

Terms of reference (ToR) for the procurement of services below the EU threshold

CONFIDENTIAL

**HANDBOOK ON CIRCULAR ECONOMY IN GREEN HYDROGEN
VALUE CHAINS**

**Project number/
cost centre:
G-018088-004**

**Tender number
7000020970**

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0. List of abbreviations

AG	Commissioning party
AN	Contractor
AVB	General Terms and Conditions of Contract for supplying services and work
FK	Expert
FKT	Expert days
KZFK	Short-term expert
ToRs	Terms of reference
PtX	Power to X
GH2	Green Hydrogen
CE	Circular Economy

1. Context

In recent years, green hydrogen (GH₂) as an energy source has played an increasingly important role in the question of how countries around the world can achieve climate neutrality due its potential as a low-emission energy source and storage medium. GH₂ produced through electrolysis of water powered by “zero-carbon electricity” (energy produced by renewable or nuclear energy technologies) offers an alternative to replace fossil fuels and fossil fuel-based hydrogen. It is seen as a key element of the energy transition away from fossil fuels and offers a significant potential to decarbonise hard to abate sectors (steel production, shipping and maritime transport, heavy transportation, cement production, chemicals and fertilisers). Additionally, GH₂ enables the production of various green derivatives or end products (Power to X, PtX) such as green ammonia, methanol and synthetic fuels offering both local and global market opportunities.

South Africa aims to be a major producer and exporter of GH₂ with the desire to decarbonize the economy, create economic growth, pursue a just transition away from fossil fuels such as coal and a way to fully exploit its critical mineral resources. The country has the relevant assets for GH₂ production including renewable energy sources (solar, wind), critical minerals, available land, existing infrastructure, expertise for beneficiation into electro fuels and an industrial base as a potential domestic offtake market in addition to export destinations. The country has GH₂ set targets it aims to reach by 2050.

Circular economy (CE) aims to promote sustainable economic growth by reducing resource use and waste. CE focuses on the principles of resource efficiency, waste minimization and sustainable use of resources throughout their life cycle. It can be applied to supply chains through reducing material inputs, re-using components and products and recycling materials. Instead of relying on constant inputs of virgin materials and producing large amounts of waste, circular approaches aim to keep products, components, and materials in use for as long as possible.

By integrating GH₂ technologies within circular economy systems can support and lead to economic models that are economically and environmentally sustainable. GH₂ can play a vital role in circular economies because of its ability to decarbonise hard to abate sectors, to enable energy storage and to facilitate integration across sectors.

A comprehensive and practical handbook will support knowledge development and capacity building among stakeholders on the role of green hydrogen in enabling circular economy systems will be developed. The handbook will provide guidance to South African stakeholders (government, industry, project developers, practitioners, academia, other interested parties) involved in GH₂ sector on the integration of circular economy principles in the GH₂ value chains and of GH₂ technologies within circular carbon economy frameworks.

The handbook will provide guidance to South African stakeholders involved in green hydrogen sector in understanding:

- The role of green hydrogen in enabling circular carbon economy systems.
- Circular design across the GH₂ value chains: zero-carbon electricity supply, electrolysis, water use, power to X derivatives, by-product valorisation and end-of-life management.
- Policy and regulatory implications.
- Environmental and sustainability considerations.
- Potential socio-economic benefits for industry including small and medium enterprises (SMMEs) and communities.

- Local and international best practices for implementation.

The handbook should clearly show that circularity is not merely for environmental compliance but creates opportunities for new industries, efficient use of resources, lower operational costs and promotes localization and business competitiveness.

2. Tasks to be performed by the contractor

The contractor is required to develop a handbook to assist various South African stakeholders (government, industry, project developers, practitioners, academia, other interested parties) involved in green hydrogen on the CE strategies that can be implemented along the GH₂/PtX value chains. The contractor is responsible for providing the following services:

Task 1: Inception

- Develop and submit a project implementation plan aligned to the TORs.
- Participate in the kick-off meeting with GIZ project team to confirm expectations, scope of work and deliverables.
- Update and submit final implementation plan.

Task 2: Literature Review and Baseline Analysis

- Conduct a comprehensive desktop review of existing literature, policies and regulatory frameworks on environment, energy, industrial, and research on green hydrogen and circular economy practices.
- Analyse international, regional or local best practices and case studies on circular economy that will be relevant to green hydrogen industry (production, storage, transport, utilisation and GH₂ derivatives)
- Analyse the global and local (South Africa) drivers, barriers and gaps to the adoption and the implementation of circular strategies along GH₂/PtX value chains.

Task 3: Stakeholder Mapping and Engagement

- Identify key stakeholders relevant to green hydrogen and circular economy initiatives.
- Conduct Stakeholder consultations and interviews including site visits to GH₂/PtX where possible to gather insights and validate information.
- Document stakeholder perspectives and incorporate them into the handbook.

Task 4: Development of the Handbook Structure

- Propose a detailed outline and structure of the handbook in consultation with the project management team.
- Ensure that the handbook covers technical, environmental, social, regulatory and economic and monetary considerations related to green hydrogen in a circular economy, case studies and practical applications of circular economy principles in the GH₂ value chains.

Task 5: Drafting of the Handbook

Develop and submit the first draft of the handbook including but not limited to the following topics:

- Principles of the circular economy.
- Green hydrogen technologies.
- Integration of circular economy principles along GH2/PtX value chains.
- Integration of green hydrogen/PtX as part of circular economy systems across industry.
- Environmental, social and economic and monetary considerations.
- Policy and regulatory considerations.
- Case studies and international best practices.
- Implementation guidance for stakeholders.

Task 6: Review Workshop

- Convene a stakeholder workshop to review and validate the handbook.
- Prepare a revised version addressing all comments and feedback received.

Task 7: Finalisation and Submission

- Prepare the final version of the handbook, ensuring clarity, technical accuracy, and accessibility for the intended audience.
- Ensure that the handbook is professionally formatted and suitable for publication.
- Submit the final deliverable.

The handbook should be between 80- and 150-pages including annexures and references.

Certain milestones, as laid out in the table below, are to be achieved during the contract term:

Milestones	Deadline
Kick off meeting & Implementation plan	Within 2 weeks of contract signing
Literature review and Status Quo Report including Stakeholder Map (Analysis)	Within 15 weeks
Outline of the Handbook	Within 17 Weeks
Draft Handbook	Within 25 weeks
Review workshop	Within 27 weeks
Final Handbook	By 31/03/2027

Period of assignment: from 30 September until 30/4/2027

3. Concept

In the tender, the tenderer is required to show *how* the objectives defined in Chapter 2 (Tasks to be performed) are to be achieved, if applicable under consideration of further method-related requirements (technical-methodological concept). In addition, the tenderer must describe the project management system for service provision.

Technical-methodological concept

Strategy (1.1): The tenderer is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1 Context) (1.1.1). Following

this, the tenderer presents and justifies the explicit strategy with which it intends to provide the services for which it is responsible (see Chapter 2 Tasks to be performed) (1.1.2).

The tenderer is required to present the actors relevant for the services for which it is responsible and describe the **cooperation (1.2)** with them.

The tenderer is required to present and explain its approach to **steering** the measures with the project partners (1.3.1) and its contribution to the results-based monitoring system (1.3.2).

The tenderer is required to describe the key **processes** for the services for which it is responsible and create an **operational plan** or schedule (1.4.1) that describes how the services according to Chapter 2 (Tasks to be performed by the contractor) are to be provided. In particular, the tenderer is required to describe the necessary work steps and, if applicable, take account of the milestones and contributions of other actors (partner contributions) in accordance with Chapter 2 (Tasks to be performed) (1.4.2).

The tenderer is required to describe its contribution to knowledge management for the partner (1.5.1) and GIZ and to promote scaling-up effects (1.5.2) under **learning and innovation**.

Project management of the contractor (1.6)

The tenderer is required to explain its approach for coordination with the GIZ project. In particular, the project management requirements specified in Chapter 2 (Tasks to be performed by the contractor) must be explained in detail.

The tenderer is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the tender; the plan includes information on assignment dates (duration and expert days) and locations of the individual members of the team complete with the allocation of work steps as set out in the schedule.

The tenderer is required to describe its backstopping concept. The following services are part of the standard backstopping package, which (like ancillary personnel costs) must be factored into the fee schedules of the staff listed in the tender in accordance with Section 3.1 of the GIZ AVB:

- Service-delivery control
- Managing adaptations to changing conditions
- Ensuring the flow of information between the tenderer and GIZ
- Assuming personnel responsibility for the contractor's experts
- Process-oriented steering for implementation of the commission
- Securing the administrative conclusion of the project

4. Personnel concept

The tenderer is required to provide personnel who are suited to filling the positions described (scope of tasks and qualification) in this section on the basis of corresponding CVs. The requirements on the format and content of the CVs are described in section 6.

The below specified qualifications represent the requirements to reach the maximum number of points in the technical assessment.

The Contractor shall ensure the availability of appropriately qualified and experienced personnel to develop the Handbook in line with the requirements of the scope of work.

The staffing concept shall combine:

- Core personnel responsible for contract management, coordination and quality assurance; and
- A key expert and a pool of experts that can be mobilised on an as-needed basis.

All personnel deployed under this contract shall meet the qualification and experience requirements in line with the scope of work.

One year of professional experience' is therefore defined as a cumulative 12 expert months with at least 18 expert days per month, provided no diverging definition is specified for individual qualifications.

Team leader

Tasks of the team leader:

- GIZ contact for all administrative questions relating to the contract and the offers for the implementation of services.
- Overall responsibility for contractual compliance, performance and quality assurance.
- Ensuring the visibility requirements of the programme in coordination with GIZ and the commissioning programme.
- Coordination of expert deployment.
- Ensuring timely delivery of high-quality outputs.
- Ensuring compliance with data protection, confidentiality and non-disclosure requirements.

Qualifications of the team leader

- Education/training (2.1.1): university degree (German 'Diplom'/Master) in in Project management, Business Administration or equivalent.
- Language (2.1.2): C1-level language proficiency in English.
- General professional experience (2.1.3): 7 years of professional experience in administrative management of projects.
- Specific professional experience (2.1.4): Not Applicable.
- Leadership/management experience (2.1.5): 5 years of management/leadership experience as project team leader or manager in a company.
- Regional experience (2.1.6): Not Applicable.
- Development cooperation (DC) experience (2.1.7): 3 years of experience in DC projects.
- Other (2.1.8): Not Applicable.

Key expert 1: Scientist/Specialist in Circular Economy (section 2.2 of the assessment grid) This position is a key expert. A statement of availability for this expert must be attached to the tender as an annex.

Tasks of key expert 1

- Undertake research in collaboration with the experts involved.
- Engagement with Stakeholders
- Development of the handbook.

Qualifications of key expert 1

- Education/training (2.2.1): University degree (e.g. 'master's or German Diplom') in Environmental Management/ Environmental Sciences, Engineering, Energy Systems, Sustainability or a related field.
- Language (2.2.2): C1 -level language proficiency in English.
- General professional experience (2.2.3): 10 years of experience in Energy, Environmental Sustainability and Green economy. Strong research, analytical, and technical writing skills. Ability to synthesise complex technical information into clear and accessible guidance materials. Experience in facilitating stakeholder engagement and consultations. Proven experience in developing technical reports, policy guidance documents, or handbooks. Experience of working with government, development organisations, or international programmes.
- Specific professional experience (2.2.4): 5 years' experience in circular economy/resource efficiency, green hydrogen and PtX value creation.
- Leadership/management experience (2.2.5): Not Applicable.
- Regional experience (2.2.6): 2yrs in SADC or Sub-Saharan region on energy/sustainability projects.
- Development Cooperation (DC) experience (2.2.7): 10 years' experience working in South Africa and neighbouring SADC countries on projects in energy, infrastructure, large-scale industrial development projects.
- Other (2.2.8): Not Applicable

Short Term expert pool with minimum two, maximum 3.

For the technical assessment, an average of the qualifications of all specified members of the expert pool is calculated. Please send a CV for each pool member (see below Chapter 7 Requirements on the format of the bid) for the assessment.

Tasks of the short-term expert pool

- Carrying out the tasks in coordination with and under the guidance of the key expert 1 and the team leader.
- Presentation of partial results together with the key expert 1 and/or project coordinator.

Qualifications of the short-term expert pool

Education/training (2.6.1): All experts with university qualification (Master or equivalent) in Engineering, or Environmental Sciences or Natural Sciences, or Economic Sciences or Social Sciences.

Language (2.6.2): All experts with C1-level language proficiency according to the Common European Framework of Reference for (CEFR in English)

General professional experience (2.6.3): 1 expert with 5 years of professional experience in the energy sector and green economy, all other 1 expert with 5 years of professional experience in economics and green economy, 1 expert with 5 years of professional experience in sustainability.

Specific professional experience (2.6.4): 1 expert with 5 years of professional experience in Green Hydrogen/ Power-to-X value creation, Circular economy/Resource Efficiency, 1 expert

with 5 years of professional experience in conducting environmental and social impact analyses, 1 expert with 5 years of professional experience in economic analysis in supply chains.

(Please Note: One expert can fulfil several points. Please indicate the specific experience of each expert in the bid).

Regional experience (2.6.5): Not applicable.

Development cooperation (DC) experience (2.6.6): Not applicable.

Other (2.6.7): Not applicable.

The tenderer must provide a clear overview of all proposed short-term experts and their individual qualifications.

Soft skills of team members

In addition to their specialist qualifications, the following qualifications are required of team members:

- Team skills
- Initiative
- Communication skills
- Socio-cultural skills
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

Staff presentation

(section 2.11 of the assessment grid)

-Not Applicable-

5. Costing requirements

Assignment of personnel and travel expenses

Per diem allowances are reimbursed as a lump sum up to the maximum amounts permissible under tax law for each country as set out in the country table in the circular from the German Federal Ministry of Finance on travel expense remuneration (downloadable from the [German Federal Ministry of Finance – tax treatment of travel expenses and allowances for international business travel as of 1 January 2026 \(GERMAN ONLY\)](#)).

Accommodation allowances are reimbursed as detailed in the specification of inputs below.

With special justification, additional Accommodation costs up to a reasonable amount can be reimbursed against evidence.

All business travel must be agreed in advance by the officer responsible for the project

Sustainability aspects for travel

GIZ has undertaken an obligation to reduce greenhouse gas emissions (CO₂ emissions) caused by travel. When preparing your tender, please incorporate options for reducing emissions, such as selecting the lowest-emission booking class (economy) and using means of transport, airlines and flight routes with a higher CO₂ efficiency. For short distances, travel by train (second class) or e-mobility should be the preferred option.

CO₂ emissions caused by air travel must be offset. GIZ specifies a budget for this, through which the carbon offsets can be settled against evidence.

There are many different providers in the market for emissions certificates, and they have different climate impact ambitions. The [Development and Climate Alliance \(German only\)](#) has published a [list of standards \(German only\)](#). GIZ recommends using the standards specified there.

Specification of inputs

Fee days	Number of experts	Number of days per expert	Total	Comments
Designation of TL/key expert/short-term expert pool	1	14	14	Team leader
Designation of TL/key expert/short-term expert pool	1	14	14	Key expert
	2	16.5	33	Expert pool (2 maximum 3)
Travel expenses	Quantity	Price	Total	Comments
Per-diem allowance in country of assignment	27			3 days per trip for three team members
Overnight allowance in country of assignment	27			Overnight stays abroad: Note: Under the BMF travel expense regulations, overnight allowances not exceeding 100% of the lump sum amounts can be submitted for reimbursement against evidence. Up to 75% of the maximum rates specified in the travel expense regulations can be submitted for reimbursement on a lump-sum basis.

				Please indicate in the price schedule whether your offer is on a lump-sum basis or against evidence. Overnight stays in Germany (deviation from the travel expense regulations): Note: Overnight allowances of up to EUR 130 can be submitted for reimbursement against evidence. Up to EUR 80 can be submitted for reimbursement on a lump-sum basis. Please indicate in the price schedule whether your offer is on a lump-sum basis or against evidence.
Transport	Quantity	Price	Total	Comments
Domestic flights	9			Return trips (18 flights) Flights within the country of assignment during service delivery
CO ₂ compensation for air travel	9			Return Flights (18 flights)
Travel expenses (train, car) Shuttle	27			Shuttle Travel within the country of assignment, transfer to/from airport etc.
Other travel expenses - E-Hailing - Car Rental - Kilometres driven	27 27 1000			e.g. visa costs 4,76 per KM
Other costs	Number	Price	Total	Comments
Flexible remuneration	1	R91,360.00	R91,360.00	A budget of R91 360.00 is foreseen for flexible remuneration. Please incorporate this budget into the price schedule.

				Use of the flexible remuneration item requires prior written approval from GIZ.
Workshops	1	R50 000.00	R50 000.00	The budget contains the following costs Venue booking, Refreshments and food for breakfast, tea breaks and lunch.

Workshops, events and trainings

The contractor implements the following workshop:

- One day stakeholder workshop to review and validate the handbook.
- The tenderer must book the venue/location and arrange catering for the workshop.
- Time of the workshop: 9h00 – 15h00.
- 30-40 participants are targeted for the workshop.
- Estimated Costs -R50 000.00

P+R Rule 566 Ensuring standards for sustainable event management

6. Requirements on the format of the tender

The structure of the tender must correspond to the structure of the ToR. In particular, the detailed structure of the concept (Chapter 3) should be organised in accordance with the positively weighted criteria in the assessment grid (not with zero). The tender must be legible (font size 11 or larger) and clearly formulated. It must be drawn up in English.

The complete tender must not exceed 15 pages (excluding CVs). If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment. External content (e.g. links to websites) will also not be considered.

The CVs of the personnel proposed in accordance with Chapter 4 of the ToRs must be submitted using the format specified in the terms and conditions for application. The CVs shall not exceed 4 pages each. They must clearly show the position and job the proposed person held in the reference project and for how long.

Please calculate your financial tender based exactly on the parameters specified in Chapter 5 Quantitative requirements. The contractor is not contractually entitled to use up the days, trips, workshops or budgets in full. The number of days, trips and workshops and the budgets will be contractually agreed as maximum limits. The specifications for pricing are defined in the price schedule.