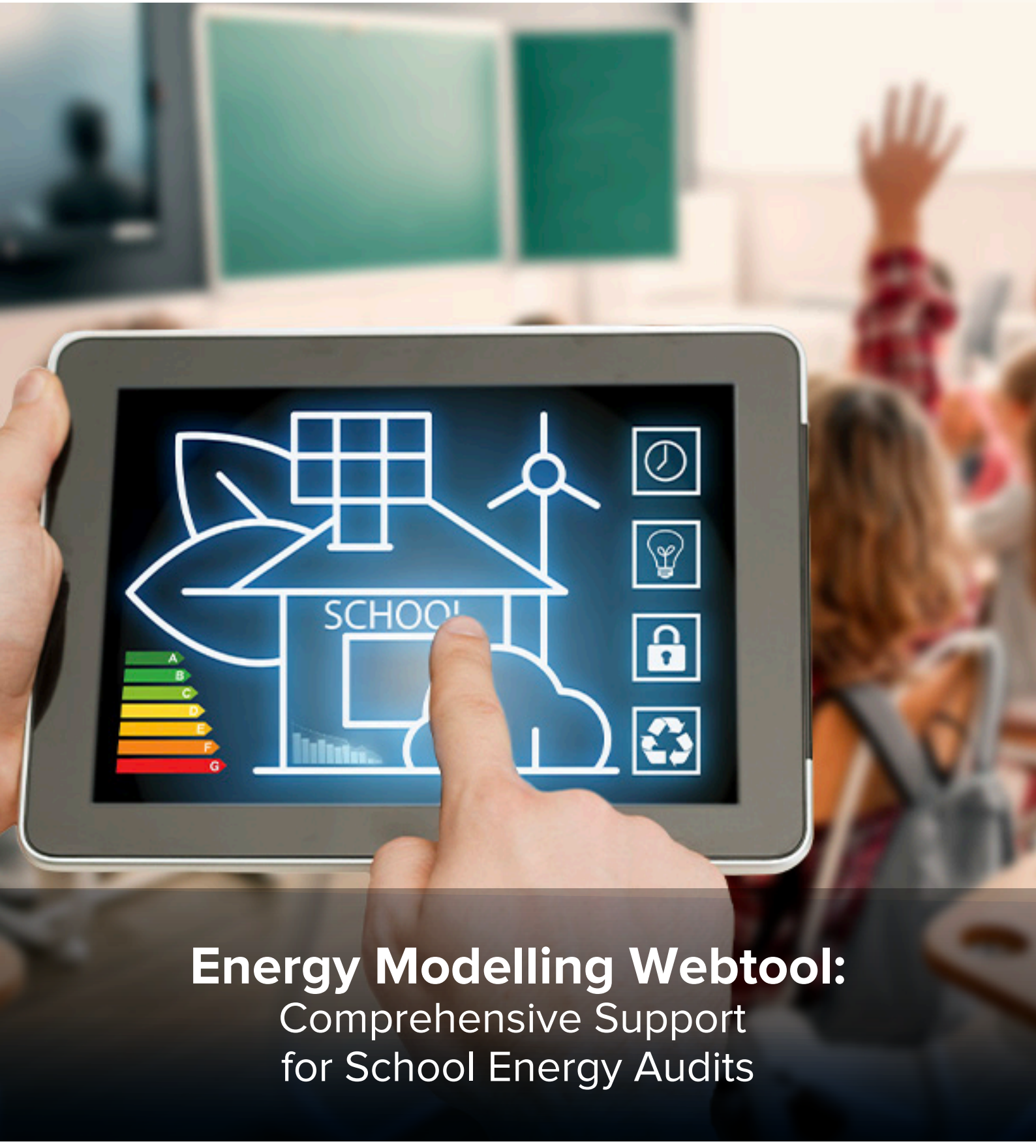
Funded by the European Union

meetMED
Mitigation Enabling Energy Transition in the MEDiterranean region
Together We Switch to Clean Energy



Energy Modelling Webtool:
Comprehensive Support for School Energy Audits

MED ENER

RCREEE
Regional Center for Renewable Energy and Energy Efficiency
المركز الإقليمي للطاقة المتجددة وكفاءة الطاقة

This publication was produced with the financial support of the European Union.
Its contents are the sole responsibility of MEDENER and RCREEE and do not necessarily reflect the views of the European Union.

About the project

The Mitigation Enabling Energy Transition in the Mediterranean region "meetMED" is an EU-funded project developed by the Mediterranean Association of the National Agencies for Energy Management (MEDENER) and the Regional Centre for Renewable Energy and Energy Efficiency (RCREEE).

With the objective of contributing to energy and climate transition Southern Mediterranean Neighbourhood through a multi-scale, multi-partner inclusive approach, meetMED II activities aim at developing a more stable, efficient, competitive, and climate-resilient socioeconomic environment in Southern Mediterranean countries, by fostering regional cooperation for Energy Efficiency measures and implementing demo actions.

Introduction

This MeetMED Webtool is designed to facilitate the energy audit process in schools, offering an efficient pathway for both preliminary assessments, and verification of existing audits. As part of meetMED project activities supported by the European Union, this versatile tool aims to simplify data collection, propose feasible renovation solutions, and provide a clear economic assessment of proposed energy interventions. This webtool has been conceived, designed and developed by ENEA.

ENEA
ITALIAN NATIONAL AGENCY FOR NEW TECHNOLOGIES, ENERGY AND SUSTAINABLE ECONOMIC DEVELOPMENT

Target Audience

The webtool is tailored for energy auditors, facility managers, school administrators, and policy makers dedicated to improving energy efficiency within educational institutions.

Energy Audits and **Modelling Webtool**

The webtool has been validated using the data from existing energy audits in Jordan and Lebanon and through new energy audits conducted ad hoc by APRUE (National Agency for the Promotion and Rationalization of Energy Use) in Algeria.

Before conducting the audits, a team of experts from APRUE participated to a study tour organized by ENEA in Bologna, where they received a comprehensive training on energy auditing techniques. During the training course, participants acquired in depth theoretical and practical knowledge on how to conduct an energy audit. The team was trained on energy efficiency legislation, on diagnosis schemes, timing and obligations related to energy audits, on available energy modelling software and tools and on the most relevant proposals for renovation actions for envelope, systems and renewable sources.

In the following months APRUE conducted the energy audits in **15 schools** located in **seven cities** across Algeria: **Algiers, Batna, Boumerdes, Biskra, Djelfa, Mascara, and Setif.** The cities were chosen to ensure to take into account all country's various climatic zones.

The impact of these audits in the Algerian context has been significant. The results showed that the identified energy renovation actions for the schools would reduce energy costs and decrease greenhouse gas emissions and support the country’s energy transition. Integrating renewable energy solutions, storage systems, and smart energy management has been identified as an essential strategy to make these schools more sustainable and energy efficient.

Additionally, the knowledge and data gathered during these audits will be used to draft a nationwide roadmap for energy management in schools. This roadmap will enable the evaluation of potential energy savings through customized actions for each building.

The data collected from these audits has also been instrumental in validating the webtool. By ensuring that its renovation solutions and economic assessments align with real-world results, the webtool has been confirmed as a potential resource for planning energy-efficient renovations in schools.

Modules Overview

1. Energy Profile Module

This module enables users to build a detailed energy profile of the school. It covers:

Heating Systems:
Identify the current heating setup, usage patterns, and potential inefficiencies.

Electricity Usage:
Analyze electrical consumption data, highlighting high-consumption periods and areas.

Geometry & Operating Time
Examine factors like building geometry and operating hours, which impact energy usage.

Output:

A comprehensive overview of the school's current energy profile, pinpointing critical areas for improvement.

2. Renovation Proposals Module

With insights from the energy profile, this module suggests targeted renovation measures to enhance energy efficiency, covering:

Architectural Elements:
Assess potential upgrades to windows, insulation, and other building components to reduce heat loss.

System Improvements
Evaluate HVAC and electrical systems, recommending energy-saving updates and replacements.

Output:

A prioritized list of renovation actions, customized to the school's needs, offering a practical pathways to reduce energy consumption.

3. Economic Evaluation Module

The final module provides a clear economic analysis of the proposed interventions, helping decision-makers understand the financial implications which are:

Cost-Benefit Analysis:
Calculates the costs of each suggested measure and estimates potential savings.

Financing Options
Offers guidance on available funding options to support implementation.

Output:

A detailed financial report that balances costs with projected energy savings, facilitating informed decisions on the proposed renovations.

Why Choose the meetMED Webtool ?

Streamlined Audit Process
Simplifies the complex process of conducting and verifying energy audits.

Data-Driven Proposals
Uses data from the school's unique profile to suggest targeted, efficient improvements.

Cost Transparency
Provides a clear economic perspective, enabling schools to budget effectively and explore financing.

Getting Started

Access the MeetMED Webtool and begin your school's energy audit today!
https://www.toolforschools.enea.it/

meetMED

www.meetmed.org

meetMED-Project

meetMED1

meetMED

This publication was produced with the financial support of the European Union.
Its contents are the sole responsibility of MEDENER and RCREEE and do not
necessarily reflect the views of the European Union.

MED ENER

RCREEE
Regional Center for Renewable Energy and Energy Efficiency
المركز الإقليمي للطاقة المتجددة وكفاءة الطاقة