

**2022** 8<sup>th</sup> International Conference on Energy Efficiency and Agricultural Engineering **EE&AE 2022** 

**30<sup>th</sup> June - 2<sup>nd</sup> July 2022, Ruse, Bulgaria** 

# Measures to stimulate the development of electric transport as a tool for the development of the territory

# Tatsiana G. Zoryna, Siarhei A. Aliaksandrovich, Yulia S. Valeeva, Marina V. Kalinina, Lilia E. Ilikova, Yokub S. Ergashov

Institute of Power Engineering of NAS of Belarus, Kazan State Power Engineering University, Kazan Federal University, National university of Uzbekistan named after M.Ulugbek tanyazorina@tut.by, serje.alex@gmail.com, valis2000@mail.ru, esp\_mvkalinina@mail.ru, liliaernst@mail.ru, y.ergashov@edu.uz

## **GOAL OF THE STUDY**

The main purpose of this study is to convey the measures of state support of the European Union through the highlighted 4 criteria as infrastructural, financial, infrastructural, environmental. In order to work out a certain policy of development of electric transport.

#### **METHODS AND MATERIALS**

The market for electric vehicles in countries with a developed infrastructure of charging stations and a positive practice of using electric vehicles as a means of transportation is defined as the object of research. Using the method of comparison and cognitive method, the main measures of state support in foreign countries are summarized. A tabular method structured the policy of development of electric transport. Literature review of the practice of electric transport development allowed to identify and summarize measures to stimulate development, such as subsidies for the purchase, the benefits of ownership, business support infrastructure. The results of this study will make it possible to improve the existing policies of development of electric transport and to form a strategy of development of the territory taking into account the positive experience of the European Union countries.

#### RESULTS

To date, more than 20 countries have announced a complete phase-out of internal combustion engine (ICE) vehicles over the next 10-30 years, including emerging economies such as Cape Verde, Costa Rica and Sri Lanka. Moreover, more than 120 countries (which account for about 85% of the global road vehicle fleet, excluding two- and three-wheelers) have announced economy-wide zero-emission commitments that aim to achieve zero emissions over the next several decades (Fig.1).







In Figure 1, only countries with a ban on the use of combustion engines, an electrification goal, or zero-emission legislation or proposed legislation were included. Countries with only zero-emission policy documents, such as Japan and China, were not included. The European Union refers to collective commitments from 27 member states. Some individual countries also have zero-emission commitments either in existing legislation or in proposed legislation (Denmark, France, Germany, Hungary, Ireland, Luxembourg, Slovenia, Spain, Sweden and the Netherlands). Targets reflect the status as of April 20, 2021.

## CONCLUSIONS

The analysis of existing measures and approaches to stimulate the development of electric transport used in world practice showed that the main tools to stimulate the development of electric transport are financial, infrastructure, environmental and informational measures and political measures.

- According to the results of the readiness assessment and analysis of the external environment for large-scale development of electric transport in the Republic of Belarus, in order to further develop electric transport in the Republic it is necessary to:
- 1) increasing spending on research and development in the field of electric transport to create production facilities advising V and VI technological modes;
- 2) attraction of additional foreign and private investments for realization of measures of the Complex Program of electric transport development for 2021-2025
- 3) further stimulating the development of electric transport by creating material incentives for its owners;

4) development of a full cycle of production of domestic electric cars, batteries and fast charging devices).

Specific steps should include specifying the list of technologies to be included in the special investment contract, taking into account the focus on promising technologies in fuel cells, batteries, microelectronics and IT solutions. Separately, it is necessary to support the development of charging infrastructure for electric transport.

#### ACKNOWLEDGMENT

This research was funded by Belarusian Republican Foundation for Fundamental Research within the framework of grant №T21ЭT-027 from 01.03.2021.