



ENERGY DISPENSERS PROJECT - CAMPS

Greening the Blue

*By: Technical Unit - Jordan
May 2021*



UNHCR
The UN Refugee Agency

GREENING THE BLUE

Greening the Blue is a UNEP initiative to engage and support the UN System in the transition towards greater **environmental sustainability** in the management of its **facilities and operations**



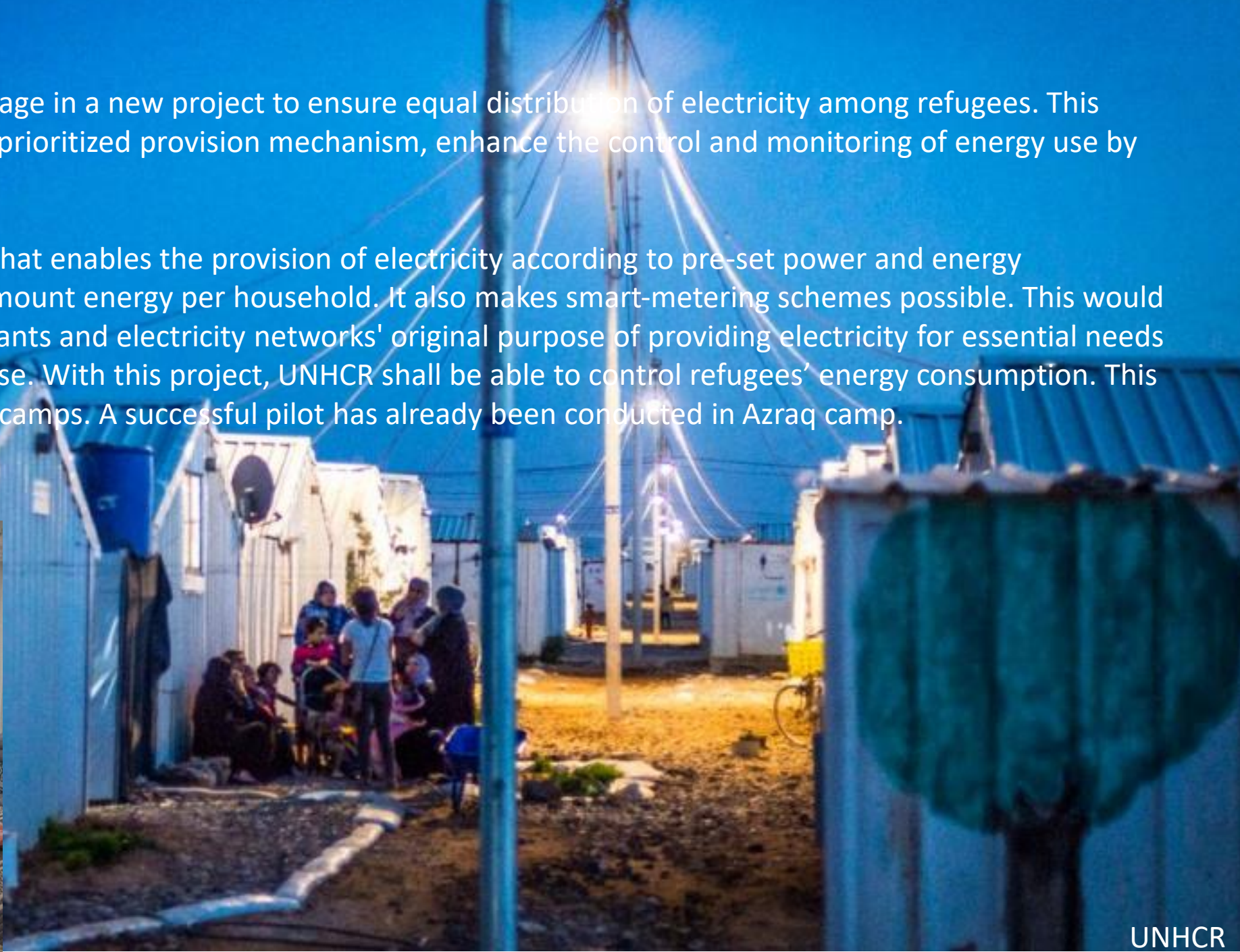
**GREENING
THE
BLUE**



Introduction

UNHCR is seeking support to engage in a new project to ensure equal distribution of electricity among refugees. This project will help us implement a prioritized provision mechanism, enhance the control and monitoring of energy use by installing energy dispensers.

An energy dispenser is a device that enables the provision of electricity according to pre-set power and energy parameters, allowing a certain amount energy per household. It also makes smart-metering schemes possible. This would complement the existing solar plants and electricity networks' original purpose of providing electricity for essential needs and eliminate any potential misuse. With this project, UNHCR shall be able to control refugees' energy consumption. This project can be rolled out in both camps. A successful pilot has already been conducted in Azraq camp.



ENERGY DEDICATION FOR SHELTERS

Originally the energy share was calculated and dedicated for each shelter is around **2.6 kWh per day** to cover the basic loads mentioned below but with time the number **jumped 35% more**. A solar plant was built and budget for excess consumption was planned for this purpose.

Lighting device
ownership across
both camps



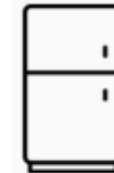
Television
ownership across
both camps

Mobile phone
ownership across
both camps



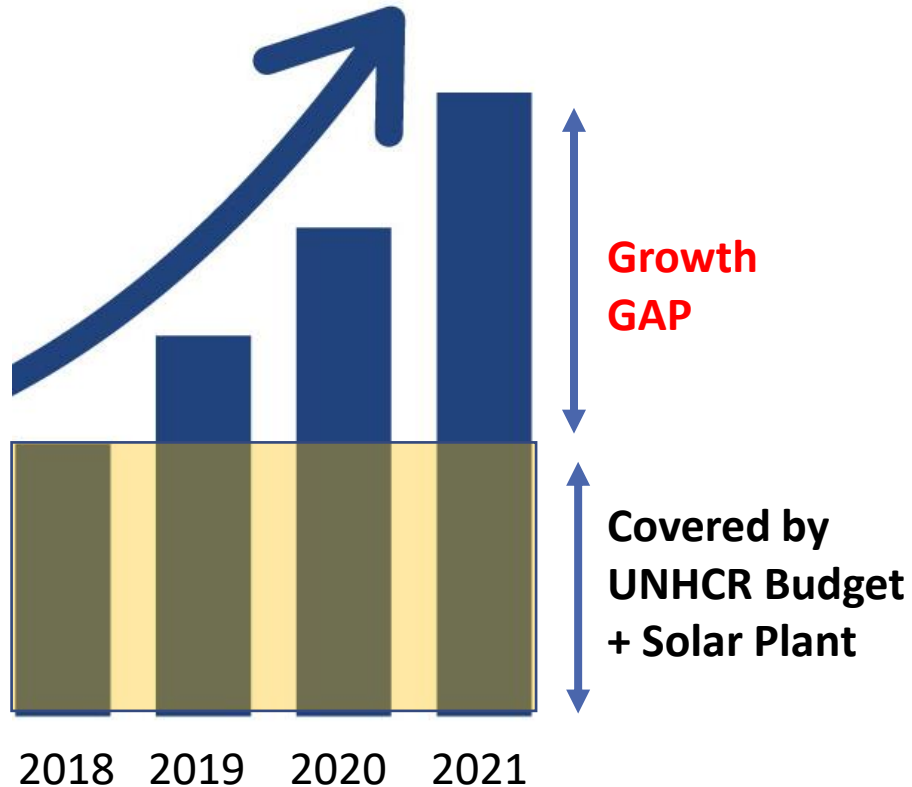
Fan ownership in
Zaatari camps*

Washing Machine
ownership across
both camps



Fridge
ownership in
Zaatari camp*

GROWTH IN ENERGY CONSUMPTION



Annual energy consumption

growth in 2020 reached **35%**

- Growth Factors:

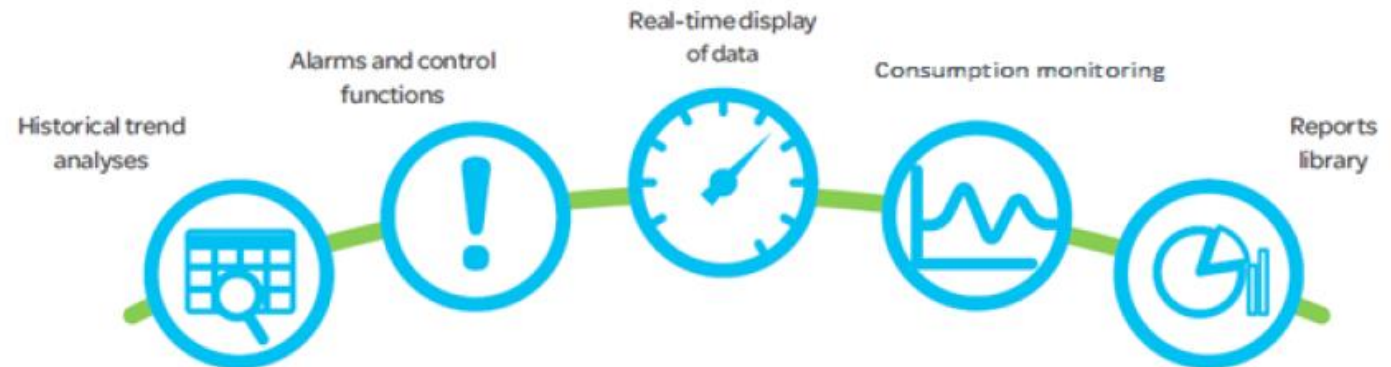
1. COVID e-learning increase in hours, that was used also by markets
2. Efficiency of systems goes down
3. More appliances in shelters and markets
4. More people are using electric heaters which significantly increase bills.
5. Other people are using A/Cs.
6. Electric Cookers are increasing.

SUGGESTED SOLUTION: ENERGY DISPENSERS



Energy Dispenser: is a smart electrical energy monitoring and control device that is installed for each shelter to guarantee fair distribution of the electric energy and put a limit for that to avoid any abuse that might impact the rest of refugees.

This will result in reduction in the carbon footprint, as well as increasing the electrification hours for the shelters.



COST AND OUTCOMES



Outcome

- **Outcome 1** : Fair Equal Energy Allocation to all refugees
- **Outcome 2** : Higher electrification hours
- **Outcome 3** : Reduction in Carbon Footprint of camps



Budget / Timeline

- **Budget:** USD 3.5-4.0 Million USD
- Currently no secured funds
- **Duration:** to start in 2021-2022 depending on available funding. Project to be completed within 1-3 years.



Measurable Results

- **Environmental Impact:** Increasing energy efficiency and decreasing carbon print
- **Beneficiaries:** 120,000 PoCs residing in Zaatari and Azraq refugee camps.
- **Capacity Building:** 30-60 installation technicians opportunities for camp residents.
- **Cost savings:** The project shall reduce energy costs by streamlining energy consumption. Annual Savings US\$ 1-1.5 million



Implementing Partnership / Donors

- List of partners: EDCO, IDECO and donors

THANK YOU

Thank you!

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