

Economic and Social Commission for Western Asia

Presentation of the UNDA activities implemented in the two countries targeted by the project: Jordan and Tunisia

**ESCWA UNDA Closing Webinar:
Presentation of the outcomes of the UN Development Account Project on
“Up-scaling Energy Efficiency in the residential and services sectors in the Arab Region”**

Online, via Zoom, 20 & 21 December 2021



MINISTRY OF ENERGY AND MINERAL RESOURCES
THE HASHEMITE KINGDOM OF JORDAN



**11th INTERNATIONAL FORUM ON ENERGY
FOR SUSTAINABLE DEVELOPMENT**
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AGENCE NATIONALE POUR
LA MAÎTRISE DE L'ÉNERGIE
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Shared Prosperity **Dignified Life**



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Introduction of the ESCWA UNDA project on “Up-scaling EE in the residential and services sectors in the Arab Region”

Objectives:

- substantially enhance the capacity of Arab countries in improving and optimizing energy efficiency in the building sector
- Induce a change of scale in the implementation of energy efficiency programs in the existing residential and non-residential building stock.

Participating countries:

- Jordan (MEMR)
- Tunisia (ANME)

Introduction of the ESCWA UNDA project on “Up-scaling EE in the residential and services sectors in the Arab Region”

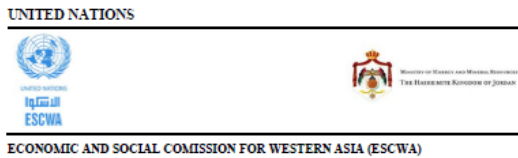
Axes of intervention:

- Develop a comprehensive baseline mapping study to provide the reference situation/ baseline parameters, for developing EE programs
- Develop/reinforce short, medium & long-term strategies/ appropriate EE policies for the residential and services sectors, to be used as frameworks for the implementation of large-scale EE programs.
- Initiate & enact, or reinforce existing, household and other equipment energy labelling systems and Minimum Energy Performance Standards (MEPS).
- Produce guidelines and trainings material in support of improving energy performance in the building sector
- Set up effective large-scale implementation schemes for dissemination of higher EE equipment & appliances, as well as improving the thermal performance of existing buildings, involving private and public resources,

Develop a comprehensive baseline mapping study to provide the reference situation/ baseline parameters, for developing EE programs in Jordan and Tunisia

Topics covered by the comprehensive baseline mapping study report include:

- **Identification of key stakeholders in the residential and services sectors;**
- **A preliminary assessment of the residential and services sectors share of the overall national energy consumption;**
- **Socio-economic and energy characterization of the existing building stock, by branch of activities;**
- **Assessment of existing EE programmes, knowhow and capacities in the country, as well as potential local financing tools;**
- **Identification of possible institutional options to insure the implementation of the project within the country, including the development of Super ESCO structures.**



UNDA project, on "Up-scaling Energy Efficiency in the residential and services sectors in the Arab Region"

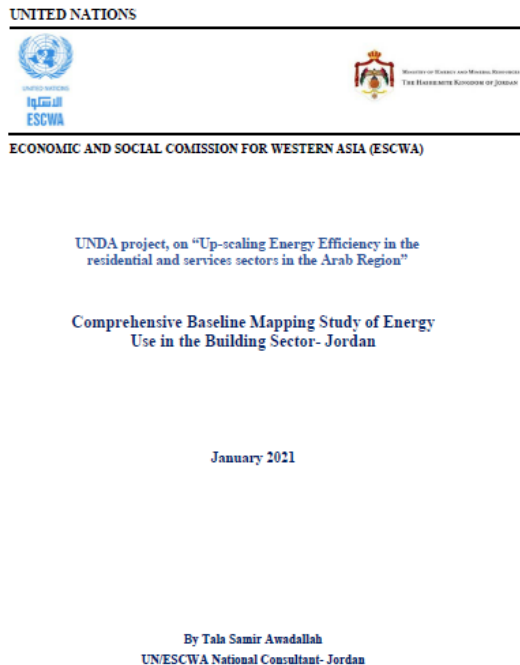
Comprehensive Baseline Mapping Study of Energy Use in the Building Sector- Jordan

January 2021

By Tala Samir Awadallah
UN/ESCWA National Consultant- Jordan



Develop a comprehensive baseline mapping study to provide the reference situation/ baseline parameters, for developing EE programs in Jordan and Tunisia



- **National Seminar** on the launching of **the baseline mapping study of the energy use situation in the buildings sector in Jordan**, March 2019
- **National Task Force Meeting** for **reviewing the energy situation of the building sector in Jordan**, November 2019
- **National Seminar** on the launching of **the baseline mapping study of the energy use situation in the buildings sector in Tunisia**, February 2019
- **2nd National Task Force Meeting** of the project on “the presentation and discussion of the preliminary results of **the comprehensive baseline mapping study of energy use in the building sector in Tunisia**”, December 2019;
- **National Workshop** on “the presentation of final results of **the comprehensive baseline mapping study of energy use in the building sector in Tunisia**” , September 2020



Methodology for monitoring energy consumption patterns in the residential sector and the services low-voltage segment of end users in Jordan and Tunisia

The methodology is based on **a combination of a periodic survey mechanism and sample energy consumption measurements (Jordan: MEMR & DoS / Tunisia: STEG)**

The developed methodology will allow:

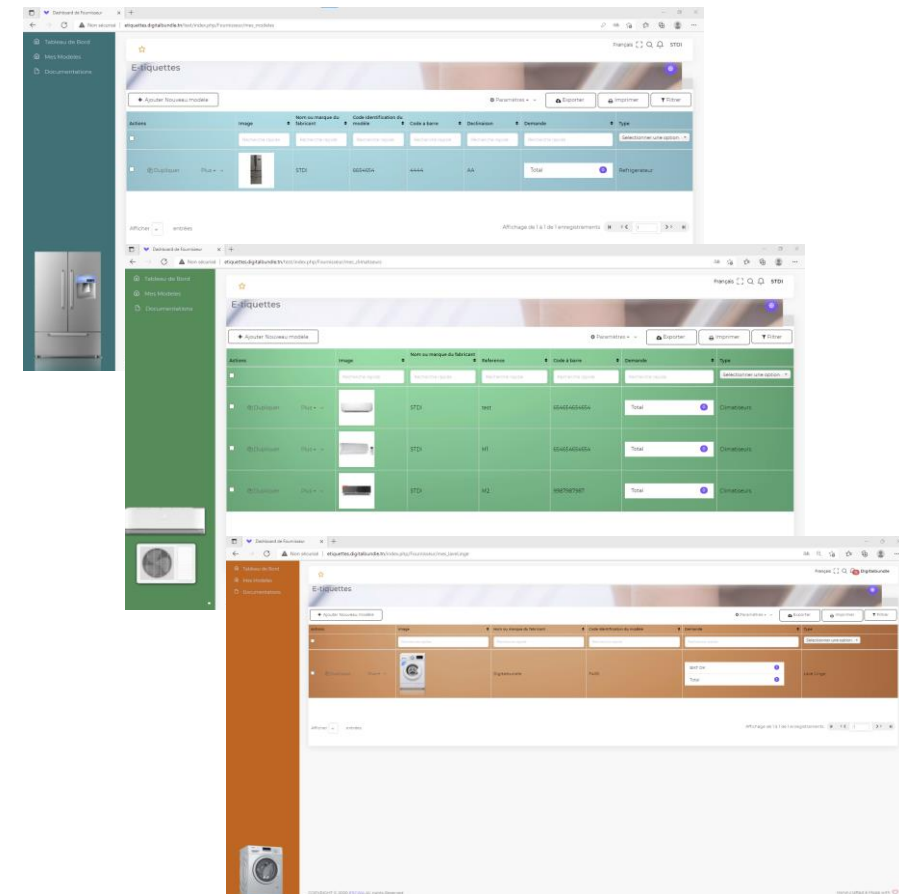
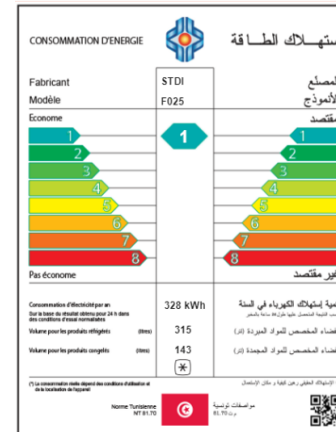
- **Determine the level of equipment rate** of the targeted population: proportion of the end users in the targeted population with specific equipment, and an indication of the energy performance levels of these equipment;
 - **Evaluate energy equipment stocks** within the targeted population and their **final energy consumption**, and **provide indications on the evolution of energy performance** within the equipment stocks;
 - **Identify the impact of certain socio-economic and geographic variables on the type of equipment and on energy consumption** in the targeted population;
 - **Identify the impact of the overall building energy performance on energy consumption** in the targeted population, and **provide an indication on the evolution of the energy performance level in the building stocks**;
 - **Inform on the behaviour, opinions and plans of the targeted population in terms of energy sources and corresponding equipment.**
- ✓ **4 online training sessions for Jordan group and 3 online training sessions for Tunisian group**
- ✓ **National Workshop on Developing, Implementing, and Evaluating Energy Efficiency Policies in the Buildings Sector in Tunisia, April 2019;**
- ✓ **National Workshop on Development, Implementation and Evaluation of Energy Efficiency Policies in the Buildings Sector in Jordan, July 2019**



Septembre 2021

Preliminary Report

Digitalized platform for energy performance labeling certification of household equipment in Tunisia



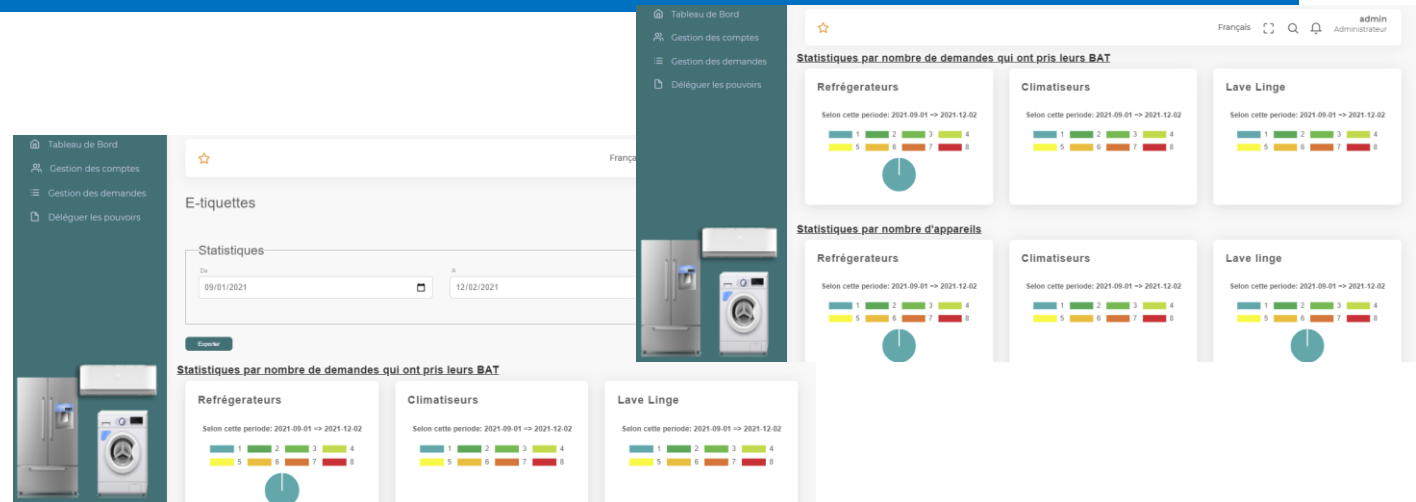
The online digital platform "E-tiquette" is a digital tool aimed at supporting **the certification and labeling of household appliances in Tunisia.**

Currently, the development of the platform has targeted refrigerators, **ACs, and washing machines.**

The platform is also **designed to allow the integration of other household appliances in the future,** as the implementation of associated technical and regulatory energy certification and labeling frameworks progress.

Digitalized platform for energy performance labeling certification of household equipment in Tunisia

The platform also includes a **module for generating statistics** on the evolution of the market for the household appliances covered by the platform and on their energy performance levels. These statistics allow national stakeholders to obtain **performance indicators** on the evolution of energy performance in the stock of household appliance in the country.



The launching of the deployment of the platform will be accompanied by the launching of a **free mobile application**, to enable consumers to verify **the authenticity of energy labels** affixed on household appliances offered for sale in the market and **access other useful information** concerning energy saving in household equipment and various other energy efficiency measures in housing.



Support material for a media campaign on reinforcing the energy performance labelling system in Jordan

These support material include:

- **Posters** and **rollups** to display at selected household equipment stores
- **Leaflets** to be distributed to potential customers

Support material are being designed and will be used to make household equipment energy labels more accessible to the large public

Guideline brochures targeting large public audience on EE Building Envelope and Equipment for Jordan and Tunisia

The **EE Building Envelope Brochure** provides households with practical advices and specific guidelines related to **building design** and **material quality** to be considered during **the home's building or retrofit process** to optimize and reduce its energy consumption.

Topics covered in this Brochure include:

- **The effect of climatic conditions and other factors** on the indoor temperatures,
- **Choosing the best direction for the building** to benefit from the sun's heat for heating in winter and avoid it in summer,
- **Using the layout of internal spaces** to optimize the building energy consumption,
- **Using external vegetation** to improve the energy sustainability of the building,
- Informing on **the role of thermal insulation materials**,
- Using **high-energy performance glass in windows**,
- Adopting **sunscreens and other shading elements**,
- Making use of **the building's thermal mass, effective ventilation** of the dwelling,
- Preventing **uncontrolled air leakages**, and
- Relying on **natural daylighting**.



Guideline brochures targeting large public audience on EE Building Envelope and Equipment for Jordan and Tunisia

The **EE Building Equipment Brochure** aims to acquaint families, broadly, with the most important procedures that should be taken into account **when choosing and using household appliances**, and **to guide them with practical tips to reduce energy consumption at home.**

Topics covered in this Brochure include:

- **Low-cost energy savings,**
- Reducing **heating** and **cooling** costs,
- Rationalization of electricity consumption in **air conditioning,**
- Rationalization of energy consumption in **the kitchen,**
- Rationalization of electricity consumption in **cleaning clothes,**
- Rationalization of electricity consumption in **lighting,**
- Rationalization of energy consumption in **water heating,**
- Practical advice when buying **household appliances.**
- Installing **solar PV systems.**



Training material targeting building professionals to support the promotion of EE in Buildings in Jordan and Tunisia

Topics covered in the **Building Envelope** training material include:

1. **Introduction to low energy buildings;**
2. **Heat transfer in Buildings;**
3. **Building Envelope** (minimising heat gain in summer and heat loss in winter through walls, roof, windows, and doors);
4. **Climate and Passive Solar Design** (Design For The Climate).



Topics covered in the **Building Equipment** training material include:

1. **Introduction to Energy and Energy Efficiency;**
2. **General equipment's and main characteristics;**
3. **Energy efficiency in residential and commercial building.**



Financial and implementation mechanisms for the execution of EE nation-wide programs targeting households in Jordan and Tunisia

- ❑ One implementation mechanism **for the dissemination of solar water heaters in Jordan;**
- ❑ One implementation mechanism **to replace old refrigerators by new higher EE ones in Tunisia;**
- ❑ Two implementation mechanisms for **the dissemination of roof thermal insulation in residential buildings in both countries.**



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Thank you

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