

AN ARCHITECTURE OF MICROGRID INTENDED FOR SYSTEMS OF ELECTRIC CART SMART CHARGING

Katarzyna BIERNAT
Konrad NITA
Stefan WÓJTOWICZ

ABSTRACT *The electric cart charging system development is a necessary condition to boost demand for electric vehicles. For several years the Electrotechnical Institute has performed research in the area of developing electric car infrastructure. The concept of smart microgrid that supports electric vehicle powering has been presented. One of the possible solutions has been shown; i.e. charging system incorporating renewable energy sources that requires internal energy storage circuit. The performed research aims at Smart Charging Systems adaptable to the changing conditions of terminal load that varies over time, state of charge and electrical grid load profile. The article describes conventional and CHADEMO quick charging stations, developed at Electrotechnical Institute. Their physical and functional structures have been shown.*

Keywords: *electric vehicles, sustainable energy sources, quick charging, CHADEMO*