



The
Project
Solution

Case study

Panel: 72 cells, polycrystalline, ND-AH330

Sustainable Energy Production for a Car Dealer

1016 panels were installed with a minimum number of beams across two parking lots

Project: Sad el Bauchriyeh, Matn, Lebanon

Installation by Liban Energie

LIBAN ENERGIE
LEBANON POWER SYSTEMS sd

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Summary:

- **Scale:** 1016 PV panels of the Series ND-AH330 with a power of 330 Wp each were installed in the project. This adds up to a total power capacity of 336 kW.
- **Battery:** The installation is complemented with a battery of 648 kWh. As the hourly demand of the company equals approximately 600kW, the battery power can supply the company for an hour.
- **Expected annual energy cost savings:** Close to €80,000.
- **Shade:** The installation of the solar panels provides shade for the parked cars.
- **Electric car charging:** The charging of electric cars with renewable energy is enabled for future use.
- **Beamless construction:** The construction holds the weight of the panels only with two beams on the far left and right side, thus maximizing the available parking space.
- **Proximity to the ocean:** The car dealership is located 2.9 km off the coastline.

PV panels

| | |
|--------------------|---------------------|
| Product: | Sharp ND-AH330 |
| Number of modules: | 1016 |
| Rated power: | 330 Wp |
| Cells: | 72 |
| Size: | 1,956 x 992 x 35 mm |
| Efficiency: | 17.0% |

Solar power plant

| | |
|-------------|--------|
| Plant size: | 336 kW |
|-------------|--------|

Other components

A battery with a capacity of 648 kWh was installed as part of the solar power plant that can supply the car dealership independently for approximately an hour.





The installer says:

'Sharp brand has proven to be one of the leading power system equipment manufacturer and is used worldwide due to some critical criteria. What differs Sharp panels from others are not only its 60-year long experience and its high performing panels but also its guarantee policy: A product guarantee of 10 years and even a 25-year guarantee on linear power output.'

Anastasia Helou, Liban Energie

Savings

Overall, the Sharp power plant is expected to decrease the energy cost of Bassoul Heneine by approximately €80,000. Moreover, the PV installation adds a greener, innovative brand image to Bassoul Heneine.



The operator says:

'We are very pleased by the strength of the design of the steel structure, the finishing of the installation with the neat cabling and the professional service. We, as Bassoul Heneine & co., recommend going solar through Liban Energie sal. using Sharp PV panels.'

We were skeptical of using a big budget for the system at first, but now we are very pleased with the choice we took. It already shows that it was worth every penny because we are seeing the actual reduction in our costs and the efficiency of the system.'

Bassoul Heneine



Installation of 1016 panels of Sharp ND-AH330 across two parking lots

The Sharp PV installation at Bassoul Heneine & Co. is located in Sad el Bauchriyeh, Matn, Lebanon. Bassoul Heneine is a car dealership chain. The Sharp PV panels were installed by Liban Energie in 2018. The installation consists of 1016 solar panels of the series ND-AH330, with a capacity of 330 Wp each, adding up to a total capacity of 336kW. The module ND-AH330 is classified as the “Project Solution” due to its high performance and robust product design. Furthermore, the Sharp panels are certified to withstand salt mist. This is necessary, as the Bassoul Heneine car dealership is located 2.9 km off the coastline. Without the additional protection, the panels would quickly be damaged by the salty air, leading to reduced performance.

The 1016 Sharp panels are spread equally over three roofs: one array is on the roof over the “Renault” section, one array over the parking garage and one array is on the roof over the “Dacia” section. The installations have a power of 59,400 Wp, 190,080 Wp, and 85,800 Wp, respectively.

The most challenging part about the installation was, that the panels are installed without beams in the middle of the parking lot (see photos). The construction holds the weight of the panels only with two beams on the far left and right side. This way, the parking space can be optimally used and the cars can be rearranged according to the dealership’s needs. Moreover, the panels shadow the cars from the sun.

Grid stability is ensured through a 600 kWh battery

Additionally to the PV panels, a battery with a capacity of 648kWh storage was installed. The sustainably produced energy can be stored and used during times of slower solar productions or during blackouts. The car dealership has an hourly electricity demand of approximately 600 kW. Thus, the battery can ensure the electricity supply for an hour for the company. Moreover, the storage battery helps the grid stability. Also, the solar energy can be used to charge electric cars in the future.



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