

UNHCR and the IKEA Foundation have created the first refugee camp in the world powered by renewable energy. A medium- and low-voltage power network funded by the Saudi Fund for Development connected the IKEA Foundation Solar Plant to refugee shelters, formal and informal businesses, offices and utilities, providing year-round electricity in the camp.

Electricity Access



9,177 shelters connected to the grid

Average of 84 kWh per month per household or 2.7 kWh per day

16 hours of electricity provided daily to shelters

22

organizations and operational facilities supplied with electricity

Solar Plants Environmental Impacts



8,000 MWh's of clean energy produced every year

6,300 tons per year reduction of CO2

1,250 US passenger car emissions for a year

The burning of 2,900 metric tons of coal

Solar Plants Cost Savings

\$2.75M

million of annual reduction in electricity bills
The construction cost of approximately \$1.49/Watt



Anticipated return on investment within 3 years after the completion of the project

Azraq Electrical Network Physical Facts

The Solar Plant uses 7,788 (phase I), 5,280 (phase II) and 3,550 (phase III) solar PV panels with a lifespan of 25 years. This is the equivalent size of 13 football fields

19 km's of medium voltage cables and 2,700 low voltage poles connect shelters and operational facilities to the local electrical grid.

Improved Lighting

16,950 solar lanterns distributed to households

472 solar street lights installed in the camp

424 LED street lights installed in the camp

14,735 Energy Efficient Lightbulbs (LED) distributed

Livelihood Opportunities

200 refugees employed in the solar plant construction

250+ refugees employed in the construction of the electrical network

234 shops connected in the 2 marketplaces

10 trained refugee 'electricians' support UNHCR electrical activities in the camp

The Azraq Camp Solar Project was implemented over three concurrent phases. By mid-2019 all three phases of PV solar infrastructure were completed. By October 2018, connections to village 2 and 5 were finalized. With the completion of phase III in August 2019, overall Azraq Camp is approximately 70% powered by renewable energy.

Phase 1 | 2 MWp on grid

Completed in June 2017

Connected to Villages 3 and 6



Covers up to 35-40% of camp's electrical needs including:

- 4,903** total shelters
- + **22** organizations & operational facilities
- + **2** marketplaces

Phase 2 | 2 MWp + 1.5 MWp on grid

Completed in October 2018

Connected to Villages 2, 3, 5 and 6

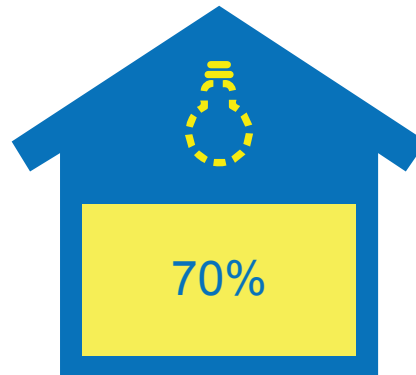


Will cover up to 55% of camp's electrical needs including:

- Up to **10,470** total shelters
- + **22** organizations & operational facilities
- + **4** marketplaces

Phase 3 | 3.5 MWp on grid + additional 1.5 MWp off grid

Completed in August 2019



Connected to Villages 2, 3, 5 and 6



Will cover up to 70% of camp's electrical needs including:

- Up to **10,470** total shelters
- + **22** organizations & operational facilities
- + **4** marketplaces

How the 2.7 kWh's in Azraq compares to average daily household consumption around the world:

Source: World Energy Council 2014

