NIGERIAN FINANCE TRAINING PROGRAMME ON SOLAR ENERGY AND ENERGY EFFICIENCY



Scholarship Programme August – October 2020





Federal Ministry for Economic Cooperation and Development





Implemented by



Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

Nigerian Finance Training Programme on Solar Energy and Energy Efficiency

ACRONYMS

EE

RE

- **Energy Efficiency** ESCO Energy Service Company F2F Face-to-Face Ministries, Departments, and Agencies MDA NESP Nigerian Energy Support Programme **Renewable Energy** SME Small & Medium Enterprise
- WP Work Package

INTRODUCTION

1.1 Objectives of the training

The overall objective of the training programme is to increase the market development of renewable energy (RE), especially photovoltaics and energy efficiency (EE) through capacity building of main actors. Specific objectives are:

- To disseminate knowledge on the economic feasibility of investments in RE and EE within buildings and industries.
- To inform stakeholders about the steps for RE and EE project development.
- To encourage finance institutions to build up new business lines for financing RE and EE projects.
- To enable finance institutions to conduct due diligence and mitigate financial risks of RE and EE investments.
- To support consulting firms, project developers, and entrepreneurs in developing bankable project proposals that are suitable for funding.
- To help relevant Ministries, Departments, and Agencies (MDAs) understand the financing schemes, and how to support the development and implementation of these schemes.

1.2 Target groups

Management and employees from the following target groups can apply:

- Finance institutions
- Private sector companies

Relevant public institutions working on energy topics in the Nigerian political and administrative context.

economics and finance. The training programme has been tailored towards the different training needs of the private and the finance sector.

RENAC training programme.

NESP is a technical assistance programme co-funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) and the European Union (EU) and implemented by Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH in collaboration with the Nigerian Federal Ministry of Power.







- The training programme is developed for the two technology areas energy efficiency and solar technologies and focuses on

Successful applicants will be granted a free scholarship by Nigerian Energy Support Programme (NESP) for participation in the



1.3 Training approach

The trainings are offered from 10 August to end of October 2020 as a blended learning concept which is a mix of online trainings, webinars and face-to-face trainings. The format of blended learning is designed to allow participants to study the contents in their own time and pace as the courses are accessible online for a time frame of six full weeks. This concept allows a maximum of flexibility on the learning time while securing learning success through exams as a precondition for the certificate. We will cover Renewable Energy with a focus on photovoltaics and Energy Efficiency.

The training structure is similar for all target groups, while the training content is customized to the respective target groups. The content covers both RE and EE. The content covers both RE and EE; however, participants interested in only RE or only EE have the option to choose one or the other for the online training and webinars if they wish to.

1.4 Training topics and concept

Fundamentals of Renewable Energy / Energy Efficiency Technologies 34 – 37 study hours - Start on 10th August								
Webinar 1	Webinar 2 – 3	Webinar 4 – 6	Webinar 7 – 8	Webinar 9	Webinar 10			
Benefits & viability of RE/EE technologies	Renewable energy projects	Energy efficiency measures	Case studies in the Nigerian context	Project evaluation / climate finance product	International climate finance funds			
- 1.5 study hours -	- 3 study hours -	- 6 study hours -	- 3 study hours -	- 1.5 study hours -	- 1.5 study hours -			

Online exam Precondition for face-to-face training (1.5 hour) – Date: 8th October

Live virtual training

Interactive 1 day seminar on 24th November (for participants from RE/EE companies) and 26 th November (for participants from financing institutions)





2 TRAINING OUTLINE AND CONTENT

2.1 ONLINE TRAINING

- The training structure is the same for all three target groups, while the training content is customized to the respective target group. The content covers both RE and EE; but participants that wish to learn about RE only or EE only will have the option to choose between both for the online trainings and webinars.
- Participants who consider themselves as knowledgeable enough and who do not have enough time to work through the online training will have the option of directly taking the final exam and prove themselves ready for the F2F training.

SIX WEEKS OPEN ONLINE TRAINING AND WEBINARS

Fundamentals of RE/EE Technologies

Training mode: you will get access to RENAC Online Academy. You will read introductory texts, will have access to self-study tests and the discussion forum. The online training shall be available throughout the complete online phase duration. During this phase, a live webinar series will be held.

Content – RE Introduction to energy – 3 hours study time					
 Physical basics 					
 Units and conversion 					
Introduction to the solar resource – 1 hours study time					
 Introduction to solar energy 					
 PV application – 17 hours study time 					
 Introduction and application 					
 Components of a PV system, physicals aspects 					
 Economic aspects of PV systems 					
PV diesel hybrid systems – 17 hours study time					
 System components and sizing 					
 Dynamic system behaviour 					
 Economic evaluation 					

- Case studies





Content – EE

EE in industry – 17 hours study time

- Heating and cooling
- Electricity based cross-sectoral technology
- Sectoral approaches

Financing EE projects and ESCOs – 17 hours study time

- Energy efficiency vs. conventional investment finance
- Appraisal of client/ investor
- Technical appraisal
- Financial appraisal
- Monitoring
- ESCOs



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Webinar 1

Benefits and Viability of distributed RE and EE technologies

Target group: Financing institutions and project developers, policy makers Training mode: one webinar

Content

Benefits of distributed RE and EE technologies:

- Monetary savings, emissions reduction.
- Introduction to the externality concept
- · Explanation why emissions reduction 'matter' in a global scenario through means of enabling them to access international climate funds.
- Viability of RE and EE applications

Webinar 2 – 4

RE projects

Target group: Financing institutions and project developers, policy makers Training mode: three webinars

Content

Benefits of distributed RE and EE technologies:

- Application of Solar-PV systems to replace diesel generators / backup systems
- Importance of Energy Efficiency in off-grid systems
- Case Studies in the Nigerian context



Webinar 5 - 7

EE measures

Target group: Financing institutions and project developers, policy makers Training mode: three webinars

Content

Efficient lighting systems

 Assess financial viability of energy saving lighting systems in industries, commercial centres, homes, offices Efficient air conditioning systems

 Assess financial viability of energy saving air conditioning systems Efficient buildings / efficient industries cross sectoral technologies

- Assess financial viability of energy saving measures and projects for efficient buildings
- Assess financial viability of energy saving measures in industries.

Webinar 8

Implementation of RE/EE systems

Target group: Financing institutions and project developers, policy makers Training mode: one webinar

Content

Implementation of RE/EE systems

- Preparatory steps of a RE/EE system implementation
- General guideline for preconditions and the implementation process
- Implementation process of PV Solar system incl. storage
- System specifications, contractual requirements, installation process
- Advantages and disadvantages of RE/EE systems and their relevance for Nigeria









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Webinar 9

Project evaluation and climate finance products

Target group: Financing institutions and project developers, policy makers Training mode: one webinar

Content

Project evaluation:

- Technical and financial aspects of project assessment
- Risk assessment
- Excel-based assessment tool
- Case Studies and exercises to practice in the project evaluation



Webinar 10

Introduction to international climate funds

Target group: Financing institutions and policy makers Training mode: one webinar

Content

Introduction to international climate funds

- Overview of technical support and financing mechanisms for RE/EE projects provided by governments or stakeholders
- Functions and aims of international climate funds
- Application process and preparation of a project (this is a preparatory webinar, this topic will be discussed in more detail during the F2F seminar)

Evaluation of the online training

All online course participants will receive a participation certificate

- the online exam, that takes place at the end of the online phase.
- Online exam programmed 25th September
- The final exam contains questions on the self-study course as well as the webinars.



To receive a certificate and to participate in the F2F trainings, participants will be required to successfully pass



2.2 FACE-TO-FACE TRAINING

The attendance training phase (face-to-face trainings) will take place in mid-September/October 2020 in Lagos and Abuja. Each participant will be required to attend one face-to-face training in Lagos or in Abuja . Each face-to-face training will have a total duration of 3 days. Should travelling restrictions persist due to Covid-19, an equal virtual seminar will be offered. Each training session will be delivered by a team of two trainers.

The F2F training sessions will include:

- Detailed information on the financing schemes and de-risking mechanisms for RE and EE
- Step-by-step practical training on how to access, provide, or facilitate finance for RE and EE in buildings and industries in Nigeria (covering standard documents and tools such as financial model and techno-financial model template, standard contracts, checklist/template for collecting information, process diagrams)
- Case studies
- Practical exercises on the relevant key concepts;
- · Exercises featuring group dynamics and role-playing for problem-solving directly inspired by the topics covered
- Exam

Three different F2F training formats will be offered: Format A designed for financing institutions, Format B designed for RE/EE developers and consultants, and Format C designed for public sector representatives.

Result: All F2F training participants will receive certificates issued by RENAC.

Programme snapshot

Training programme duration	Estimated study time	Outcome	Application deadline	Cost
Online Training: 10 August – 27 September F2F Training: 3 days in Lagos or Abuja in	8 – 12 hours per week during the online training phase	After successful completion participants will receive an official RENAC certificate	19 July 2020	Course fees are covered by the scholarship for trainings Travel cost to F2F seminar location not included

October (dates tbc)*

* should travelling restrictions persist due to Covid-19, an equal virtual seminar will be offered





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