



Funded by the
European Union



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

© 2024 / meetMED. All rights reserved.

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.

Cover page image credits: Artificial intelligence generated image, ©imagefx, Inc.



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.



Agência para a Energia



AGENCE NATIONALE POUR
LA MAÎTRISE DE L'ÉNERGIE
ANME

Un engagement durable et renouvelable



Agence Marocaine pour l'Efficacité Énergétique
Moroccan Agency for Energy Efficiency



ALMEE



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



KAPRES



الجمعية العلمية الملكية
Royal Scientific Society



الوكالة الوطنية لتطوير
استخدام الطاقة وترشيده

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.



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.

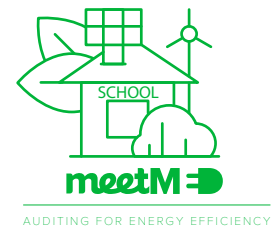
Additionally, the knowledge and data gathered during these audits will be used to draft a nationwide roadmap for energy management in schools. This roadmap will enable the evaluation of potential energy savings through customized actions for each building.



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

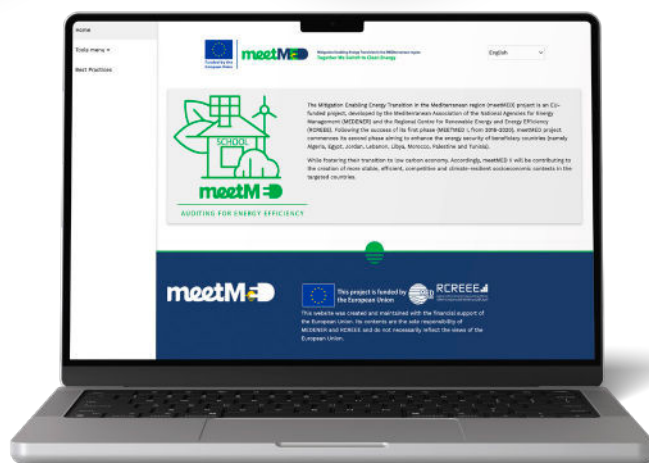
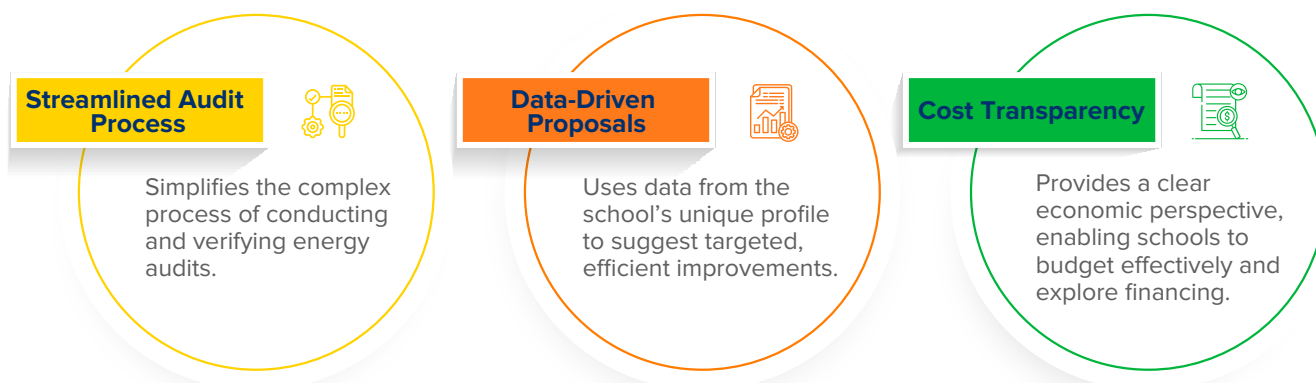
The final module provides a clear economic analysis of the proposed interventions, helping decision-makers understand the financial implications which are:



Output:

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

Why Choose the meetMED Webtool ?



**Getting
Started**

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





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