
DEVELOPMENT OF REGIONAL RENEWABLE FUELS STANDARDS FOR ECOWAS REGION	Project number/ cost centre: 17.2065.5-003.00
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0. List of abbreviations

AVB	General Terms and Conditions of Contract (AVB) for supplying services and work 2018
ToRs	Terms of reference
ECOWAS	Economic Community of West African States
ECREEE	ECOWAS Centre for Renewable Energy and Energy Efficiency
ECOSHAM	ECOWAS Standards Harmonization Model

1. Context

1.1 General Information

In Sub-Saharan Africa, including the ECOWAS Region, dependence on fossil fuels and wood energy remain the predominant source of energy. Fossil fuels are imported by most countries in the region to cater for energy needs and this results in huge drains on the economy and hence remains a key barrier to achieving sustainable energy services and economic development.

The high costs of foreign fossil fuels for transport are not only borne by individual consumers using public transport, but expensive fuels also have knock-on inflationary effects on the prices of food and other primary or secondary goods that are transported in fuel-powered vehicles. In the power sector, this has resulted in insecurity of power supply due to price volatility and lack of foreign exchange during difficult financial times.

In the cooking energy sector, there is over reliance on wood fuels using traditional methods of cooking that are inefficient, producing a lot of smoke that affect women and children with risks of burns and contributes to forest degradation and deforestation. According to statistics from the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE), almost 80% of the total energy consumption in the region comes from traditional use of biomass.

According to the International Energy Agency (IEA) statistics, Sub-Saharan Africa was a net importer of energy in 2013, putting the continent at a disadvantage due to high global commodity prices. The Guardian Newspaper UK reports in 2012 that Sub-Saharan Africa received about \$15.6bn (£9.7bn) in overseas development aid in 2011, but this was outweighed by the \$18bn cost of importing oil, according to the figures compiled by the International Energy Agency.

Two key factors play an important role in sub-Saharan oil product trade flows – geography and subsidies. Land-locked countries are, for the most part, reliant on importing supplies from the nearest port (which can be a thousand kilometres or more away) and the lack of pipeline and rail infrastructure means that much of these supplies are transported by road. This can leave these countries vulnerable to supply disruptions and to very high import prices. Relative pricing can also play an important role in shaping cross-border trade in oil products, particularly in Nigeria, where low domestic prices spur unofficial exports to Togo, Ghana, Burkina Faso and Benin. As well as having a significant impact on revenues for Nigeria through a subsidy cost whose (limited) benefits are not captured locally, smuggled products also deny the government of Benin an important source of tax revenue. (IEA – WEO 2014 Africa Energy Outlook)

1.2 ECOWAS Renewable Fuels Standards

The situation of sustainable energy access in the ECOWAS region cannot be achieved with this Business as Usual (BAU) scenario of continuing to depend exclusively on the imported fossil fuels for its energy needs. While the BAU scenario continues on, the oil import dependency for most countries in the region, depleting national and individual incomes, the possibilities of producing renewable energy fuels (bioethanol, biodiesel), are high especially from agro-industrial and food waste.

The region has the potential to produce renewable fuels in large quantities to complement the fuel and energy demand for transportation, cooking and heating. To enable the region to attract investment in this area, standardization is required to assure quality of the products and services and to ensure level playing field and uniformity for market development and trade.

This will encourage investment and assure consumers' confidence in the alternative fuels. It will prevent proliferation of unsafe products and services which will result in loss in consumer confidence and prevent market development.

The introduction of regional renewable fuels standards for bioethanol and biodiesel will certainly be a driver for the establishment of a vibrant market. It would provide an opportunity to produce the fuels locally and generate jobs and income. Renewable fuels can be used for clean cooking, powering individual mechanical and electricity needs and blending fossil fuels with renewable fuels could lead to reduction in the cost of transportation and also contribute to the objectives of SE4ALL initiative.

The **Overall objective** of this study is to develop a renewable fuels quality standards for bioethanol and biodiesel for the ECOWAS Region. Specifically, the Study shall include:

- Make a stocktaking based on the existing documents available on bioenergy in general and specifically on biofuel.
- Development of two (2) quality standards for bioethanol and biodiesel for the ECOWAS Region
- Identify fuel quality testing facilities and how these testing centres can be used for the renewable energy fuels.

2. Tasks to be performed by the contractor

The contractor is responsible for providing the following services:

General scope of the assignment:

The scope of the work is divided into the following work packages.

- **Work package 1:** Development of the baseline report
- **Work package 2:** Development of Standard for biodiesel and bioethanol for the ECOWAS Region;
- **Work package 3:** Appraisal of Testing Facilities for biodiesel and bioethanol
- **Work package 4:** Organization of the regional validation workshop of baseline report, draft standards;
- **Work package 5:** Harmonization process of standards.

Detailed Scope of the Assignment:

Baseline Report

- Collect existing documents, data and information related to the study on existing policies, legal and regulatory frameworks, institutional arrangements, use of all forms of biofuels and sources of raw materials, testing facilities and locations, pricing and utilization in the member states;
- Make an inventory of national stakeholders and institutions involved in the production of biofuels (biodiesel (or pure plant oil(PPO)/straight vegetable oil (SVO)) and bioethanol), location and contacts with data of their productions. Make an inventory of uses of the biofuels by institutions and stakeholders, quantities and locations of users with contacts;

- Provide a revised Baseline Report with a review of the current situation, vis –a-vis all the aspects related to the renewable energy fuels components of the supply and demand in the member state. These include biofuels of biodiesel (including PPO and SVO) and bioethanol, feedstock, location of plants, production and utilization. Also include transformation processes used. Gathering of information and data through internet and meetings with selected stakeholders in the country and other innovative means:
 - i. Review of policies and strategies for renewable energy fuels to identify areas that need updating and further strengthening;
 - ii. Review existing policies on land administration, agriculture and Forestry that hinder the development of sustainable Biofuels production. Special attention should be given to any constraints on the use of non-food, feed, fiber and other uses for increasing access to energy services;
 - iii. Review the existing incentive schemes for promoting Biofuels including Custom duties/tax on Bioenergy equipment and systems and how to provide the necessary incentives through duty/tax exemptions and other mechanisms;
 - iv. Review the already existing experience with Biofuels production and the impacts on the national economies and propose ways to improve their operations;
 - v. Review existing institutions (public, private, civil societies and other bodies) involved in the Biofuels sector and provide an institutional arrangement. Provide a profile on their operations with detailed list, contacts and background and any revised institutional arrangements that can improve the operationalization of the sector.
 - vi. laws and regulations that create a level playing field for various fuels, technologies and devices in relation to fossil-fuel based systems.

Development of Standard for biodiesel and bioethanol for the ECOWAS Region

Under the direct supervision of the ECREEE/GIZ team, the consultant will take responsibility for implementing the following activities:

- develop a draft regional quality standard for the Biodiesel;
- develop a draft regional quality standard for the Bioethanol;
- describe in detail the relevance of the action, including the problems and their interrelation at all levels;
- develop the full description of the action and its effectiveness
- The consultant will suggest and describe in detail the methodology of development and reasons for the choice of the methodology proposed;
- Give technical details of the standards and the indicative technical values to be on the label;
- Support ECREEE/GIZ team in the organization of the workshop for validation and harmonization of standards and participate in the workshop;
- Give technical details or participate in the meetings of the ECOSHAM chemical committee at the request of ECREEE/GIZ team.

Appraisal of Testing Facilities for biodiesel and bioethanol

- Identify and evaluate the existing MEPS testing facilities in the various countries

- Conduct a pre-feasibility study (needs assessment, economic and financial analysis, cost effectiveness, accreditation and sustainability) of the creation of Regional Testing Facilities.
- Identify international opportunities for testing facilities, for possible collaboration on testing of MEPS (Europe, Asian, north America, etc.).

Regional validation workshop

The regional workshop aims to inform stakeholders in West African Member States about the current study and to validate the developed documents. The firm will:

- Support ECREEE/GIZ team in the organization of the workshop for validation, prepare and present the following documents:
 - Baseline report,
 - Draft regional Standard for bioethanol,
 - Draft regional Standard for biodiesel;
- Integrate all workshop comments and input in the above documents
- Write the regional workshop report.

Harmonization process of standards

- During the standards harmonization process, the presence of the firm may or may not be required.
- However, if necessary, the consultant is required to provide all the necessary technical information to answer questions from the technical harmonization committee or participate in the meetings of the ECOSHAM Chemical products committee at the request of the ECREEE/GIZ team.

Certain milestones, as laid out in the table below, are to be achieved by certain dates during the contract term, and at particular locations:

	Milestone	Deadlines	Place	Person responsible
0	Kick off Meeting with consultants (inception meeting) Report/Minutes of kick of meeting	1 st week of July 2019	<ul style="list-style-type: none"> • Praia, Cape Verde 	<ul style="list-style-type: none"> • ECREEE-GIZ Team • Team Lead Consultant
1	Work package 1: Baseline report: <ul style="list-style-type: none"> • Data collection • 1st interim report (English or French) • 2nd interim report (English and French, accompanied by detailed summaries in English, French, Portuguese) • Final report (English, French) 	July to August 2019	<ul style="list-style-type: none"> • Home Country 	<ul style="list-style-type: none"> • Key Expert 1 • Key Expert 2 • ECREEE-GIZ Team

2	<p>Work package 2: Development of Standard for biodiesel and bioethanol for the ECOWAS Region:</p> <ul style="list-style-type: none"> • First draft standards (English or French) • 2nd interim draft (English, French, Portuguese) • Final draft standards (French, English, Portuguese) 	August to September 2019	<ul style="list-style-type: none"> • Home Country 	<ul style="list-style-type: none"> • Key Expert 1 • ECREEE-GIZ Team
3	<p>Work package 3: Appraisal of Testing Facilities for biodiesel and bioethanol:</p> <ul style="list-style-type: none"> • First draft standards (English or French) • 2nd interim draft (English, French, Portuguese) • Final draft standards (French, English, Portuguese) 	August to September 2019	<ul style="list-style-type: none"> • Home Country 	<ul style="list-style-type: none"> • Key Expert 2 • ECREEE-GIZ Team
4	<p>Work package 4: Regional validation workshop of:</p> <ul style="list-style-type: none"> • Baseline report, • Draft Standards for biodiesel • Draft Standard for bioethanol • Appraisal testing facilities report 	October 2019	<ul style="list-style-type: none"> • Country assignment 	<ul style="list-style-type: none"> • Key Expert 2 • ECREEE-GIZ Team
5	<p>Work package 5: Harmonization process of standards:</p> <ul style="list-style-type: none"> • Draft standards for biodiesel and bioethanol 	October to December 2019	<ul style="list-style-type: none"> • Country assignment 	<ul style="list-style-type: none"> • THC3 work meetings (2) • ECOSHAM approval meetings (1)

Period of assignment: From July 2019 until December 2019.

3. Concept

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

Technical-methodological concept

Strategy: The bidder is required to consider the tasks to be performed with reference to the objectives of the services put out to tender (see Chapter 1). Following this, the bidder presents and justifies the strategy with which it intends to provide the services for which it is responsible (see Chapter 2).

The bidder is required to describe the key **processes** for the services for which it is responsible and create a schedule that describes how the services according to Chapter 2 are to be provided. In particular, the bidder is required to describe the necessary work steps and, if applicable, take account of the milestones and contributions of other actors in accordance with Chapter 2.

- The contractor is responsible for selecting, preparing, training and steering the experts (international and national, short and long term) assigned to perform the advisory tasks.
- The contractor makes available equipment and supplies (consumables) and assumes the associated operating and administrative costs.
- The contractor manages costs and expenditures, accounting processes and invoicing in line with the requirements of GIZ.
The contractor reports regularly to GIZ in accordance with the AVB of the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH from 2018

In addition to the reports required by GIZ in accordance with AVB, the contractor submits the following reports:

- Inception report
- Contributions to reports to GIZ's commissioning party
- Brief quarterly or half-yearly reports on the implementation status of the project (5-7 pages)

The bidder is required to draw up a **personnel assignment plan** with explanatory notes that lists all the experts proposed in the bid; 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.

Backstopping team

The bidder 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 bid in accordance with section 5.4 of the AVB:

- Service-delivery control
- Managing adaptations to changing conditions
- Ensuring the flow of information between GIZ and field staff
- Contractor's responsibility for seconded personnel
- Process-oriented technical-conceptual steering of the consultancy inputs
- Securing the administrative conclusion of the project
- Ensuring compliance with reporting requirements
- Providing specialist support for the on-site team by staff at company headquarters
- Sharing the lessons learned by the contractor and leveraging the value of lessons learned on site
- Ensuring the traduction of documents

4. Personnel concept

The bidder is required to provide personnel who are suited to filling the positions described, on the basis of their CVs (see Chapter 7), the range of tasks involved and the required qualifications.

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

Team leader (Expert 1)

Tasks of the team leader (Expert 1)

- Overall responsibility for the advisory packages of the contractor (quality and deadlines)
- Coordinating and ensuring communication with GIZ, partners and others involved in the project
- Personnel management, in particular identifying the need for short-term assignments within the available budget, as well as planning and steering assignments and supporting local and international short-term experts
- Regular reporting in accordance with deadlines
- Development baseline report,
- Development of Standards for biodiesel and bioethanol.

Qualifications of the team leader

- Education/training (2.1.1): University qualification for at least Master degree in energy engineering, energy economics, or any relevant similar area
- Language (2.1.2): Good business language skills in English and French
- General professional experience (2.1.3): 20 years of professional experience in the Energy/Renewable Energy sector
- Specific professional experience (2.1.4): 10 years in Bioenergy
- Leadership/management experience (2.1.5): 6 years of management/leadership experience as project team leader or manager in a company
- Regional experience (2.1.6): 5 years of experience in projects in Africa (region), of which 2 years in projects in ECOWAS (Sub-region/country)
- Development Cooperation (DC) experience (2.1.7): 6 years of experience in DC projects
- Other (2.1.8): Evidence of participation in Capacity WORKS training, experience in financial management of substantial local subsidies and participation in the animation of workshops and meetings.

Expert 2

Tasks of expert 2

- Appraisal for the testing Facilities for Bioenergy,
- Support the development of baseline report
- Etc.

Qualifications of expert 2

- Education/training (2.2.1): At least Master's degree in Engineering, Energy or related field
- Language (2.2.2): English and French
- General professional experience (2.2.3): 10 years in the Energy/Renewable Energy sector
- Specific professional experience (2.2.4): at least 5 years of good experience in the appraisal testing facilities for biodiesel and/or bioethanol
- Regional experience (2.2.6): 3 years of experience in working in sub-Saharan African countries, preferably in West African countries is an advantage
- Other (2.2.8): Participating to the development of baseline report and organizing of workshop.

Soft skills of team members

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

- Team skills
- Initiative
- Communication skills
- Sociocultural competence
- Efficient, partner- and client-focused working methods
- Interdisciplinary thinking

5. Costing requirements

Assignment of personnel

Team leader (Expert 1): Assignment in country of assignment (*ECOWAS*) for **8** expert days
Assignment in Home Country for **27** expert days
Expert 2: Assignment in country of assignment (*ECOWAS*) for **5** expert days
Assignment in Home Country for **18** expert days
Backstopping: total **10** expert days

Travel

The bidder is required to calculate the travel by the specified experts and the experts it has proposed based on the places of performance stipulated in Chapter 2 and list the expenses separately by daily allowance, accommodation expenses, flight costs and other travel expenses.

Workshops, training

The contractor will participate to the following workshops/study trips/training courses:

- Inception meeting
- Regional validation workshop

The budget will be provided by GIZ for implementing these activities.

Other costs

The following other costs will be covered the contractor:

- Visa costs
- Taxi, etc.

6. Inputs of GIZ or other actors

GIZ and/or other actors are expected to make the following available:

- Workstations in the GIZ country office/ECREEE
- Transportation on site with by hiring car during the workshop
- Workshops logistics

7. Requirements on the format of the bid

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

The complete bid shall not exceed 10 pages (excluding CVs).

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. The CVs must clearly show the position and job the proposed person held in the reference project and for how long. The CVs can also be submitted in English.

If one of the maximum page lengths is exceeded, the content appearing after the cut-off point will not be included in the assessment.

Please calculate your price bid based exactly on the aforementioned costing requirements. In the contract the contractor has no claim to fully exhaust the days/travel/workshops/ budgets. The number of days/travel/workshops and the budget amount shall be agreed in the contract as 'up to' amounts. The specifications for pricing are defined in the price schedule.

8. Annexes

- The Development of Regional Renewable Energy Fuels Standards for the ECOWAS Region, by National Renewable Energy Laboratory Clean Energy Finance Solutions Center (NREL)
- Report document for regional survey on standards for renewable energy components and equipment produced by GIZ/ECREEE team;
- Study on institutional framework for standards for bioenergy in the ECOWAS region;
- ECOWAS Bioenergy Policy
- ECOWAS renewable energy policy;
- ECOWAS Energy efficiency standards;
- National standards documents of selected West African States for renewable energy components and equipment.