

Architecture & Zoning

DIFFERENT CHARGING STATIONS FOR DIFFERENT USE

In the part about technology, many charging systems were introduced. Eventually, because their different technical characteristics has an impact of the potential use, they can be classified in roughly 3 categories. The level 1 charging station works on AC voltage, and is the cheapest type of charger. It requires a lot of time to charge (generally 8 hours or more). As a consequence, it is deployed only at home, or possibly at work, to charge the electric vehicle overnight or during the working day. The Level 2 charger has a lower charging time, around 4 hours for full charge. It can be used in each place where the electric vehicle owner will stay a limited but not too short amount of time, for instance in front of a cinema. The last type is the level 3, working on DC. It is currently far more expensive, and it is expected to charge the car's battery up to 80% in 30 minutes.

THE POSSIBLE PLACES TO DEPLOY A CHARGING STATION

The main possible places for the charging stations are of 4 categories. First, it could be installed at home, in a garage. It allows the user to charge it every night when coming home, until the time he leaves the house. The trend for this kind of system is, as it is briefly introduced in the chapter about technology, to connect the charging station to the grid, in order to optimize the charging and de-charging of the car.

On electricity price peak hours, energy from the car's battery can be sold to the grid; on off-peak hours, the charging of the car at a lower price takes place. The second category is at the office parking spots. It is the second place people spend most time in. The duration of work allows to install level 1 or level 2 charging station. Third, it could be positioned in the public or private parking areas in cities. Generally, a faster charger is required because the car will not stay parked more than 2 hours in general. Lastly, some charging stations need to be places in highways rest areas. In this case, the charging should be as fast as possible, so a level 3 charging station is recommended.

THE INTEGRATION OF THE CHARGING STATION IN THE ENVIRONMENT

Charging stations need to fit in the current environment, whether it is in private areas, or public areas. At this time, many rules about the design of such charging stations have been

The range anxiety is the fear of running out of power when driving an electric vehicle most of the daily commuting is possible without the need to charge an electric vehicle during the day

