

BIOGRAPHY



Ihor Vakulenko

Institute of Economic Research
Slovak Academy of Sciences

Project number
1263/02/03

Project duration
9/2023 - 9/2025

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"I applied for the SASPRO 2 program because it provides an opportunity to cooperate with leading economist scientists from Slovakia, which will contribute to research experience in applying progressive approaches to economic analysis. Access to scientific resources and infrastructure of the Slovak Academy of Sciences is necessary for implementing my interdisciplinary research to find optimal approaches to disseminating smart grids. Participating in the program will improve my qualifications as a researcher and expand my network of contacts, which will positively affect the growth of my research capabilities."

S A S P R O 2

Ihor Vakulenko received a Ph.D. in Economics and Management of National Economy at the Sumy State University (Sumy, Ukraine). The work was devoted to organizational and economic principles of smart grid implementation in the energy sector of Ukraine. He worked on issues of decarbonization of the economy due to the innovative development of energy under research funded by the government of Ukraine. As part of an interdisciplinary team of researchers, he developed heat supply schemes for some settlements in Ukraine.

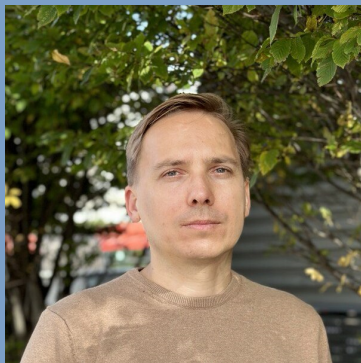
PROJECT SUMMARY

Approaches to the smart grids' dissemination

Energy has become a vital sector of the economy. An efficient energy system contributes to the economic development of countries and regions, while the outdated energy system hinders it. The modern energy system uses outdated approaches that cannot be considered adequate because they were created in the last century. Smart energy grids are the approach of modernization of the energy system, which allows to solve economic and social problems comprehensively and contributes to achieving climate policy goals.

The vast majority of modern research on smart grids focuses on the narrow issues of their implementation, such as testing the technologies for production, storage, distribution, and electricity consumption. However, the growth of smart grids requires a thorough study of approaches to organizing this process by creating opportunities for stakeholders, applying optimal technologies tailored to the region where they are implemented, and promoting sustainable business models. A systematic approach to smart grids will allow efficient use of resources and maximize the effects of smart grids projects. It is necessary to consider existing scientific products and develop tools that policymakers and other stakeholders can use at different stages of the development of smart grids. The proposed study focuses on solving this problem. It is suggested to study the impact of smart grids on crucial economic and social development indicators to identify the necessary prerequisites and drivers for developing smart grids, considering the region's features.

The results obtained, together with the smart grid assessment system and approach to enhancing and deepening stakeholder cooperation, can be brought to the level of practical tools that will contribute to the implementation of systemic energy policy, reduce planning errors and increase resource efficiency.



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PUBLICATIONS

1.) Kuzior A., **Vakulenko I.**, Kolosok S., Saher L. and Lyeonov S. (2023). Managing the EU energy crisis and greenhouse gas emissions: Seasonal ARIMA forecast. Problems and Perspectives in Management, 21(2), 383-399. doi:10.21511/ppm.21(2).2023.37
[doi:10.21511/ppm.21\(2\).2023.37](https://doi.org/10.21511/ppm.21(2).2023.37)
2.) Wołowiec, T.; Myroshnychenko, **I.; Vakulenko, I.**; Bogacki, S.; Wiśniewska, A.M.; Kolosok, S.; Yunger, V. (2022). International Impact of COVID-19 on Energy Economics and Environmental Pollution: A Scoping Review. Energies, 15, 8407.
[doi:10.3390/en15228407](https://doi.org/10.3390/en15228407)
- 3.) **Vakulenko, I.**, Fritsak, M., Fisunen, P. (2022). An Organizational Scheme for Scaling Innovative Energy Projects. Smart Grids Case Marketing and Management of Innovations, 3, 149-164.
[doi:10.21272/mmi.2021.3-13](https://doi.org/10.21272/mmi.2021.3-13)
4.) Lyulyov, O.; **Vakulenko, I.**; Pimonenko, T.; Kwilinski, A.; Dzwigol, H.; Dzwigol-Barosz, M. (2021). Comprehensive Assessment of Smart Grids: Is There a Universal Approach? Energies, 14, 3497.
[doi:10.3390/en14123497](https://doi.org/10.3390/en14123497)

ORCID ID: <https://orcid.org/0000-0002-6994-833X>