



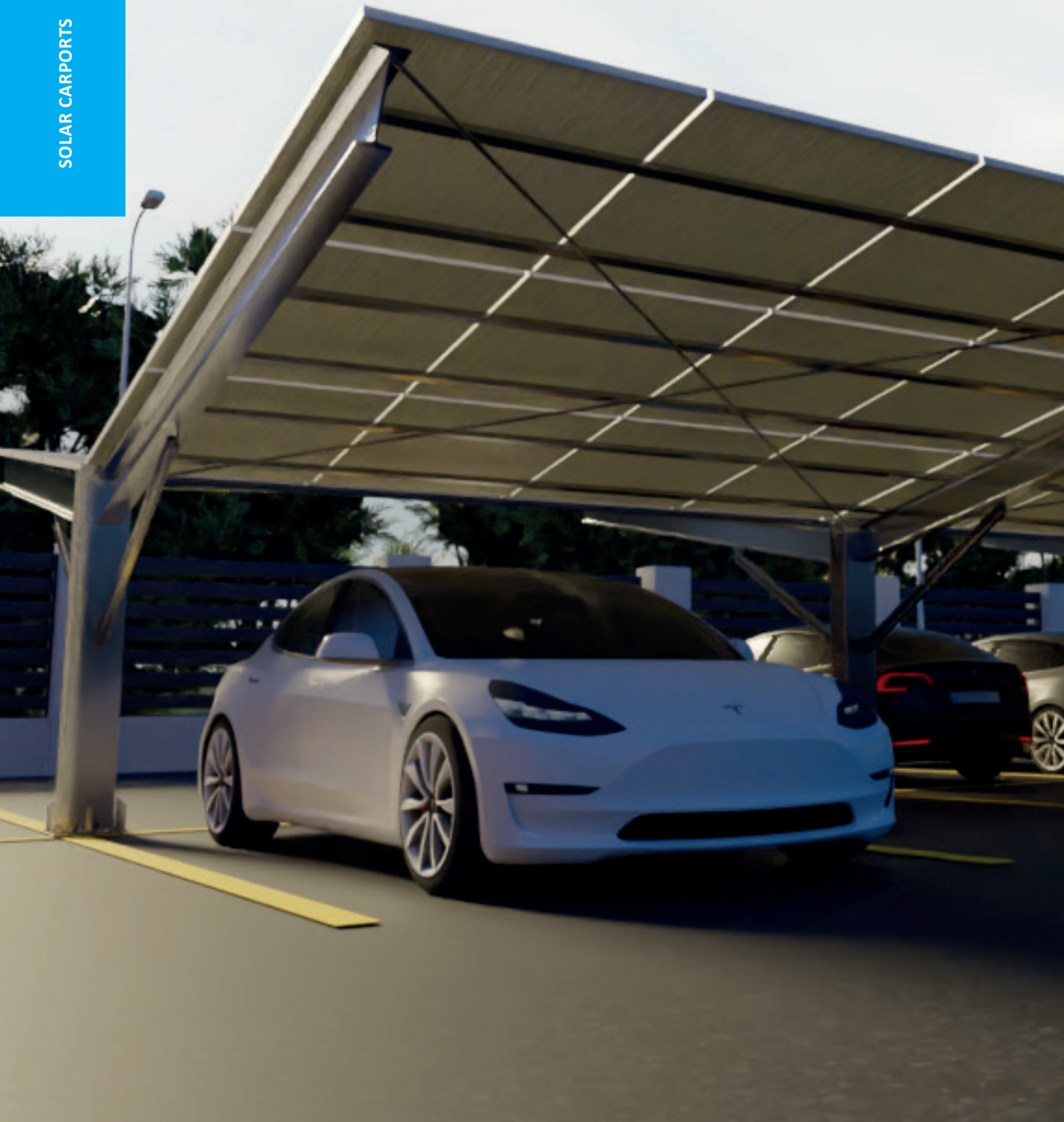
**POLARKON GmbH**



# SOLAR CARPORTS

## What We Can Do

With the photovoltaic system integrated in the carport itself Polarkon GmbH aims to provide a sustainable and innovative solution to the renewable energy market. Polarkon Solar Carports project is essentially a Solar Hub that functions as a car bay, meaning it both provides energy and is also a space efficient solution.





## Polarkon GmbH Offers Turn Key Solutions;

To use Solar Energy for Electric Cars and / or for Daily energy needs  
In Euro Standards

Complete design and engineering services as per Client requirements

- Consultancy for your solar energy planning, feasibility
- Architectural design and detailing ,
- Structural design,
- Electrical Design and drawings

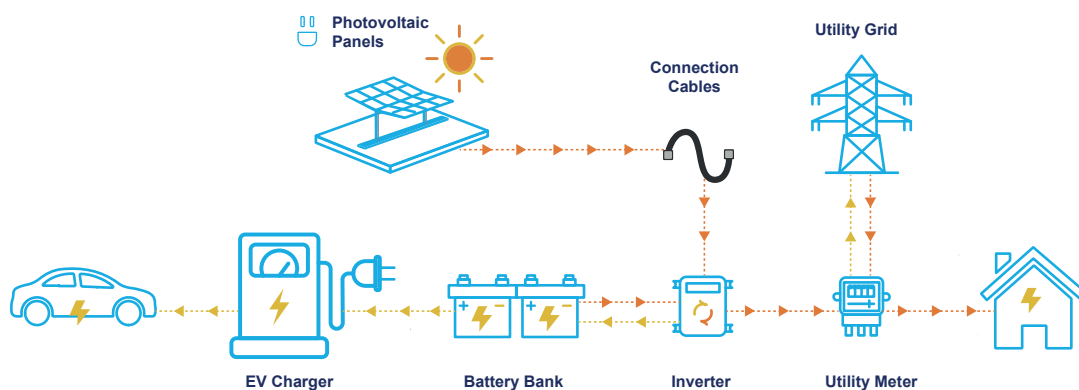
Provision of the complete component set (PV panels , Invertors,  
Charger , etc..)

Installation of the system

Commissioning



## SYSTEM DIAGRAM



### Off-Grid Systems

**OFF-GRID** systems are the solar energy installations which operate independent from the electric grid. These systems are designed to generate and store enough electricity to meet the energy needs of homes, offices and other structures.

**OFF-GRID** systems solely rely on the batteries for their **energy storage** to provide electricity since they do not have access to a continuous power supply, such as electric grid.

### On-Grid Systems

**ON-GRID** systems are solar energy installations that are directly connected to the electric grids. These systems utilize photovoltaic panels to convert sunlight into the electricity in order to power houses, businesses and other structures.

In an **ON-GRID** system, the excess amount of electricity generated by the photovoltaic panels is **fed back into the grid**, then which the customer can be compensated or credited through net metering



## SYSTEM COMPONENTS

**Photovoltaic Panels (1)** convert sunlight directly into the electricity using its semi-conductor solar cells. **From 320W to 600W of peak power** can be generated with up to 23% efficiency per unit panel in our projects.



**Inverter (2) converts Direct Current (DC)** electricity into **Alternating Current (AC)** electricity. An inverter with a high MPPT (Maximum Power Point Tracking) optimizes the power output of the solar panels by adjusting the voltage and current levels. Also available with various power outputs for different system requirements.



**Connection Cables (3)** uniquely designed cables for the photovoltaic systems in order to connect panels, inverters and other components. Minimum of 6 mm<sup>2</sup> cross-sectional area, UV-resistance and IP67-water resistance protection class.



**Connectors (4)** are the flame-retardant and UV-resistant accessories which connects panels in series to secure an electrical connection for the system. Inter-matable MC4 type male and female connectors are used in our systems.



**Lithium-Ion Battery (5)** are the lightweight and rechargeable batteries which store significant amount of energy. Energy can be stored during the days and used during the nights.



**Utility Grid (6)** is a network of interconnected power generation and distribution system within the infrastructure.



**Utility Meter (7)** is a device used to measure and record the electricity usage of the system.

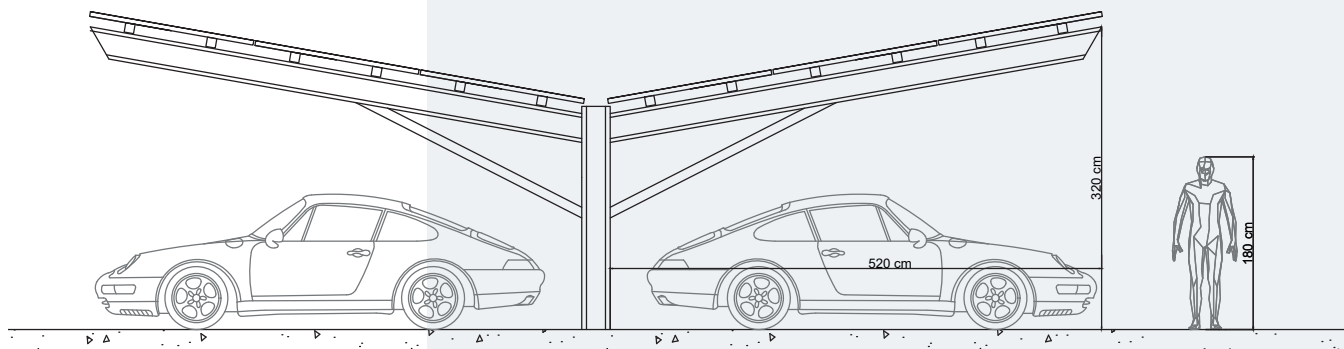


**EV-Charging Stations (8)** is a specialized system which provides electric energy to recharge electric vehicles. Stations can be set up AC or DC powered, upon the customers' requests, where DC chargers charge faster and much bigger in size.



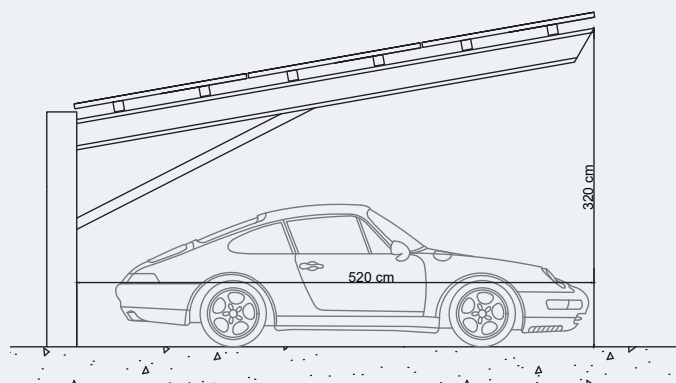
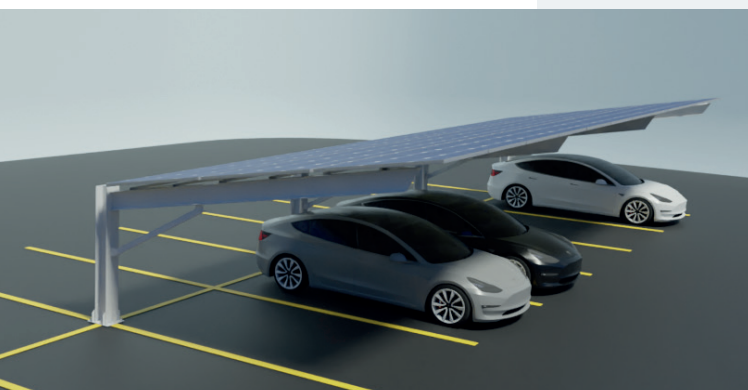
## TOKIO

### T-TYPE CARPORT



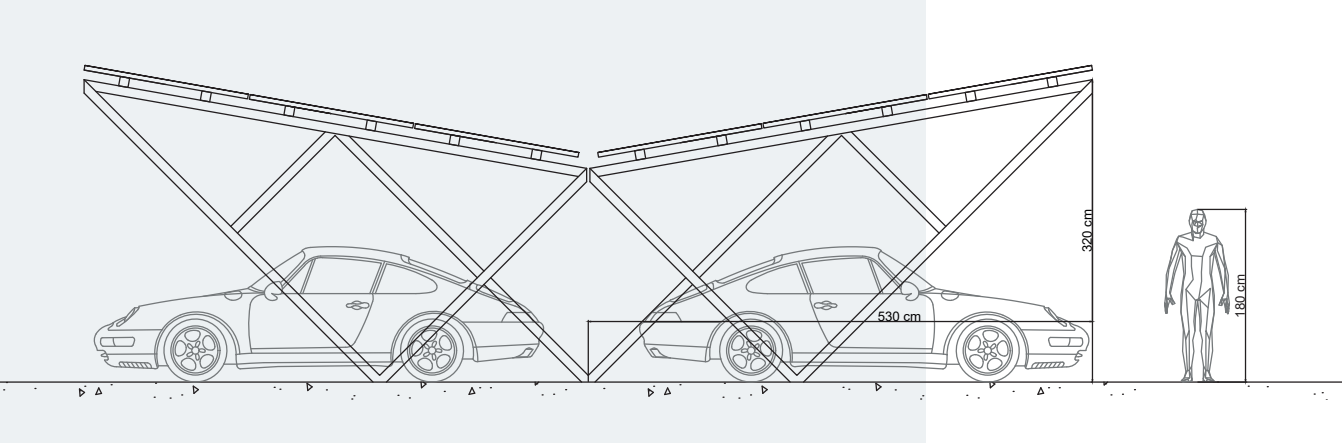
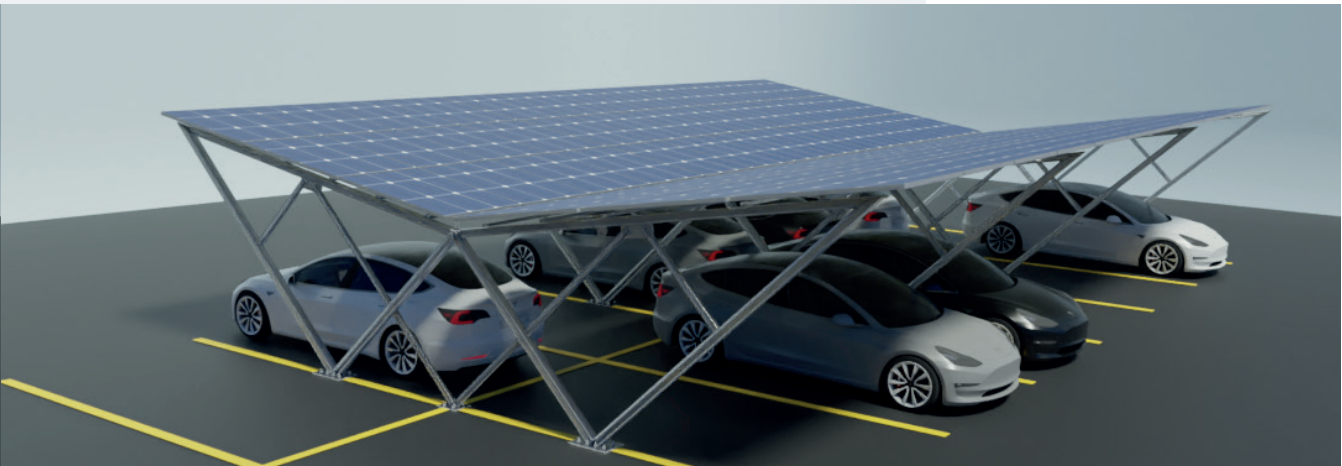
## LONDON

### L-TYPE CARPORT

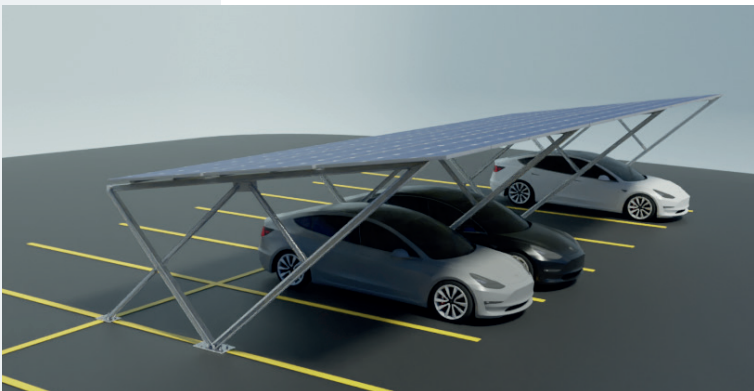
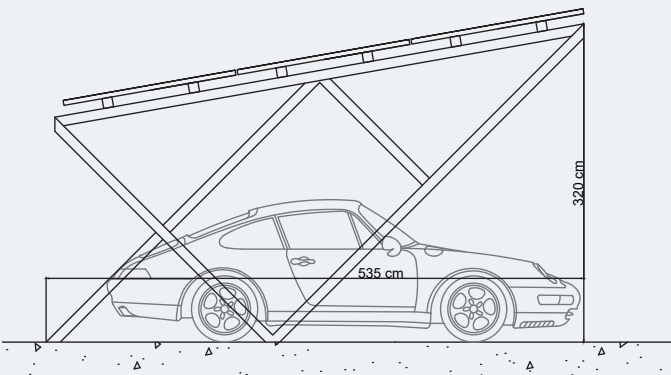




# WASHINGTON W-TYPE CARPORT



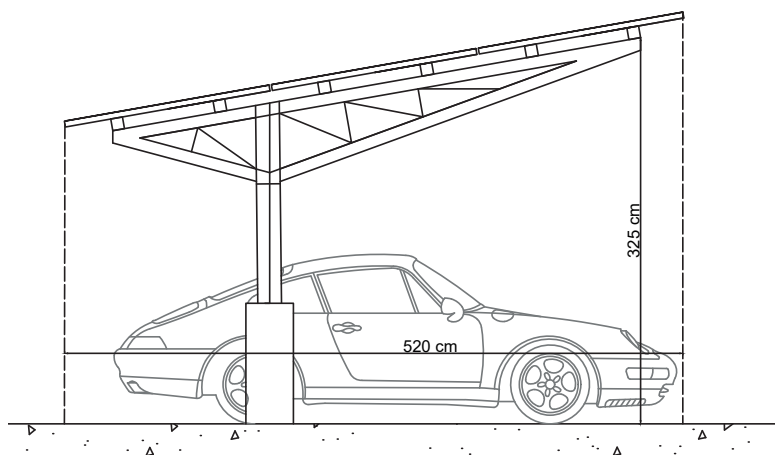
# VIENNA V-TYPE CARPORT





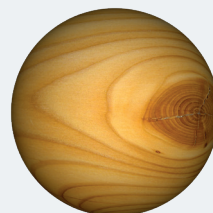
## CUSTOM CARPORT OPTIONS

Polarkon GmbH allows for their Customers to order and design their own unique Carports by providing a total **design and build** service . This design and build service includes the commissioning, installation and site works and all are provided as a total service by Polarkon GmbH.



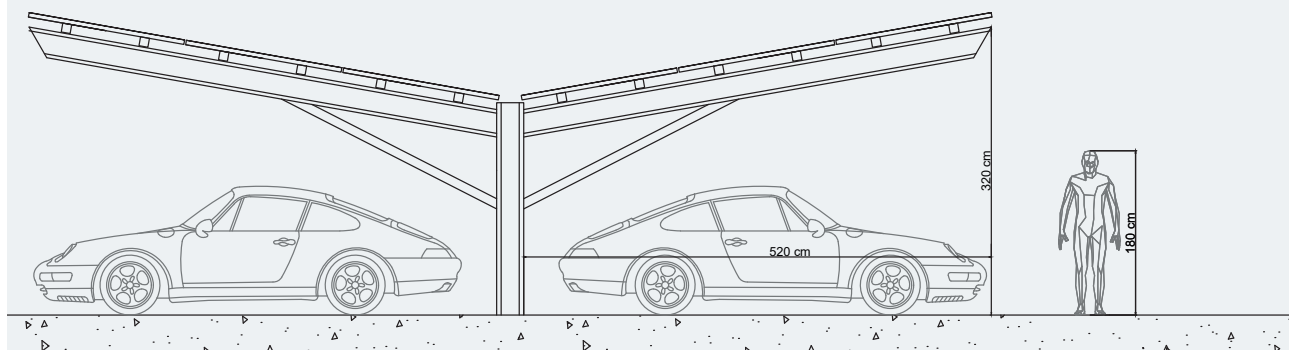
## Different Material Options

The flexible nature of the Solar Carports Project leaves room for different material options like **Timber** or **Aluminium** to be used in the Solar Carports



## Different Section Options

With the benefits of the variable and adaptive materials Solar Carports Project presents the option of variable cross-sections as well as curved alternatives and different sizing options

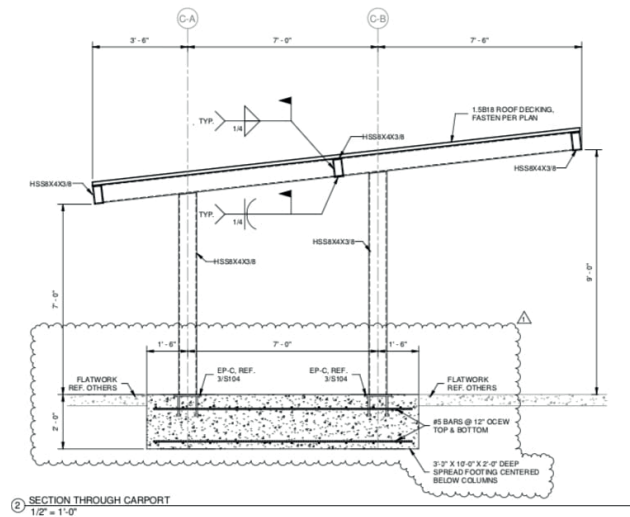






## Anchoring and Footing systems

As a design and build project Polarkon Solar Carports include the alternatives to provide the necessary services for site preparation and installation of the Solar Carports



## Additional Accessories

With the design and build strategy of Polarkon GmbH Solar Carports are designed to accommodate many additional features like;

- Custom powder and protective paint jobs
- EV-charging stations
- CCTV and Camera installation,
- Waterproofing and water expulsion systems
- Exterior lighting and sensor systems











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