NATIONAL ACADEMY OF SCIENCES OF UKRAINE
GENEREAL ENERGY INSTITUTE

REPORT OF THE GENERAL ENERGY INSTITUTE NATIONAL ACADEMY OF SCIENCES OF UKRAINE

on scientific and scientific-organizational activities in 2025

Director : ***Vitalii Babak,***
Academician of the National Academy of Sciences of Ukraine

MAIN AREAS OF SCIENTIFIC ACTIVITY

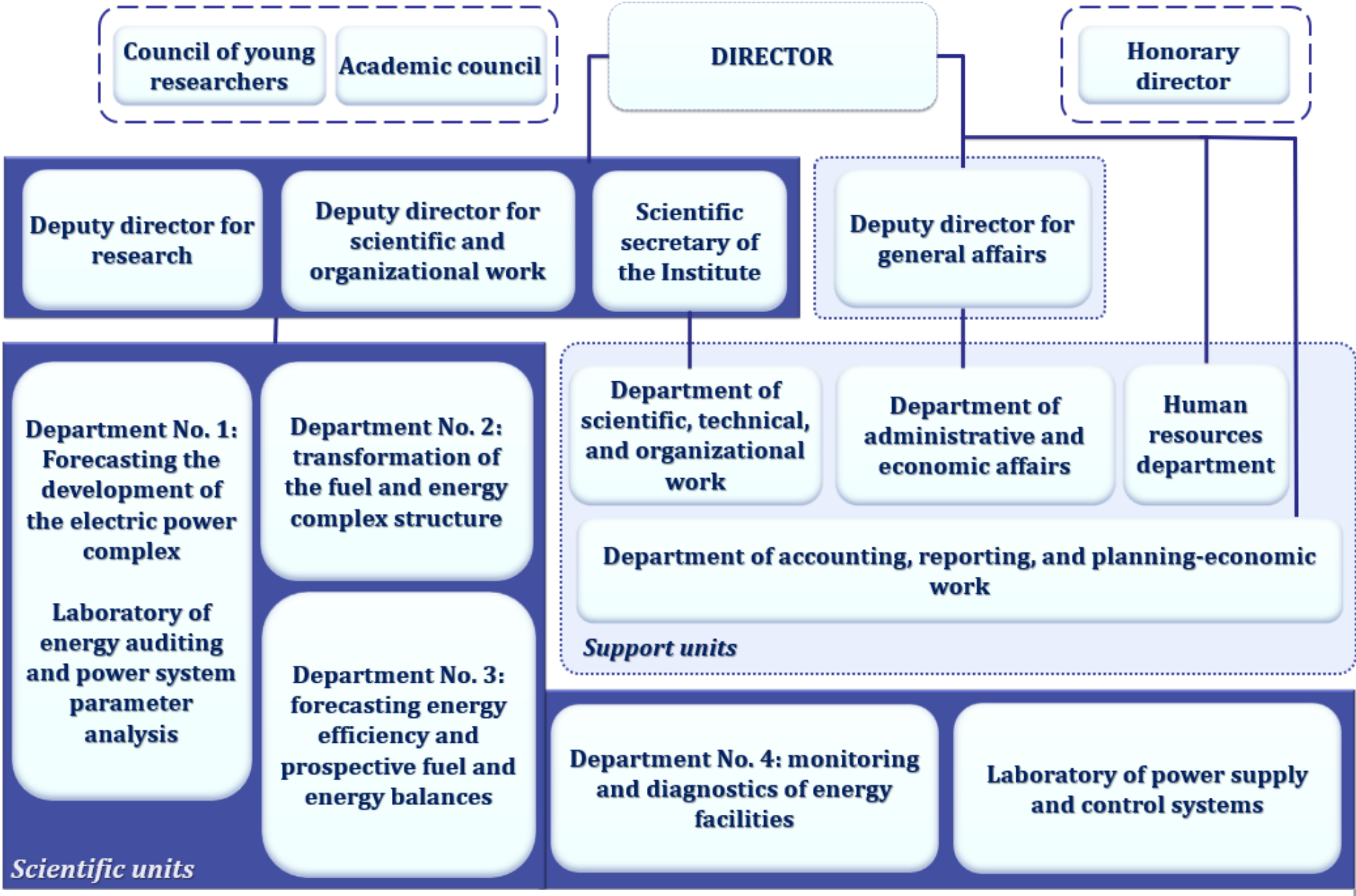
(Resolution of the Presidium of the National Academy of Sciences of Ukraine dated 23.02.2022 № 74)

System analysis and forecasting of energy development and consumption

Transformation of the fuel and energy complex structure, and the energy, environmental, and economic efficiency of its facilities and systems

Monitoring and diagnostics of the technical condition and environment of energy systems and facilities

Structure of the Institute of General Energy of the NAS of Ukraine



STATE ACCREDITATION BY THE MESU AND EVALUATION OF NASU ACTIVITIES

In 2025, the Institute underwent state accreditation of research institutions and higher education establishments regarding the conduct of scientific (research and technical) activities.

Based on the results of the state accreditation, the Institute was classified as Group B in the 'Engineering and Technology' field.

In 2024, the Institute underwent a performance evaluation for the period 2018–2023.

Based on the evaluation results, the Institute was classified as Category 'A'.

All research departments of the Institute were classified as Category 'A'
(Resolution of the Presidium of NAS of Ukraine No. 86 dated 19.03.2025 'On the Results of the Performance Evaluation of NAS of Ukraine Research Institutions')

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ

СВІДОЦТВО

про державну атестацію наукової установи

Серія ДА № 0400 Дата видачі 15 жовтня 2025 року

Цим свідоцтвом визнається, що

Інститут загальної енергетики Національної академії наук України

Ідентифікаційний код за ЄДРПОУ 04589627

за результатами державної атестації, проведеної у 2025 році, визнається таким, що пройшов державну атестацію.

Наукову установу за напрямом "Інженерно-технологічний" віднесено до групи Б.

Термін дії свідоцтва до 31 грудня 2030 року.

Заступник Міністра Денис КУРБАТОВ

TRAINING OF SCIENTIFIC STAFF

The Institute has postgraduate programs in:
G3 'Electrical Engineering' and
G6 'Information and Measurement Technologies '.

Accreditation of Programs by Specialty
G3 'Electrical Engineering';
G6 'Information and Measurement Technologies'.


НАЦІОНАЛЬНЕ АГЕНТСТВО ІЗ ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ВИЩОЇ ОСВІТИ
СЕРТИФІКАТ
ПРО АКРЕДИТАЦІЮ ОСВІТНЬОЇ ПРОГР
Освітньо-наукова програма
Інформаційно-вимірювальні технології в енерг
G6 Інформаційно-вимірювальні технології
третій (освітньо-науковий/освітньо-творчий) рівень
Інститут загальної енергетики Національної академії наук Укр
вул. Антоновича, 172, Київ, 03150, Україна; ідентифікаційний код
НАЦІОНАЛЬНЕ АГЕНТСТВО ІЗ ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ВИЩОЇ ОСВІТИ
СЕРТИФІКАТ
ПРО АКРЕДИТАЦІЮ ОСВІТНЬОЇ ПРОГРАМИ
Освітньо-наукова програма
Електроенергетичні системи та комплекси
G3 Електрична інженерія
третій (освітньо-науковий/освітньо-творчий) рівень
Інститут загальної енергетики Національної академії наук України
вул. Антоновича, 172, Київ, 03150, Україна; ідентифікаційний код 04589627

Ongoing postgraduate training in these specialties :
141 'Power Engineering, Electrical Engineering, Electromechanics`,
175 'Information and Measurement Technologies'.


НАЦІОНАЛЬНЕ АГЕНТСТВО ІЗ ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ВИЩОЇ ОСВІТИ
СЕРТИФІКАТ
ПРО АКРЕДИТАЦІЮ ОСВІТНЬОЇ ПРОГРАМИ
Освітньо-наукова програма
Електроенергетичні системи та комплекси
141 Електроенергетика, електротехніка та електромеханіка
третій (освітньо-науковий/освітньо-творчий) рівень
Інститут загальної енергетики Національної академії наук України
вул. Антоновича, 172, Київ, 03150, Україна; ідентифікаційний код 04589627
Дата видачі 28.11.2024
Строк дії 01.07.2030
№ 9368


НАЦІОНАЛЬНЕ АГЕНТСТВО ІЗ ЗАБЕЗПЕЧЕННЯ ЯКОСТІ ВИЩОЇ ОСВІТИ
СЕРТИФІКАТ
ПРО АКРЕДИТАЦІЮ ОСВІТНЬОЇ ПРОГРАМИ
Освітньо-наукова програма
Інформаційно-вимірювальні технології в енергетиці
175 Інформаційно-вимірювальні технології
третій (освітньо-науковий/освітньо-творчий) рівень
Інститут загальної енергетики Національної академії наук України
вул. Антоновича, 172, Київ, 03150, Україна; ідентифікаційний код 04589627
Дата видачі 29.01.2025
Строк дії 01.07.2030
№ 10450

In 2024, the Institute's PhD programs for specialties 141 and 175 were accredited by NAQA for a period of 5 years

Doctoral Programs by Specialty :
05.14.01 'Energy systems and complexes' and 05.11.13 'Instruments and methods for control and substance composition analysis'

Specialized academic council for awarding the doctor of sciences degree D 26.223.01.

Council Chair: Academician of NAS of Ukraine **Vitaliy BABAK**

Council Profile :

05.11.13 'Instruments and methods for control and analysis of substance composition', 05.14.01 'Energy systems and complexes' .

The Council operates based on the Order of the Ministry of Education and Science of Ukraine dated 08.07.2025 No. 986 'On the Approval of the Decision of the Accreditation Board of the Ministry of Education and Science of Ukraine dated 03.07.2025 regarding the Activities of Specialized Academic Councils and the Formation of the List of Scientific Professional Publications of Ukraine'.

Term of the Specialized Council's Authority 03.07.2025–02.07.2028.

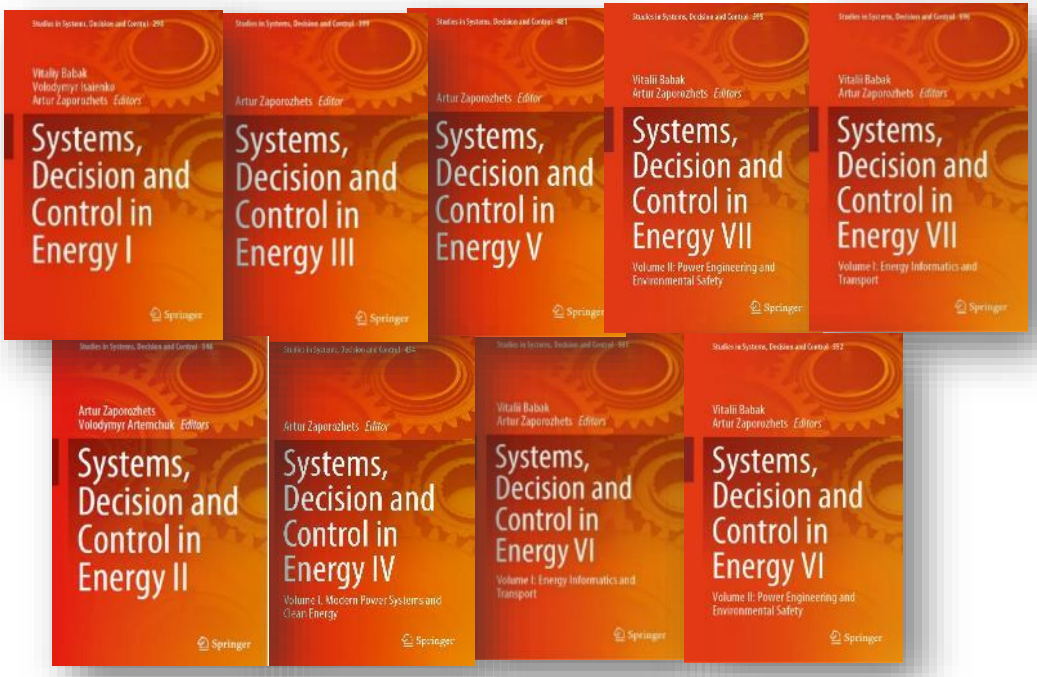
SCIENTIFIC JOURNAL
SYSTEM RESEARCH in ENERGY

Identifier DOI
https://doi.org/10.15407/srenergy

Journal Website:
https://systemre.org/

Publications on a free-of-charge basis.
Category B Scientific Journal.

Index Copernicus Journals Master List.
ICV 2024: 89,64
ICV 2023: 86,38
ICV 2022: 81,83



Annual monographs are published in the ***Studies in Systems, Decision and Control in Energy*** series by '***Springer***'. All chapters are indexed in Scopus (Q4). Selected chapters are indexed in Web of Science

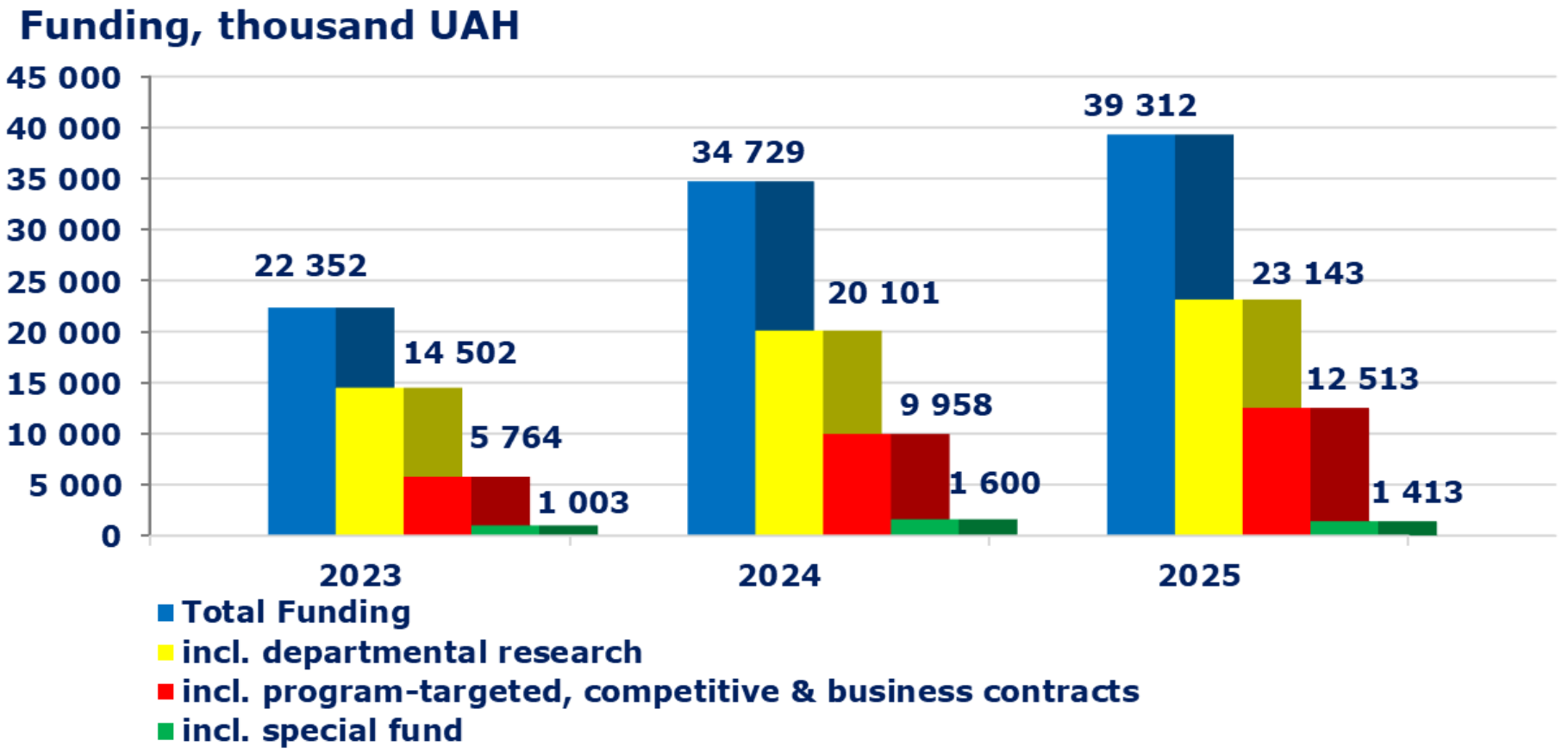
RESEARCH FUNDING (thousand UAH)

Indicator	2023	2024	2025
Total R&D Funding	**20 266**	**30 059**	**35 656**
1. State-Funded projects (National Research Foundation of Ukraine)	**1 492 (7,4%)**	**2 821 (9,4%)**	**-**
2. Program-Based and Competitive Research (NAS of Ukraine), incl.:	**3 800 (18,8%)**	**6 748 (22,4%)**	**12 170 (34,1%)**
under the program 'Support for Priority Scientific Research and Scientific-Technical (Experimental) Developments for the State' (Budget Program Code 6541230) (1 project)	***3 800***	***4 418***	***6 800***
under the tasks of target programs of NAS of Ukraine (Budget Program Code 6541230) (1 project)	***-***	***1 200***	***4 300***
grants for research laboratories/groups of young scientists (Budget Program Code 6541230) (1 project)	***-***	***1 000***	***1 000***
research projects of young scientists (1 project)	***65***	***130***	***70***

RESEARCH FUNDING (thousand UAH)

Indicator	2023	2024	2025
3. *Institutional Research (NAS of Ukraine), incl.*	14 502 (71,6%)	20 101 (66,9%)	23 143 (64,9%)
fundamental research (5 projects)	*12 577*	*17 699*	*20 669*
applied research (2 projects)	*1 925*	*2 402*	*2 474*
4. *Commercial Contracts*	407 (2,0%)	389 (1,3%)	343 (1,0%)
Number of Projects: State / Competitive / Institutional	1/2/8	1/4/8	-/4/7
Number of Commercial Contracts	3	2	3

INSTITUTE FUNDING



Expenditures (thousand UAH)	2023	2024	2025
Capital expenditures for equipment	204,920	386,470	550,000
For improving building energy efficiency and implementing green energy technologies	0	472,044	591,081

Institute staff composition	Number of persons		
	2023	2024	2025
Total staff (full-time positions)	**101**	**112**	**116**
Research Staff, including:	**67**	**78**	**75**
Scientific and management staff	7	7	8
Lead researchers	2	2	2
Principal researchers	20	16	14
Senior researchers	32	30	28
Researchers	2	9	11
Junior researchers	2	12	10
Lead engineers	2	2	2

Research staff	Number of persons	Average age, years	% of Total
Academicians of NAS of Ukraine	2	78	2,7
NAS Ukraine corresponding members	2	77	2,7
With academic rank	47	52	62,7
Without academic rank	28	47	37,3
With academic degree	63	53	84
Without academic degree	12	48	16

YOUNG SCIENTISTS

	2023	2024	2025
Young researchers & postgraduates (<35 yrs), total	12	24	25
% of total institute researchers	15,8	22,6	23,1
PhD holders up to 35 years, persons	12	13	18
Doctors of sciences up to 40 years, persons	3	1	1

Name of Award / Grant / Recognition	ПІБ отримувача	Рік
Verkhovna Rada Personal Scholarship for Young Doctors of Sciences	A. Zaporozhets	2025
President of Ukraine's Award for Young Scientists	D. Matushkin, A. Bosak	2025
Academician B.E. Paton scholarship of NAS of Ukraine for young scientists	A. Zaporozhets	2025
NAS of Ukraine grant for research laboratories / groups of young scientists	A. Zaporozhets, T. Bilan, I. Buratynskyi, D. Tolstov, V. Khaidurov, V. Verpeta	2024-2025
Grant for research projects of young scientists of NAS of Ukraine	D. Karpenko	2025-2026
President of Ukraine scholarship for young scientists	V. Malko, D. Karpenko	2025-2026
NAS of Ukraine scholarship for young scientists	D. Tolstov	2024-2026

AVERAGE SALARY

Indicator	2023	2024	2025
Average Salary, UAH	14 212	16 137	17 107
Research Staff	17 880	18 711	19 033
Administrative Staff	10 072	13 064	14 138

TRAINING OF SCIENTIFIC PERSONNEL

	PhD Students			Doctoral Students		
	2023	2024	2025	2023	2024	2025
Total number including funded by	14	29	35	2	2	5
state budget	12	17	19	2	2	5
other funding sources	2	12	16	0	0	0
Graduation with dissertation defense	0	0	2	0	1	0

Dissertation Defenses in 2025 :

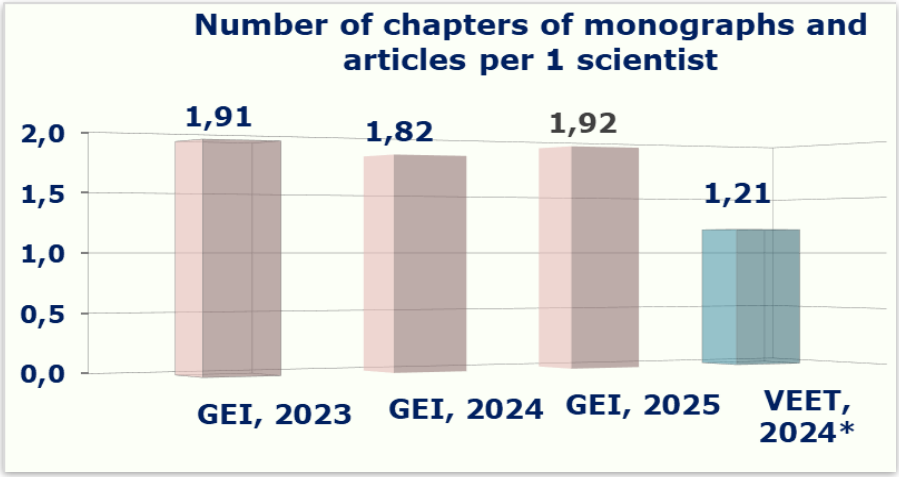
Vladyslav Romanenko, PhD dissertation in specialty 175 – Information and Measurement Technologies.

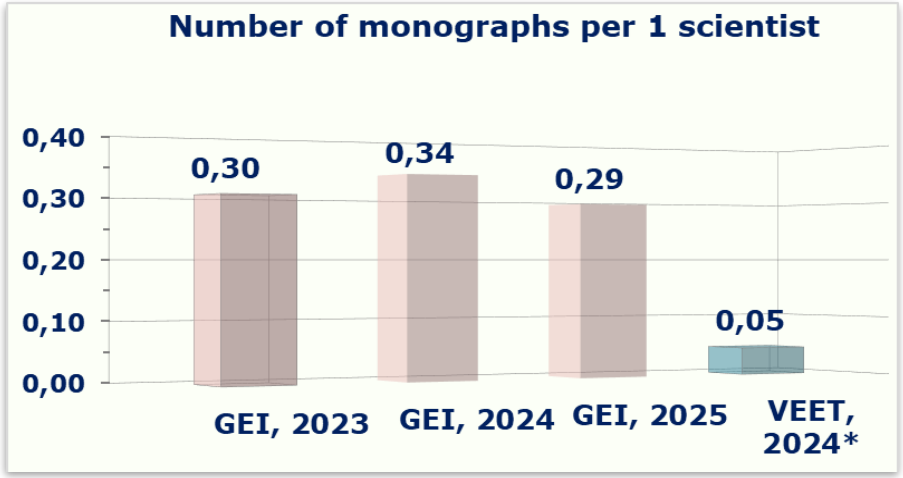
Denys Kataiev, PhD dissertation in specialty 175 – Information and Measurement Technologies(English-language defense), diploma verified by the Institute of System Research of the Polish Academy of Sciences.

PUBLISHING ACTIVITIES

Year	Mono-graphs	Monograph Chapters		Articles		Textbooks and Reference Books	Pre-prints	Abs-tracts
		in WoS, Scopus	others	in WoS, Scopus	in Professional journals of Ukraine			
2023	14	29	4	21	34	0	0	126
2024	17	28	3	19	41	0	1	111
2025	15	24	2	24	48	2	7	117

Maximum Hirsch index of Researchers– 23 (Scopus), 55 (G. Scholar)





** Report on the Activities of the National Academy of Sciences of Ukraine in 2024 / NAS of Ukraine. — Kyiv: Akademperiodyka, 2025. — 610 p.*

CREATION AND USE OF INTELLECTUAL PROPERTY OBJECTS

Indicator	2023	2024	2025
Applications submitted for registration of inventions and utility models, including:	**14**	**5**	**14**
inventions	13	2	8
utility models	1	3	6
Applications submitted for copyright registration, including:	**5**	**12**	**13**
for computer programs	0	2	11
for official works	5	10	2
Number of wntellectual property objects with granted protection documents	**8**	**3**	**16**
Number of registered intellectual property objects of the Institute with valid property rights, including:	**16**	**25**	**41**
number of intangible assets recorded in the balance sheet	9	15	28

ACTIVITIES IN SECURING GRANT FUNDING

1. Together with researchers from the Systems Research Institute of the Polish Academy of Sciences, a proposal was submitted for participation in the **NATO Science for Peace and Security Programme** for the project 'Sustainable Local Energy Systems in Conflict Zones'

2. An application was submitted for the international **grant 'VUIAS Fellowships in Ukraine for the academic year 2026/2027'**, **funded** by the **Volkswagen Foundation** at the initiative of Wissenschaftskolleg, in close cooperation with partner institutes from Ukraine, Europe, and the USA, aimed at supporting Ukrainian scholars in their efforts to establish an Institute for Advanced Studies in Kyiv.

3. An application was submitted for **grant funding** of a project under the call **'Advanced Science in Ukraine 2026–2028'** of the National Research Foundation of Ukraine.

DEVELOPMENT OF STRUCTURE AND PROVISION OF FUNCTIONING OF SELF-SUFFICIENT DISTRIBUTED GENERATION

Scient. Supervisor: Acad. of NAS of Ukraine V. Babak; funding under Budget Program Code 6541230, 2025–2026

Ensuring the self-sufficiency of renewable energy sources is possible under the following conditions:

Wind/Solar energy balance (end of interval) [0, T], $T = T_f + T_p$:

$$W_v - W_n - W_b = 0$$

W_v – wind/solar energy generated per interval [0, T_f] with the involvement of energy from other sources, W_b – energy stored in the BESS at the end of the interval [0, T_f],

$$W_b = W_z - W_r$$

W_z – total charging energy supplied to the BESS during the interval [0, T_f], W_r – total discharge energy supplied by the BESS to the grid during the interval [0, T_f]. The generalized energy balance is as follows :

$$W_v = P_u T_f + P_x T_p$$

P_u – operator setpoint.

Energy W_b is determined by the following expression : $W_b = P_x T_p$

W_b, W_z, W_r are obtained from the algebraic-differential model and are constants according to their definition. The value of P_x is calculated as follows :

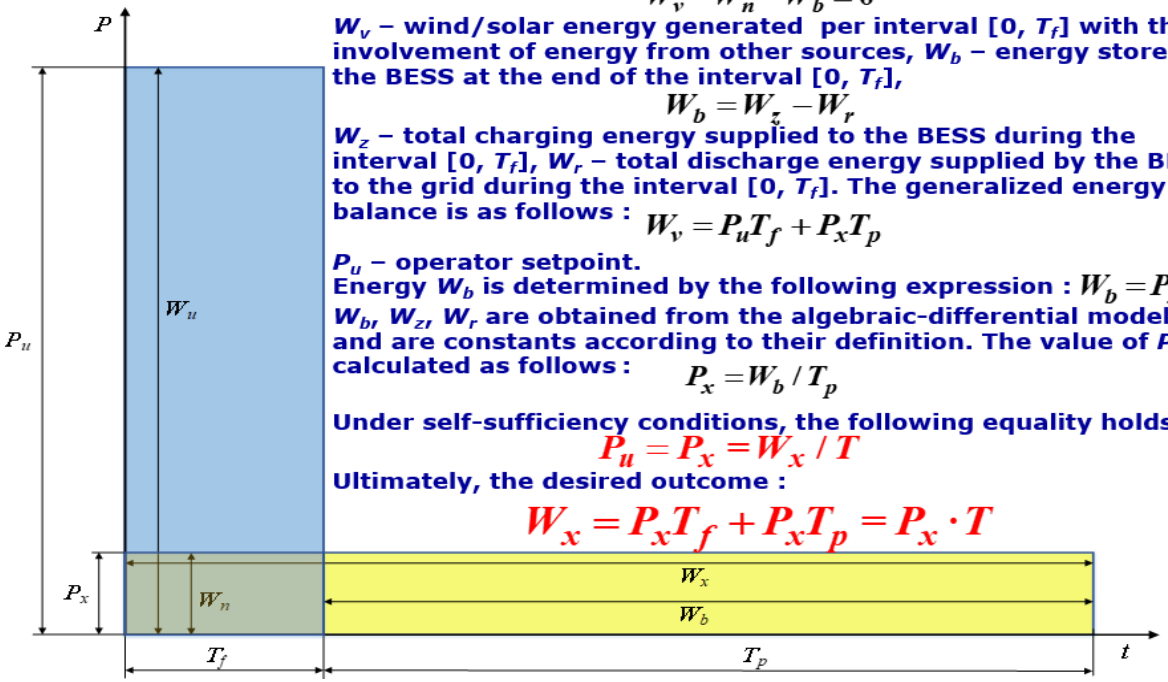
$$P_x = W_b / T_p$$

Under self-sufficiency conditions, the following equality holds :

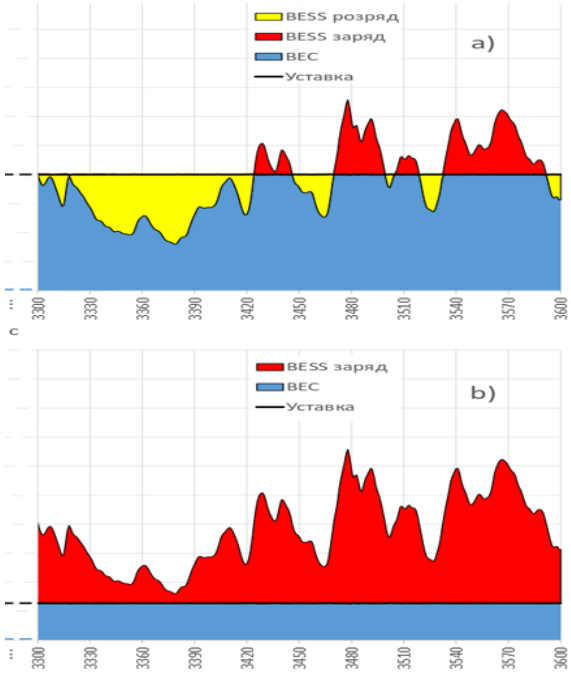
$$P_u = P_x = W_x / T$$

Ultimately, the desired outcome :

$$W_x = P_x T_f + P_x T_p = P_x \cdot T$$



Formation of the Property of Self-Sufficiency

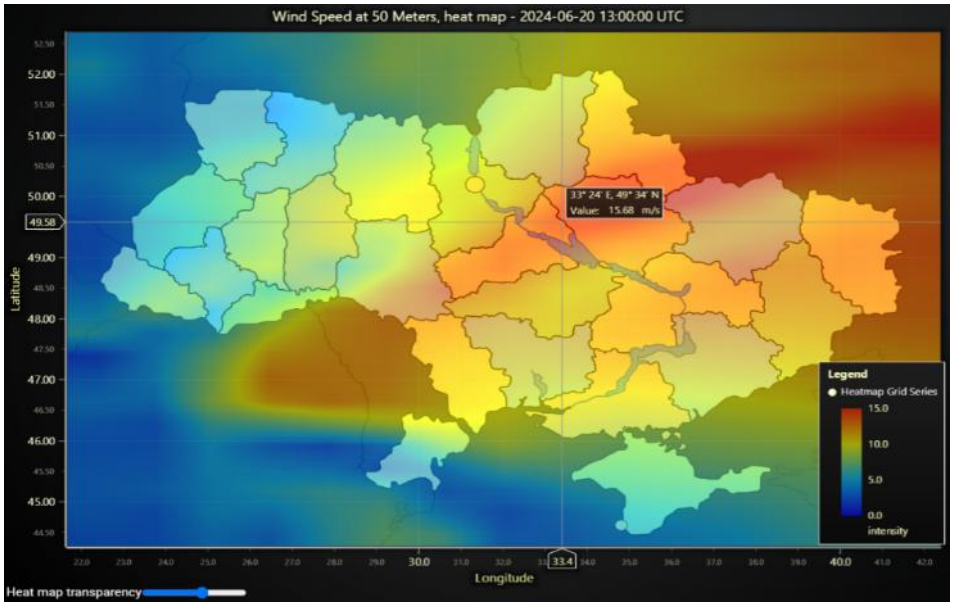


A **mathematical model of the operation of distributed generation** based on wind and solar power plants with energy storage systems has been developed. Based on instantaneous power values, the model enables the determination of generated energy, charging–discharging processes, and techno-economic indicators, and allows the identification of conditions for achieving self-sufficiency modes. It has been shown that the use of an energy storage system with a capacity equivalent to that of the wind/solar power plant, in combination with adaptive controllers, **ensures compliance with regulatory requirements for frequency and active power deviations in the unified power system.**

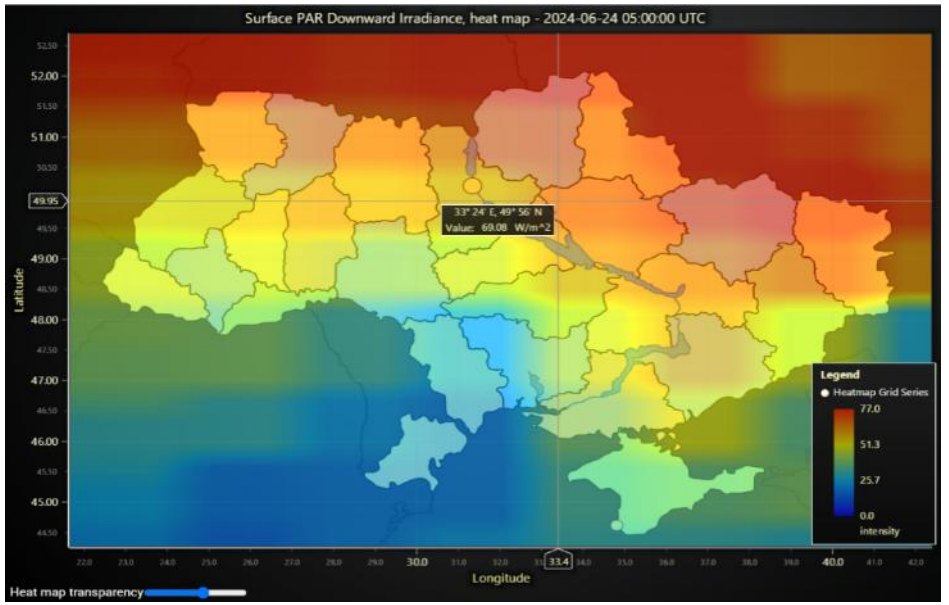
OF DISTRIBUTED RENEWABLE ENERGY GENERATION WITH ENERGY STORAGE SYSTEMS BASED ON METEOROLOGICAL DATA

Scien. Supervisor: Doctor of Technical Sciences A. Zaporozhets; NAS of Ukraine grant for research laboratories, 2024–2025

Example of Wind Speed Distribution at 50 m Height (13:00:00 UTC)



Example of Solar Radiation Distribution(05:00:00 UTC)



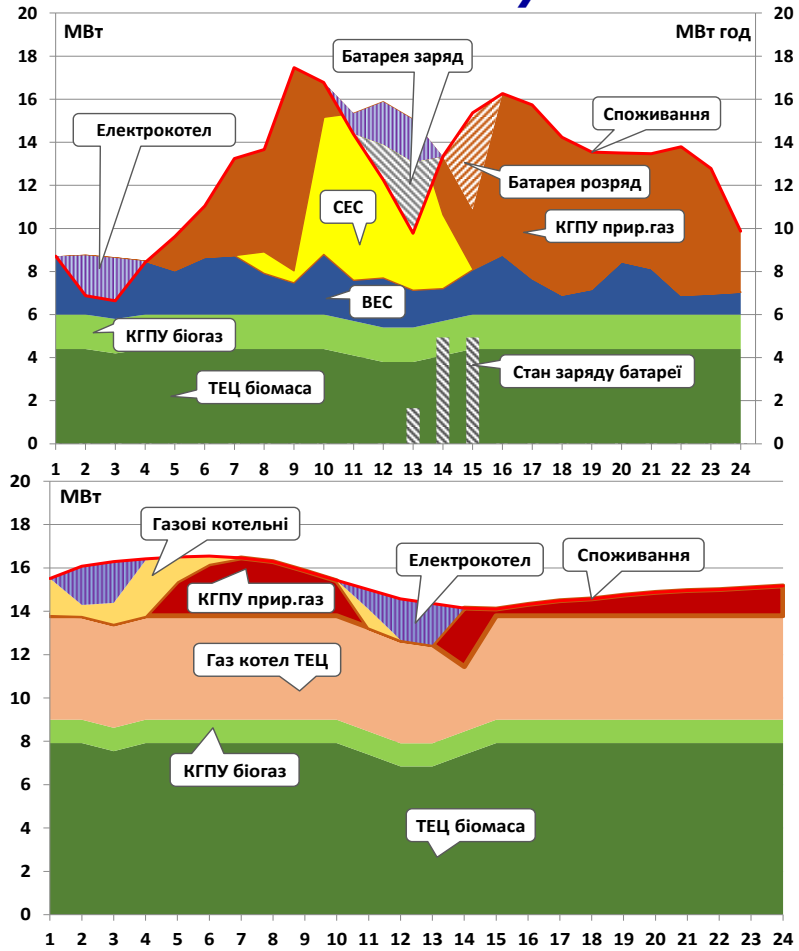
The **software-information system 'GreenPowerAtlas'** has been developed for automated collection and processing of satellite meteorological data (wind speed, insolation, cloudiness, precipitation, temperature, etc.) using the The POWER (NASA) datasets and an adaptive interface. This enabled the development of a methodology for rapid **spatio-temporal assessment of the generation potential of wind and solar power plants**, supporting the design of distributed generation and enhancing the resilience of the power system under critical load conditions.

Access mode: greenpoweratlas.com

IMPROVEMENT OF THE HIERARCHICAL SYSTEM OF MATHEMATICAL AND SOFTWARE-INFORMATION TOOLS FOR STUDYING THE DEVELOPMENT DIRECTIONS OF INTEGRATED POWER SYSTEMS UNDER THE TRANSITION TO A LOW-CARBON ECONOMY

Scient. Supervisor: PhD T. Nechaeva; funding under Budget Program Code 6541030, 2022–2026

Daily Profiles of Electrical and Thermal Load Coverage of a Local Community



A two-level **system of mathematical models** has been developed for **forecasting the long-term development of the integrated power system and district heating systems**. At the upper level, an improved mathematical model is applied to forecast the long-term development of the generation capacity structure of the integrated power system and heat supply systems, ensuring balanced coverage of electricity and heat demand using combined generation technologies and Power-to-Heat. At the lower level, an enhanced optimization model is used for capacity dispatch in power systems, taking into account energy storage systems and Power-to-Heat technologies. This **ensures system balance reliability and the utilization of excess renewable energy generation** while jointly meeting electricity and heat demand for each year of the forecast period

MODELS FOR THE TRANSFORMATION OF THE COAL INDUSTRY UNDER LOW-CARBON ECONOMIC DEVELOPMENT

Scientific Supervisor: PhDV. Makarov; funding under Budget Program Code 6541030, 2022–2026

Method for coordinated model integration developed:

- of the overall energy balance;
- of optimal dispatch of power units of the integrated power system;
- coal industry transformation.

Overall energy balance model

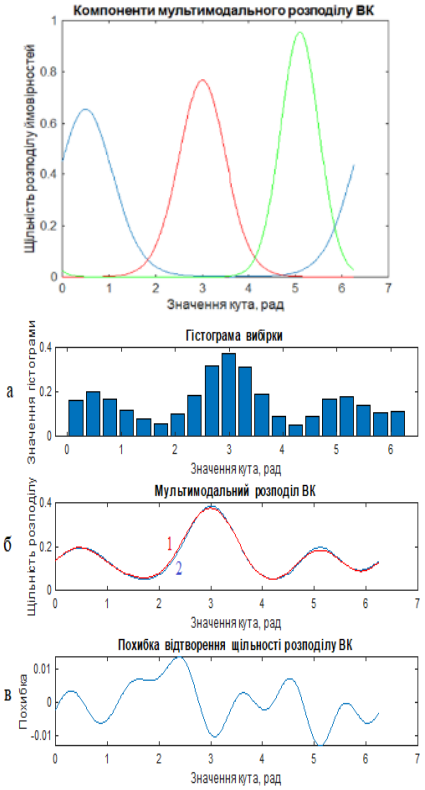
	Thermal Coal, million t	Natural Gas, billion m^3	Fuel Oil, million т	Biofuel, TJ	Electricity Generation, billion kWh	Electricity Consumption, billion kWh	T/e Supply, million Gcal	T/e Consumption, million Gcal
Thermal coal production	15.83							
Natural gas production		20.58						
Biofuel production				184127				
Electricity imports					0.10			
Electricity – Coal, Gas TPPs,NPPs	-11.46	-1.66	-0.01		79.04			
Electricity – HPPs & PSPs					8.77			
Electricity – Coal & Gas CHPs	-0.09	-3.84		-334	8.58			
Electricity – Wind, Solar, Bio				-88	33.99			
Total Electricity						130.48		
T/e – Coal & Gas CHPs							17.06	
T/e – Boiler Houses	-0.16	-1.93	-0.01				19.64	
T/e – Biofuel Boilers				-5183			10.00	
Total Thermal Energy								46.70
Own Needs of the Energy Sector	-0.11	-1.29				-12.07		-5.07
Losses		-0.66				-13.91		-3.53
Demand	-4.00	-11.20	-0.02	-178522	-130.48	-104.50	-46.70	-38.10
Balance	0.00	0.00	0.00	0	0.00	0.00	0.00	0.00

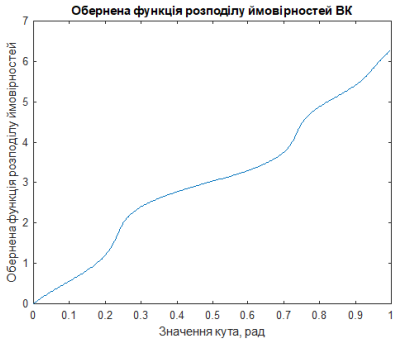
Optimization model for dispatch of IPS power units

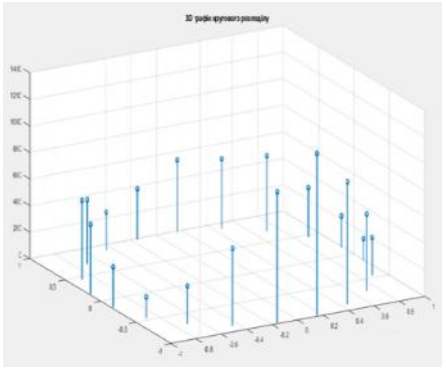
Situational energy balances were constructed under conditions of disruptions in the energy sector and economy. Directions for the country's energy supply up to 2030 were identified. The structure of coal-producing enterprises, sources, and volumes of coal imports were optimized

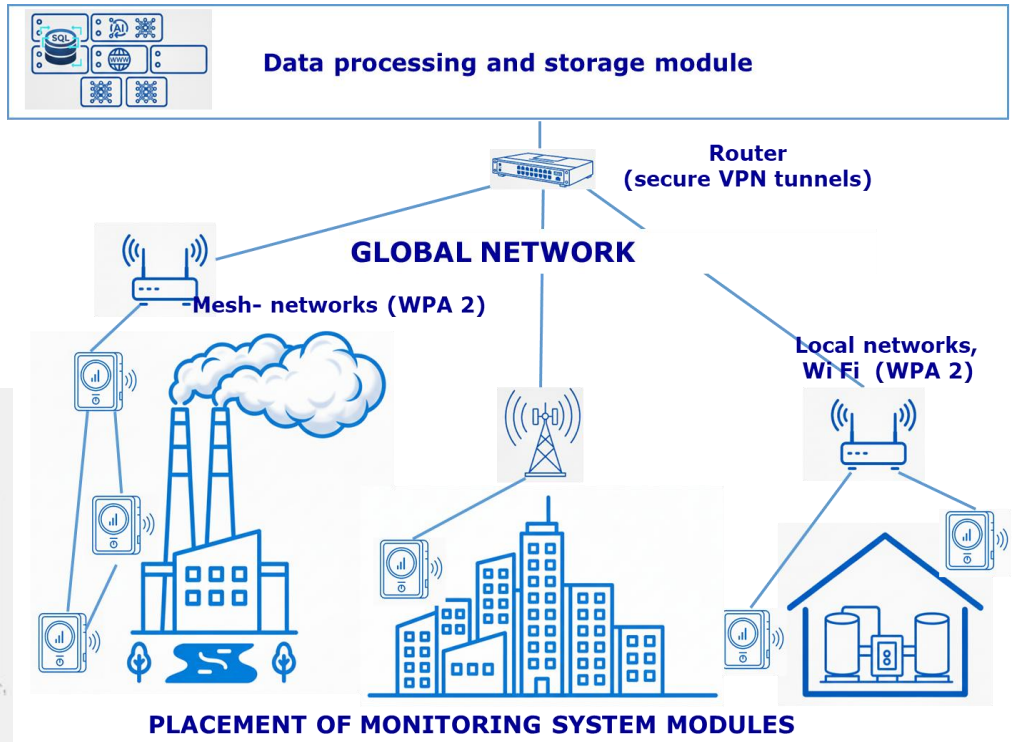
DEVELOPMENT OF METHODS AND TOOLS FOR ENVIRONMENTAL MONITORING OF ENERGY FACILITIES BASED ON WIRELESS SENSOR NETWORKS

Scient/ Supervisor: Academician of NAS of Ukraine V. Babak; funding under Budget Program Code 6541030, 2023–2027









A **method has been developed for assessing the angular distributions of harmful substances** around energy facilities, based on a combination of the inverse function method for generating random angles with a specified distribution and the method of trigonometric moments to obtain empirical distributions from sampled random angles. This enabled the **estimation of the probability density of pollutant concentrations in polar coordinates** using sensor data and the proposal of a monitoring system structure based on a hybrid architecture with artificial intelligence, comparable to the best international analogs.

In 2025, researchers of the Institute conducted studies under Stage 4, 'Development of Methodology for Modeling and Reliable Management of Non-Stationarity in the Energy-Water-Agriculture System,' as part of the scientific work 'Comprehensive Analysis of Robust Preventive and Adaptive Measures of Food, Energy, Water, and Social Management in the Context of Systemic Risks and Consequences of COVID-19,' 0122U000552, within joint research with the International Institute for Applied Systems Analysis (IIASA, Austria)

Within the work of Technical Committee TC-48, **cooperation with international standardization technical committees**:

ISO/TC 301 Energy management and energy savings;
ISO/TC 180/SC5 Solar energy / Collectors and other components;
IEC TC 88 Wind energy generation systems;
IEC TC 105 Fuel cell technologies;
IEC TC 117 Solar thermal electric plants;
CENELEC: CLC/TC 13 Electrical energy measurement and control;
CENELEC: CLC/TC 82 Solar photovoltaic energy systems;
CENELEC: CLC/TC 88 Wind turbines;
CENELEC: CLC/SR 105 Fuel cell technologies;
CENELEC: CLC/SR 117 Solar thermal electric plants.

On September 29, 2025, a roundtable **'Azerbaijan – Ukraine: New Partnership Opportunities in Pumped Storage Hydropower Construction and Efficient Development of Renewable Energy'** was held in the Large Conference Hall of the NAS of Ukraine in Kyiv. The event, organized by the Public Organization 'Azerbaijan–Ukrainian Energy Association,' was attended by representatives of leading Ukrainian and Azerbaijani energy companies, researchers, and experts.

At the event, a **Memorandum was signed between the Institute of General Energy of the NAS of Ukraine and the Public Organization 'Azerbaijan–Ukrainian Energy Association'** the subject of which is:

- promoting the establishment and development of cooperation in research and investment activities in the energy sector;
- development of renewable energy sources; modernization and enhancement of energy infrastructure reliability;
- development and implementation of energy storage systems and power system balancing technologies;
- building international partnerships and integration into the global energy space.

PhD in Technical Sciences Volodymyr Hrinchenko, within the framework of the **mobility project** 'Research on the Energy Efficiency of Industrial Frequency Magnetic Field Shielding Systems,' received **grants for NAS of Ukraine researchers' visits to the Institute of Fundamental Technology Research of the Polish Academy of Sciences** (Warsaw, Poland) during 14–19 July 2025.

PhD in Technical Sciences Oleksandr Zgurovets, within the framework of the **mobility project** 'Research on the Energy Efficiency of Industrial Frequency Magnetic Field Shielding Systems,' received **grants for NAS of Ukraine researchers' visits to the Institute of Fundamental Technology Research of the Polish Academy of Sciences** (Warsaw, Poland) during 29 April–5 May 2025 and 16–29 November 2025.

Doctor of Technical Sciences Svitlana Kovtun completed an **international scientific internship** in the Department of Electronics and Information Technology at **Lublin University of Technology**, Lublin, Poland, from 10 to 14 March 2025.

On 20 November 2025, a **roundtable meeting 'Energy System Transformation: Challenges and Approaches'** was held at the Institute, organized jointly with the Association of Energy Engineers of Ukraine and the Gas Institute of the NAS of Ukraine. The event discussed key principles and practical steps for the transformation and decarbonization of the energy system.

Conferences and Seminars Organized or Co-Organized by the Institute:

1. XXVI International Scientific and Practical Conference 'Renewable Energy and Energy Efficiency in the XXI Century,' 21–23 May, Kyiv
2. III International Scientific and Practical Conference 'Digital Technologies in Energy and Automation,' 6 June, Kyiv
3. X International Scientific and Practical Conference 'Theory and Practice of Rational Use of Conventional and Alternative Fuels and Lubricants,' 1–4 July, Kyiv
4. Seminar of Section 6 'Scientific Foundations of Energy Development Forecasting' of the Scientific Council of the NAS of Ukraine on the topic 'Scientific Foundations of Electric Power Engineering'

COLLABORATION WITH ASSOCIATIONS AND INDUSTRY

On 30 April 2025, a Memorandum of Partnership and Cooperation was signed with **'Dalgakıran Compressor Ukraine' LLC**

DALGAKIRAN

On 29 September 2025, a Memorandum of Partnership and Cooperation was signed with the Public Union **'Ukrainian Solar Energy Association'**

SOLAR ENERGY ASSOCIATION of UKRAINE

PARTICIPATION IN THE DIGITAL ENERGY CLUSTER

On 27 January 2025, a scientific-practical seminar **'Modern Technologies for Designing Decentralized Energy Facilities'** was held

On 7 February 2025, a scientific-practical seminar **'Modern Systems for Energy Island Resilience and Electricity Storage Technologies'** was held

On 26 March 2025, a scientific-practical seminar **'Modern Engineering Services for High-Tech Manufacturing'** was held

AWARDS OF THE INSTITUTE'S RESEARCHERS

By Decree of the President of Ukraine No. 863/2025, the **President of Ukraine's Award for Young Scientists** for the work 'Intelligent Power Supply System from Distributed Energy Generation Sources' was awarded to :

DMYTRO MATUSHKIN, Researcher, PhD in Philosophy.

ANDRII BOSAK, Junior Researcher, PhD in Philosophy.

Presidential Scholars of Ukraine - 2 Institute's young researchers,
B.E. Paton Institute of the NAS of Ukraine – 1 young researcher
NAS of Ukraine – 1 young researcher

AWARDS OF THE INSTITUTE'S RESEARCHERS

Researchers of the Institute were awarded a **Letter of Appreciation from the Ministry of Energy of Ukraine** for their significant personal contribution to the development of domestic energy and many years of dedicated work :
Corr. Member of the NAS of Ukraine, **Oleksandr NOVOSELTSEV**, Head of Department;
Tetiana NECHAEVA, Senior Researcher;
Mykola KAPLIN, Senior Researcher;
Hanna KOSTENKO, Researcher;
Volodymyr DERII, Senior Researcher;
Nataliya MAISTRENKO, Senior Researcher.

Honorary Certificate of the Kyiv City Mayor awarded to:
Svitlana KOVTUN, Deputy Director for Research;
Artur ZAPOROZHETS, Deputy Director for Scientific and Organizational Work.
Letter of Appreciation from the Kyiv City Mayor awarded to **Iryna LESHCHENKO**, Scientific Secretary of the Institute.

Four researchers of the Institute were awarded **distinctions by the NAS of Ukraine**:
– Academician of the NAS of Ukraine **Mykhailo KULYK** – NAS of Ukraine Distinction 'For Training the Scientific Generation'
– **Nataliya MAISTRENKO** and **Mykola KAPLIN** – Honorary Certificate of the Presidium of the NAS of Ukraine and the Central Committee of the Trade Union of NAS of Ukraine Employees;
– **Dmytro MATUSHKIN** – NAS of Ukraine Award for Young Scientists 'Talent, Inspiration, Work'

AWARDS FOR SUPPORT TO THE ARMED FORCES OF UKRAINE

Academician of the NAS of Ukraine Vitalii Babak was awarded the **'Ukraine or Death' badge** by the 72nd Separate Mechanized Brigade of the Armed Forces of Ukraine.

Serhii Kharchenko received Letters of Appreciation for: **significant contribution to enhancing combat readiness** from the 3rd Separate Assault Brigade, **dedicated work and professionalism** from the command and personnel of military unit A4347, **assistance to volunteers and military personnel** from the charitable organization 'International Charitable Foundation Day by Day', **contribution to combat readiness** from the 241st Separate Territorial Defense Brigade, **active support in strengthening forces** from the 1st Separate Medical Battalion of the Ground Forces of the Armed Forces of Ukraine.

A Letter of Appreciation from the Ukrainian Military Medical Academy was awarded to: Academician of the NAS of Ukraine Vitalii BABAK, Svitlana KOVTUN, and Artur ZAPOROZHETS

THANK YOU FOR YOUR ATTENTION!