

Online Capacity Building Programme on Sustainable Energy Solutions for Islands and Territories in the Pacific, Caribbean, Africa and Indian Ocean - Project.

First Operational Phase of the Caribbean Centre for Renewable Energy and Energy Efficiency
UNIDO- Project SAP ID: 130200



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The Project

Online Capacity Building Programme on Sustainable Energy Solutions for Islands and Territories in the Pacific, Caribbean, Africa and Indian Ocean - (UNIDO Project Ref. SAP ID: 130200)

First Operational Phase of the Caribbean Centre for Renewable Energy and Energy Efficiency - CCREEE



CIEMAT

Research Center
on energy and
environment and the
technologies related

CENTERS AND LABORATORIES



Estudios Socio-técnicos (CISOT)



Energías Renovables (CEDER)



Derecho Ambiental (CIEDA)



CIEMAT (Madrid)

Plataforma Solar de Almería (PSA)

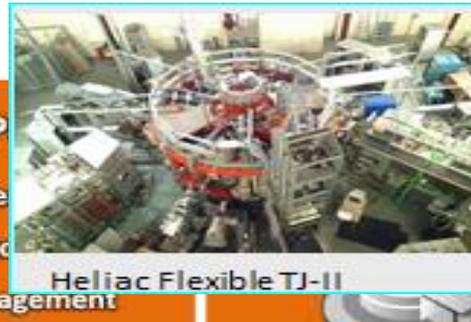


CENTERS

CIEMAT is a Spanish Public Research Center under the Ministry of Science, Innovation,
Focused mainly in the areas of energy, environment and technological field.

Its mission is to contribute to sustainable development of the country and to the quality of life of its citizens as a **Centre of excellence**

- CIEMAT Has an intermediate position from the basic knowledge to the industrial application



kills



E&T

Capacity Building & Training at CIEMAT



<http://www.ciemat.es>



CIEMAT makes a considerable effort to transfer the knowledge, capabilities and results obtained by its research projects and activities to the production system, industry and society

OBJECTIVES:

Develop competencies and capabilities to enable “sustainable, competitive and secure energy as well as lifelong learning and borderless mobility for the scientific community”.

- Transfer the knowledge and experience through CB and Education and Training (E&T) activities
- To share the Spanish experience

To promote capacity building and knowledge exchange in the field of energy and energy efficiency in order to stimulate technology & investments and encourage access to modern energy services



ONLINE CAPACITY BUILDING PROGRAMME ON SUSTAINABLE ENERGY SOLUTIONS FOR ISLANDS

Framework: UNIDO-SIDS DOCK Global Network

To assist SIDS to address existing barriers and move towards sustainable energy markets, industries, innovation, energy security and resilience to climate change.

This joint initiative with of PCREEE, the ECREEE and the CCREEE, the “Online Capacity Building and Certification Program on Sustainable Energy Solutions for Islands and Territories in the Pacific, Caribbean, Africa and Indian Ocean” is being developed by CIEMAT.

Program Objective: to cover the knowledge & skills requirements in renewable energies, energy efficiency and the energy in general of the different stakeholder groups.

REASONS FOR THIS PROJECT

In line with the global climate agreement at COP 21

Opportunity to reduce barriers and gaps through the capacity development

Strengthen the awareness and knowledge base of local institutions and stakeholders in REs & EE

Opportunity to benefit from high quality and intensive programs developed by renowned specialists.

Promote the training of women in technological areas

PROGRAM MODULES

OFFERS a solid and specialized technical training on sustainable energy solutions for islands regions and technologies to the regional Centres

9 ONLINE MODULES

M1. General introduction into Island Energy and Climate Change Mitigation and Resilience

M2. Solar Thermal Systems and Applications for water heating and industrial process heat

M3. Grid-connected and decentralized Photovoltaic Systems

M4. Efficient Energy use and thermal optimization in buildings and industry

M5. Geographic Information Technologies and Renewable Energy (NEW)

M6. Bioenergy. Anaerobic digestion of organic waste to energy solutions

M7. E-mobility

M8. Minigrids, Grid Stability in Insular Power Systems and Energy Storage

M9. Ocean Energy

CB Structure and Learning Materials

The training program is offered at 2 speeds of study

MODULE'S GENERAL OVERVIEW

1st
SPEED

TARGET AUDIENCE	General public
OBJECTIVE	To provide an overview of each technology
LEARNING MATERIAL	Video presentation and multimedia content
DEVELOPMENT SITE	Temporarily on the CIEMAT's servers, on the LMS Moodle 3.1.6
FINAL SERVERS	ECREEE, CCREEE and PCREEE Websites

EFFICIENT ENERGY USE AND THERMAL OPTIMIZATION IN BUILDINGS AND INDUSTRY

The objective of this module is that the student gets the capability to analyze buildings on an energy basis, incorporating to his/her knowledge the techniques and concepts of energy efficient in buildings. The module includes not only the energetic aspects of the architectural design but also the integration of active solar systems of energy supply for space conditioning.

Specific Objectives

- To understand energy efficiency in building concepts, the influence of the different boundary variables such as climate and the importance of considering the different climates existing in Island Countries and Territories.
- To know the basis of the natural thermal conditioning's techniques (solar chimneys, direct and indirect solar gains, shading, thermal inertia, natural ventilation) and the direct application on heating and cooling strategies that can be applied taking into account the different geographical and climatic zones.
- To learn about the methodology and existing software for energetic analysis of buildings.
- To know about the different building integration's designs of active solar systems, and evaluate the optimization of these systems when applied to DHIC.
- To learn a correct methodology for the development of projects of energy efficiency in buildings, we will work on a case study.

COURSE PRESENTATION



COURSE OUTLINE



CB Structure and Learning Materials

MODULE'S SPECIALIZED TRAINING

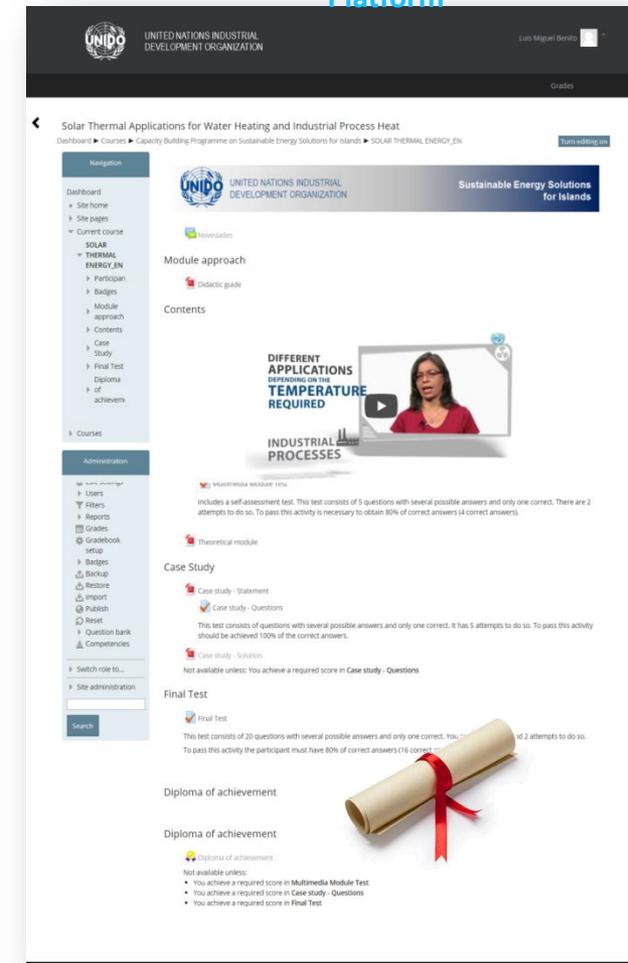
2ND SPEED



TARGET AUDIENCE	Professionals in the sector, academics and postgraduates
OBJECTIVE	To provide technical and detailed view and quality specialized training for qualify and skilled personnel
LEARNING MATERIAL	<p>Complete learning materials including:</p> <ul style="list-style-type: none"> • Educational Didactic Guide • Video Presentation • Multimedia Content • Extensive Documentation • Case Study • Final Assessment Test • Achievement Certificate
DEVELOPMENT SITE	Temporarily on the CIEMAT's servers, on the LMS Moodle 3.1.6
FINAL SERVERS	ECREEE, CCREEE and PCREEE Websites And E-Learning Platform



- ✓ Learning Management System (LMS)
- ✓ MOODLE
- ✓ Open Source Learning Platform



SELF-REGISTRATION

Usuarios registrados

Entre aquí usando su nombre de usuario y contraseña (Las "Cookies" deben estar habilitadas en su navegador) ©

Nombre de usuario

Contraseña

Recordar nombre de usuario

¿Olvidó su nombre de usuario o contraseña?

Algunos cursos permiten el acceso de invitados

Registrarse como usuario

Hola. Para acceder al sistema tómese un minuto para crear una cuenta. Cada curso posee disponer de una "clave de acceso" que sólo tendrá que usar la primera vez. Estos son los pasos:

1. Rellene el formulario de registro con sus datos.
2. El sistema le enviara un correo para verificar que se dirección sea correcta.
3. Lea el correo y confirme su matrícula.
4. Su registro sera confirmado y usted podrá acceder al curso.
5. Seleccione el curso en el que desea participar.
6. Si alguno curso en particular le subiera una "contraseña de acceso" utilice la que le faciliten cuando se matriculo. Así quedará matriculado.
7. A partir de ese momento no necesitará utilizar más que su nombre de usuario y contraseña en el formulario de la página para entrar a cualquier curso en el que esté matriculado.



CERTIFICATION / ACCREDITATION

While the **Module's General Overview**, or **1st Speed** has no associated practical activities and assessment tests. The **Module's Specialized training** or **2nd Speed**, includes various activities to overcome and the recognition of learning and progress by a certificate of achievement.



The image shows two pages from a certificate. The left page is a 'Certificate of Achievement' from UNIDO, titled 'CAPACITY BUILDING SUSTAINABLE ENERGY SOLUTIONS FOR ISLANDS'. It is issued to 'Lara De Diego' for successfully completing the module 'Efficient Energy use and Thermal Optimization in Buildings' as part of the 'Capacity Building Sustainable Energy Solutions For Islands' program. The certificate states it corresponds to 20 hours of study, with a 'PASSING grade', and was issued on 18 September 2018. The right page is titled 'Contenido:' and lists six chapters: 1. El por qué de la eficiencia energética en edificación; 2. Fundamentos para el acondicionamiento térmico de edificios; 3. Técnicas naturales de acondicionamiento en edificios; 4. Estudio energético teórico: simulación; 5. Evaluación energética de edificios en condiciones reales de uso. Monitorización; 6. Integración de sistemas solares activos en edificios. It also states 'Equivalentes a 4 ECTS'. A QR code is located at the bottom of the right page.

Further Accreditation based upon professional qualifications, **TVET (Technical and Vocational Education and Training)** may be offered through a University or accredited training institution



CB PROGRAM GENERAL FEATURES

- Islands regions
- **Two Learning Speeds:** articulated in 2 learning speeds to cover the needs of knowledge different target audience profiles
- **Contents and materials** of high technical and didactic quality, suitable for E-learning methodology
- **Methodology:** Self-study (MOOC) & Tutored (e-learning)
- Applications to **case studies** in the **Islands context**
- Elements of assessment of **Learning, Progress and Participation**
- **Autonomous Modules:** suitable to the interest and choice of the participant
- **Dedication time:** 20-40 hours/module for a satisfactory use
- **Certificate of Achievement**
- Available English, Spanish and Portuguese



EXPECTED RESULTS



Provide the GN -SEC Energy Centres with a capacity building and skills certification program to foster the deployment of sustainable energy and low-carbon climate technologies (SECTs) in SIDS and territories, strengthening capacities achieve SIDS sustainable energy targets

To Meet the need for affordable training and certification programs on sustainable energy in islands in order to provide local and regional capacity and expertise to overcome the barriers for the creation of sustainable energy markets and industries.

The Program will be installed on the main Portal Webs and learning Platforms of the ECREEE, the CCREEE and the PCREEE, that will be the owners and direct beneficiaries

Open Online Access: the Program aims to be widely disseminated specially among key stakeholders (organizations, companies and governments) for the public sector, private sector and civil society of the Islands regions

Building future leadership to manage energy programs

Thank you Very Much



For your Attention

marisa.marco@ciemat.es

Spanish R&D&I institutions involved



WORK PLAN AND SCHEDULE

The project is organized into four main phases:

- **Phase I.** Program management
- **Phase II.** Design and development of the training contents. Modules translation into English and Portuguese. Setting the Virtual Platform in CIEMAT servers
- **Phase III.** Preparation of the final version of the e-learning modules.
Design the Capacity building portal within the Regionals Centers Webpage. Linking to CIEMAT Virtual Platform.
- **Phase IV.** Transfer Know How: and Technical Management.



9. TABLE 1: PRELIMINARY TIME SCHEDULE. TIMING OF ACTIVITIES IN WEEKS FROM THE START OF THE ACTION

MONTHS		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
DELIVERABLES	Phase 1. TRAINING PROGRAMME MANAGEMENT															
a	FORMULATION OF THE INCEPTION REPORT	█														
b	ANALYTICAL REVIEW PAPER	█	█													
	Phase 2. DESIGN AND DEVELOPMENT OF THE TRAINING CONTENTS. MODULES TRANSLATION INTO ENGLISH AND PORTUGUESE															
c	ADAPTATION, TESTING AND QUALITY ASSURANCE OF 5 ALREADY EXISTING MODULES			█	█	█	█	█								
d	DEVELOPMENT, TESTING AND QUALITY ASSURANCE OF 4 NEW ISLAND TRAINING MODULES			█	█	█	█	█								
e	VALIDATION WORKSHOP AT PCREEE			█	█	█	█	█								
f	VALIDATION WORKSHOP AT CCREEE			█	█	█	█	█								
g	VALIDATION WORKSHOP AT ECREEE			█	█	█	█	█								
i	TRANSLATION INTO SPANISH AND PORTUGUESE			█	█	█	█	█	█	█	█	█	█	█	█	█
	Phase 3. MODULES FINAL VERSION. VIRTUAL PLATFORM IMPLEMENTATION. CAPACITY BUILDING PRESENTATION INTO THE CENTERS WEBPAGE															
h	VIRTUALIZATION AND EDITION ACTIVITIES OF THE MODULES LEARNING MATERIALS															
	VIRTUAL PLATFORM INSTALLATION, DESIGN AND CONFIGURATION															
	CONFIGURATION OF THE CAPACITY BUILDING PROGRAM INTO THE REGIONAL CENTERS WEBSITES. TECHNICAL SUPPORT FOR THE MIGRATION OF CB PROGRAM TO REGIONAL CENTRES' MOODLE PLATFORM															
	Phase 4. TRANSFER KNOW HOW : TRAIN THE TRAINERS AND TECHNICAL MANAGEMENT															
j	DEVELOPMENT OF AN ONLINE TRAIN THE TRAINERS COURSE															
	DEVELOPMENT OF A MOODLE PLATFORM COURSE															
	1 WEEK ONLINE COURSE "TRAIN THE TRAINERS COURSE"															
	1 WEEK ONLINE COURSE "MOODLE"															