

**04.07.2018****Yury Udaltsov: “Storages will begin to play an important role in power systems”**

RUSNANO held the presentation of the account by the Centre for Strategic Research (CSR) titled Electric Power Storage System Market in Russia: Its Development Potential edited by the RUSNANO Management Company LLC Executive Board Deputy Chairman **Yury Udaltsov** and the Director of the Digital Energy Development Centre CSR North-West, Deputy Head of the EnergyNet working group of the National Technological Initiative (NTI) **Dmitry Kholkin**.

The discussion of the account presented by Yury Udaltsov and Dmitry Kholkin also saw the participation of the RUSNANO Management Company LLC Managing Director of Government Relations Projects **Timur Kotlyar** and the PJSC Rosseti Head of Innovation Projects **Maxim Pokalyuk**.

According to the estimates made by the authors of the account, the world is currently on the threshold of an electric power storage revolution due to 2 oppositely directed factors. On one hand, according to all the existing forecasts, power generation based on burning fossil fuel tends to decrease, which is stipulated by the international agreements aimed at preventing global warming. On the other hand, electric power consumption is going to increase rapidly due to the rapid development of electric transport, among other things.

According to **Yury Udaltsov**, in order to resolve this discrepancy, “electrical power engineering has to change dramatically. The myth that electric power cannot be stored will cease to exist sooner or later, and storages will begin to play an important role in power systems.”

According to the account, the global Power Storage System (PSS) market will be as big as \$80 bln by 2025. According to the estimates made by the authors, the maximum volume of the Russian market may reach \$8.6 bln (a more realistic estimate is \$1.5–3 bln) by the same year.

If the active development of renewable energy sources (whose efficient large-scale use is impossible without PSS) is one of the principal drivers in the world, as well as the beginning of widespread electrical transport use, then there are three perspective areas for the use of PSS:

- **energy Internet:** using PSS in distributed power systems (microenergy systems, including isolated ones)
- **a new general circuit:** using PSS in centralised power generation
- **hydrogen power generation:** storing electric power in a hydrogen cycle for export shipments of hydrogen fuel.

The existing lithium-ion technologies will define the PSS market development for many years to come. However, in the medium term perspective, it is advisable to build a base for creating power storage systems in Russia using cutting-edge technologies.



Among the priority technology areas, the CSR recognises post-lithium electrochemical technologies (sodium-ion, potassium-ion and, perhaps, magnesium-ion ones); flow batteries; metal-air accumulators (zinc and aluminium-air batteries); hydrogen technologies and gravity storages.

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**For additional information please contact**

RUSNANO Management Company Press Service  
Anastasiya Fomicheva  
Tel. +7(495) 988 5677  
[press@rusnano.com](mailto:press@rusnano.com)