT forms a key part of the UK's technical assistance offer under the Just Energy Transition Partnership (JETP). This agreement was announced at COP26, in which the UK, alongside France, Germany, the European Union and the United States pledged US\$8.5 billion to support the Government of South Africa's plans on climate action and energy transition.



What is UK PACT already funding?

UK PACT has been partnering with South Africa since June 2020 to support the acceleration of the just transition and low-carbon economic recovery after the COVID-19 pandemic. Previous and ongoing UK PACT projects in South Africa include:

- Supporting sectoral modelling research for the evidence base South Africa used to inform its decision to submit an enhanced NDC;
- Supporting municipalities to procure the services of independent power producers;
- Assisting eThekweni municipality with designing a regional hydrogen economy strategy;
- Stimulating the growth of an embedded energy generation initiative in intermediary municipalities.

Further information on previous and ongoing projects can be found on the [South Africa-UK PACT web page](#).



What are we looking for?

As a demand-led programme, the South Africa-UK PACT Country Fund aims to align its support with the Government of South Africa's existing plans and policies. Through consultation with the Government of South Africa, UK PACT has identified key opportunities in climate strategy and policy and clean energy. We are looking to award grant funding for projects aimed at providing technical assistance and capacity-building to support a just transition.

You are currently looking at the following opportunity identified for funding within this call for proposals:

- **Project 3:** Comprehensive Feasibility Study for an Integrated Waste to Energy Complex in eThekweni

These distinct projects have been identified as the targeted interventions for the receipt of funding. Each of these projects has a number of specific expected outputs and interventions. We welcome creativity, expansion and additional suggestions from the market, but ask that applicants ensure that their applications cover the stated interventions as a minimum to ensure eligibility of their proposals.

Terms of Reference for Project 3

Comprehensive Feasibility Study for an Integrated Waste to Energy Complex in eThekweni

Government counterpart: eThekweni Metropolitan Municipality

As a demand-led programme, the South Africa-UK PACT Country Fund aims to align its support with the Government of South Africa's existing plans and policies. The British High Commission Pretoria is leading government engagement for this call for proposals. The proposed project is the result of intensive consultation with the Government of South Africa. To avoid confusion with government counterparts, we therefore do not encourage applicants to have direct engagement with government on this project during the bidding process or prior to receiving an award.

Thematic area:

Clean electricity and municipal capacity building

Project description

Aims and objectives

The project seeks to explore the technical, financial, legal, environmental, and socio-economic feasibility of an Integrated Waste to Energy Complex in eThekweni. The comprehensive feasibility study will optimise for potential commercial, environmental, and socio-economic outcomes, develop a business case for the intervention, and position the project for funding and implementation.

Background

eThekweni Metropolitan Municipality seeks to establish an Integrated Waste to Energy Complex (IWEC) to contribute towards re-industrialisation efforts, leverage the waste economy for infrastructure development, mitigate the impacts of national energy challenges on the local economy, and reduce emissions across multisectoral operations.

The IWEC project has been conceptualised in line with eThekweni's Regional Hydrogen Strategy and eThekweni's Integrated Resource Plan (IRP). It is envisaged that IWEC will operate as a baseload or mid-merit power station with the capability to deliver dispatchable service to communities and businesses in the eThekweni region. The IWEC will utilise integrated energy generation derived from sustainable municipal feedstock, solar energy, and sea water. The project will be the first of its kind in South Africa and will consist of innovative engineering design, process technologies, and resilient infrastructure that can withstand future flooding. The process design pathways will involve the following components:

- **Component 1:** Development of a municipal solid waste-to-energy facility using proven technology such as pyrolysis, anaerobic digestion or other technologies (excluding incineration) proven to achieve high conversion to provide rich gas quantities for energy generation. The feedstock will be sourced from the Buffelsdraai Landfill Site and surrounding industrial sites (see Figure 2).
- **Component 2:** Development of solar energy generation facility to generate sufficient energy for daytime load requirements and to supply an electrolysis process to derive green hydrogen production, using wastewater, sea water, and/or any other sustainable feedstock. The green hydrogen produced will be stored on-site and co-fired to generate electricity for peak demand.
- **Component 3:** Development of a green fuel production facility which will utilise the outputs produced through components 1 and 2 to produce green fuel to support the decarbonisation of the municipal transport fleet.

The indicative schematic to follow shows how the proposed components interact in support of municipal energy and decarbonisation goals:

Figure 1: Indicative conceptual schematic showing the components of the IWECC system

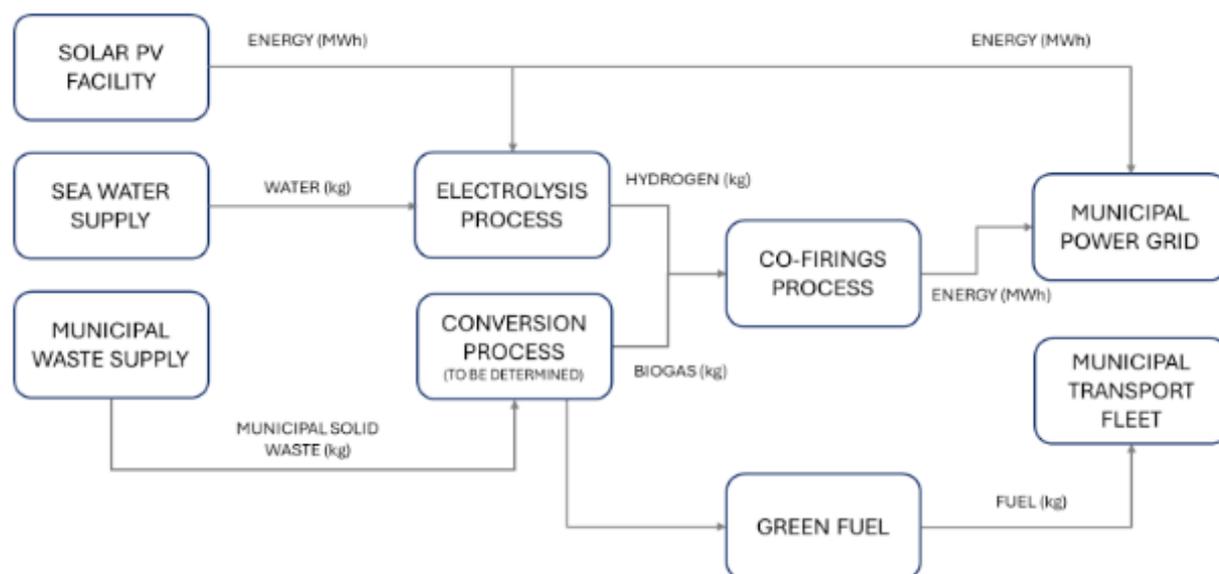
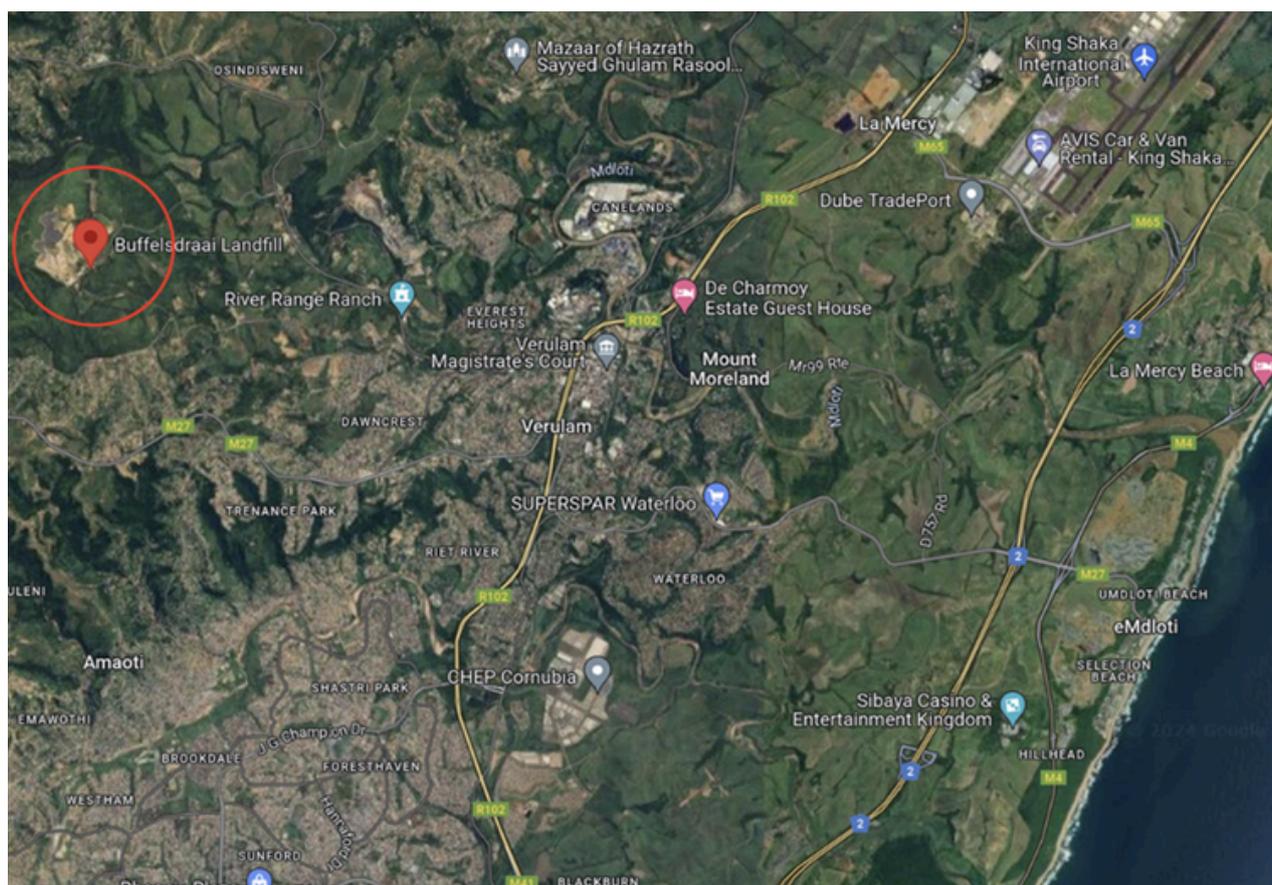


Figure 2: Location of the Buffelsdraai Landfill Site



The IWEC system outlined in Figure 1 will produce sustainable energy and fuel. The eThekweni Municipality will be the primary off-taker of both products under a Power Purchase Agreement (PPA) and Fuel Purchase Agreement (FPA), respectively. Energy will feed into the Municipality's existing transmission and distribution infrastructure, while green fuel will be sold to the Municipal transport fleet (cars, buses, and trucks) and will be available to wider industry as an alternative revenue stream to the Municipality (as proposed in the eThekweni Regional Hydrogen Strategy, linked under 'useful references', below).

Key activities:

- Define the project scope and outline the investment case (considering current municipal electricity and fuel usage and costs);
- Conduct a site assessment and document relevant site considerations, including but not limited to site and ground conditions, topography and accessibility, development rights and zoning, existing infrastructure and tie-in points, ownership and high-level assessment of the surrounding area to confirm suitability of the proposed site, and basic design data. (Alternative site options may also be considered and compared, with detailed analysis focused on the most viable site);

- Evaluate resources and process parameters, such as sourcing of feedstock, pricing, assessment of natural resources and expected energy yield. Assess the waste characteristics, separation at source, landfill gas quality and upgrading need, and necessary security interventions to secure and protect the infrastructure from theft, vandalism, or other threats during operation;
- Determine optimal project sizing and restrictions, taking into account grid integration and system constraints, location considerations (including site solar potential, etc.), physical planning and space requirements, optimal commercial targets, and other relevant factors;
- Perform a preliminary technical design, advising on technology, technical capacity and performance potential, lifetime operating considerations, waste management, and skills requirements associated with selected technologies;
 - Consider project integration with municipal infrastructure master plans;
 - Address issues of existing grid status, constraints, demand analysis, capacity and network upgrade plans, grid impact studies, energy production, and electricity evacuation;
 - Consider emissions reductions and carbon offsetting;
 - Develop technical concept and configuration of the plant, to include diagrams and preliminary layouts;
- Present key financial and technical key figures, estimating further development costs, CAPEX, and OPEX, in light of technical parameters (efficiency, lifecycle maintenance, etc.). Clearly define maintenance requirements and explore O&M business models;
- Establish viable revenue and regulatory models, addressing revenue sources, markets, support schemes or tariffs, carbon offsetting and selling, and important regulatory aspects. Explore procurement modalities and structuring options;
- Develop a business case for the project, including key financial metrics and sensitivity analysis;
- Evaluation of environmental considerations – including potential impacts, approvals to consider for implementation, as well as environmental benefits (emission reductions, carbon offsetting, etc.);
- Socio-economic evaluation – assessing local socio-economic landscape and potential benefits, including inclusive job creation and enterprise development opportunities; planning public participation and stakeholder engagement, and conducting preliminary engagement with key stakeholders (business, investors, municipal departments and leadership, etc.);
- Perform a lifecycle risk assessment – evaluating potential technical, financial, economic, political, social, environmental, safeguarding and regulatory risks and potential mitigation;
- Applicants may consider how to bolster internal Municipal capacity during the project period to enhance delivery success.

Key outputs:

- Inception and site report;
- Preliminary technical design;
- Business case (noting that a project stage-gate may apply after this output is produced);
- Procurement strategy and risk sharing methodology;
- Implementation plan;
- A comprehensive feasibility study comprising the outputs of all activities (to align with Section 120 of the MFMA the MSA, and relevant municipal PPP guidelines and procurement frameworks).

Outputs will be delivered in English, however it is noted that applicants' ability to communicate in isiZulu may support project delivery.

Envisaged outcomes and impact:

The IWECC project has potential to:

- Increase economic growth and support re-industrialisation efforts. This includes attracting funding and partnerships from Development Finance Institutions, Multilateral Development Banks, and the private sector;
- Mitigate the impact of energy system challenges on business continuity within eThekweni Municipality;
- Manage landfill capacity by diverting municipal solid waste to the IWECC facility;
- Reduce carbon emissions from landfills and across municipal operations;
- Create sustainable jobs as part of a just transition across the supply value chain (e.g. waste collection, transportation, re-use, and recycling; manufacturing of solar panels; operation and maintenance of the complex; commissioning and decommissioning of critical assets);
- Re-skill existing capacity within the Municipality to ensure assets are operated efficiently and managed effectively.

Proposed duration:

15 – 24 months (assumed start in February 2025)

Useful resources:

- [eThekweni Regional Hydrogen Strategy](#)
- [eThekweni Integrated Resource Map, Draft](#)

Important things to consider in your application:



Gender equality, disability and social inclusion (GEDSI)

All proposals must consider accessibility and inclusivity as a key action area in creating a more democratic, equitable and just transition to reduced emissions. As a result, all projects are required to mainstream GEDSI and ensure adequate expertise and resources are available throughout delivery to achieve this. Illustrative examples of potential activities include:

- Conducting a GEDSI analysis and systematically taking into account the differentiated needs, knowledge, experiences, and priorities of women, youth, and historically disadvantaged and other marginalised groups in all project activities.
- Contributing to improved evidence and policymaking to tackle energy poverty and increase energy security in South Africa.
- Conducting enhanced needs assessments and meaningfully engaging with civil society groups, including women's rights organisations and organisations of people with disabilities, to better understand energy and employment needs and opportunities.
- Ensuring that the development of a green economy is built on inclusive supply chains, removing barriers faced by small businesses, marginalised groups, and those working in sectors which may shrink over time (e.g., fossil fuels).
- Facilitating increased engagement of women, youth, poor households, people with disabilities, and historically disadvantaged and other marginalised groups in decision-making, public consultation, and participatory planning.
- Increasing the integration of GEDSI-considerations in policies, regulation, and planning processes and/ or improved implementation of these.

We will score all projects using GEDSI selection criteria to ensure that projects seek to understand and address the needs and vulnerabilities of women and marginalised groups. All proposals are required to:

- Consider the key differences in the ways that local communities, youth, women, lower-income households, marginalised groups, and people with disabilities access and use energy and contribute to the just transition. Key issues may include those of affordability, accessibility, safety, and representation.
- Identify specific outputs that would address some of the issues faced and integrate these activities through the project.
- Ensure that the project's monitoring and results framework explicitly states how GEDSI outcomes will be achieved through the project's outputs.
- To reflect FCDO's commitment to the localisation of delivery, additional consideration will be given to consortia which include local organisations, Level 1 & 2 B-BBEE contributors, women-owned entities, youth-owned entities and entities owned by people with disabilities.

Applicants are encouraged to review UK PACT's GEDSI Guidance when developing their proposals.



Budget and funding availability

Each proposal will be assessed independently. We will support projects with grants valued up to £500,000 per financial year (UK financial year, April – March). This value increases for projects longer than 12 months (i.e., the grant value for two years would be up to £1,000,000). All projects are assumed to have a start date in February 2025. The projects must have a clear indication of the outputs and outcomes expected to be achieved in the first year, as well as in each subsequent year of implementation.

Proposals can be submitted for more than one project however, separate applications should be prepared for each project.



Useful references

As a demand-led programme, the South Africa-UK PACT Country Fund aims to align its support with the Government of South Africa's existing plans and policies surrounding a just transition. Applicants are advised to refer to these references, which include:

- [eThekweni Regional Hydrogen Strategy](#)
- [eThekweni Integrated Resource Map, Draft](#)
- [Just Energy Transition Partnership](#)
- [Climate Change Act 22 of 2024](#)
- [Electricity Regulation Amendment Act 38 of 2024](#)



What is the timeline for selection?

Stage	Date
1. Terms of Reference (ToR) and application process launched	11 Sep 2024
2. Deadline for submitting clarification questions	4 Oct 2024
3. Publication of answers to clarification questions will take place every 2 weeks, starting 2 weeks after the CfP is launched. Consolidated clarifications will be published on the CfP web page. Kindly note that clarification questions will not be answered by email.	27 Sep 2024 4 Oct 2024 11 Oct 2024
4. Deadline for submission of application	23 Oct 2024
5. Applicants notified	Week of 18 Nov
6. Due diligence, co-creation and grant signing	Nov 2024 - Feb 2025
7. Projects start	Feb 2025





Application guidance

Projects will be selected through a **one-stage** open and competitive Call for Proposals. Applicants should read the **Terms of Reference** and **Applicant Handbook** to understand what is required to submit a strong proposal for this call.

The following documents form your application pack, they must be downloaded and completed in English. You may then fill in the form linked on the CfP web page. **After** submitting this form, you will receive an email containing a link to upload your application pack.

- **Project proposal template** - please ensure that you populate the proposal template as fully as possible, to avoid submitting an incomplete application.
- **Budget and workplan template** - all proposals must include an inception phase of one month in the workplan, during which time any necessary engagements with the Government of South Africa will be carried out, deliverables confirmed and theory of change finalised. At the end of this period a revised workplan may be required.
- **Project Theory of Change form**
- **Project risk and issue register template**

Additional supporting documentation may be submitted, such as CVs of key staff.

What are the eligibility criteria?

	Eligibility criteria
Applicant	<ul style="list-style-type: none">• We invite all organisations with relevant experience in delivering technical assistance and capacity-building projects. This could be think-tanks, consultancies, academic institutions, community organisations, NGOs, professional associations, or any similar organisations that have the knowledge, skills and experience to deliver an eligible project.• Proposals from private sector entities are welcomed, noting however that profit cannot be funded through grant funding and projects must be submitted on a not-for-profit basis. Companies are encouraged to refer to the Applicant Handbook for clarity on eligible costs.• Government agencies and Government departments are not eligible to receive UK PACT funding, either as a lead organisation or partner in a consortium. This includes state-owned enterprises.• We encourage consortia to apply.

	Eligibility criteria
Project	<ul style="list-style-type: none">• Proposals can be submitted for more than one project, but a consortium cannot apply more than once to the same project.• Budgets must not include tangible assets or capital expenditure.
Application	<ul style="list-style-type: none">• All applications must be coherent and legible.• All relevant sections must be completed.• Applications must be submitted in English.

What are the selection criteria?

Area	Heading	Criteria description	Weighting
Technical (70%)	Impact	The applicant clearly articulates how the project will specifically help the counterpart achieve and accelerate their goals of achieving carbon emissions reductions in relevant sectors. The applicant provides a clear impact pathway showing how their outputs will lead to the outcomes required for transformational change and identifies opportunities for replication / scaling up of activities.	15
	Project description, methodology and workplan	The applicant clearly articulates how the project responds to the terms of reference, plans to deliver the expected outputs and lays out a project plan which includes a description of the project, activities, workplan, and stakeholder engagement plan. The applicant provides a convincing rationale for the ability of the project to deliver outcomes.	25
	Gender equality, disability and social inclusion - GEDSI	The applicant clearly identifies how the project will seek to understand and address the needs and vulnerabilities of women and marginalised groups. The proposal has considered the key differences in the way that local communities, men, women, lower-income households, marginalised groups and people with disabilities are impacted by a just transition. The proposal has successfully mainstreamed GEDSI in their project and identified specific outputs that would lead to desired GEDSI outcomes.	15
	Knowledge, skills, experience, and team structure	<p>The proposed project team has relevant knowledge and experience in the subject area and has the skills in place to deliver the project. This includes knowledge, skills and experience in the specific thematic area the proposal responds to, technical assistance/capacity building, and public sector project implementation. The core skills, experience and knowledge required to deliver all elements of the project that have been outlined (including project management, monitoring and evaluation, and GEDSI mainstreaming) are covered and the team is well structured and available to mobilise quickly.</p> <p>To ensure effective knowledge transfer and capacity building, applicants must demonstrate a strong understanding of South African priorities and delivery context, as well as bringing relevant expertise required.</p> <p>Additional consideration will be given to consortia which include local organisations, Level 1 & 2 B-BBEE contributors, women-owned entities, youth-owned entities, and entities owned by people with disabilities.</p>	15

What are the selection criteria?

Area	Heading	Criteria description	Weighting
Project Management (15%)	Project management	The proposal outlines a clear plan for mobilising the project quickly and effectively. There are robust project management mechanisms to ensure activities stay on track and deliver project results. The applicant provides a clear plan for managing consortia where applicable.	10
		The applicant has clearly outlined the key risks associated with delivery with clear plans for mitigating these and an understanding of the likelihood and impact of each. This includes impacts on marginalised/indigenous groups and changing political and security contexts.	5
	Environmental sustainability	The applicant has outlined a robust approach to minimising any negative impact on the environment due to this project. For example, through minimising travel, tracking emissions, implementing environmental policies, carbon off-setting etc.	Y/N
Financial (15%)	Budget	The budget is clearly linked to the activities and outputs outlined, with appropriate allocation of time and resources, and costs that appear reasonable for the activities proposed, including sufficient allocation for project management, reporting and data collection to allow for close coordination with UK PACT.	10
	Value for money	The application provides confidence that the project will represent good value for money, including FCDO's Four Es (economy, efficiency, effectiveness, and equity). The Four Es are detailed in the Applicant Handbook.	5

How do we score each criterion?

Score	
5 (Excellent)	Demonstrates an expert understanding of the project and proposes excellent and accurate solutions which address all requirements, and which are innovative where appropriate. Responses are excellently tailored to the context in all aspects. The level of detail and quality of information provides the highest degree of confidence in the ability to deliver.
4 (Very Good)	Demonstrates a very good understanding of the topic relating to delivery of the project. Responses are relevantly tailored to the context in the majority of aspects and build very well on the solutions. There is sufficient detail and quality of information to give a strong level of confidence that they will deliver.
3 (Good)	Demonstrates a good understanding of the topic relating to the delivery of the project. Responses are reasonably tailored to the context for many of the aspects. There is a good level of detail and quality to give a good level of confidence that they will deliver.
2 (Satisfactory)	Demonstrates a satisfactory understanding of the topic relating to delivery of the project. Some appetite to tailor to context where required. Provides a limited level of detail and the quality of information provided gives only some level of confidence that they will be able to deliver satisfactorily.
1 (Unsatisfactory)	Demonstrates a poor understanding of the topic relating to delivery of the project. Poor tailoring to the context where this is required. Generally, an unsatisfactory and a low level of quality information and detail, leading to a low level of confidence that they will deliver.
0 (Fail)	Failure to address the material requirements of the project. No tailoring of responses to meet the context. No quality responses providing no confidence that they will deliver.



What to do if you have questions?

Applicants should read these terms of reference in conjunction with the Applicant Handbook for full details of how to apply. Further questions on the scope of this call for proposals can be addressed to: southafrica@ukpact.co.uk.

Clarification questions will be accepted until **17:00 SAST (15:00 UTC) on 4 October 2024** and answers will be published on the South Africa-UK PACT Call for Proposals web page.

Relevant documents

- CfP Terms of Reference
- Project proposal template
- Budget and workplan template
- Project Theory of Change form
- Project risk and issue register template
- Applicant handbook
- UK PACT's GEDSI Guidance
- Risk management guide for applicants

These will be available on the Call for Proposals web page when you apply.

UK PACT

UK Partnering for Accelerated Climate Transitions (UK PACT) is a programme funded by the UK Government. UK PACT supports countries that strive to overcome barriers to clean growth and have high emissions reduction potential to accelerate their climate change mitigation efforts.
