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## ANALYSIS OF THE SPHERE OF SERVICE AND CHARGING OF AN ELECTRIC CARS

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The most famous commercially available models of electric vehicles can be considered: Toyota RAV4 EV, ZENN, ZAP Xebra, General Motors EV1, Chevrolet Volt, Volvo C30 BEV, Tesla Roadster, Tesla Model S, Modec EV, Reva NXR, Renault Series ZE, Renault ZOE, Nissan LEAF, Tazzari ZERO, Lada Ellada [1].

According to the IRS Group, as of 01/04/2019, the number of registered electric vehicles in Ukraine is 12 119 units, whose average age is 4.9 years. Nissan Leaf prevails - 67% of the total. Active work concerning the introduction of electric vehicles and infrastructure is done in the European countries. So the German government plans to bring 1 million electric vehicles, hybrid cars and full hybrids (PHEV) to the country's roads by 2020. Mass production began in 2011. In 2012, 500 million euros was allocated from the budget for these purposes. The government of Ireland plans to turn 10% of transport into electricity by 2020. The Norwegian government plans to fully converting all motor vehicles in the country to electric vehicles by 2025. The Swedish government has planned to completely stop selling cars with a gasoline engine by 2030 [2].

As can be seen from the above, the development of the electric car industry is growing very fast. The sphere of service and charging of such machines also is growing very fast. Electric cars and charging stations are considered as an important element of demand management for electricity (the first tests of the transfer of energy from cars to the electrical network) began in January 2009 in Newark, Delaware, USA. Charging stations are divided into two main types: standard alternating current charging station (they are notable for the distinguished by low cost and charging time ~ 10 hours) and fast charging station on direct current (fast) and alternating current (standard). They are notable for the duration of charging within 1 hour, but it has a high cost. A Swedish company ABB, out into Terra High Power DC, the fastest and most powerful charger for electric cars. This device has a maximum output power of 350 kW, which is three times higher than the power of charging stations Tesla Superchargers. In Germany at the end of 2016, the number of charging stations was 7407 units. In France, the number of charging stations in 2017 was 2,689 units [3].

### References

1. <https://ru.wikipedia.org/wiki/Электромобиль>.
2. <http://irsgroup.com.ua/wp-content/uploads/e-cars-UA-Mar19.jpg>.
3. <https://www.export.gov/article?id=Market-Brief-E-Mobility-in-France-2016>.