



## LEARNING AND STUDENTS

### Study programs

Traditionally, INRTU has established itself as the premier university in the region, specializing in the education of highly qualified professionals in electrical and thermal power engineering. Since its inception in 1963, the university has upheld a commitment to [energy education](#), continuously enhancing and adapting its programs to meet contemporary demands. The curriculum encompasses modern methodologies and technologies related to energy conservation, efficiency, and auditing, serving as a conceptual framework for over 30 undergraduate, graduate, and postgraduate engineering programs available to both Russian and international students in Russian and English.

## RESEARCH

### Research initiatives on energy

The university engages in a broad spectrum of research initiatives across various energy sectors. It has established specialized laboratories focused on the [energy efficiency](#) of buildings and engineering systems, which are currently operational. [Faculty members](#) are dedicated to exploring the potential of clean and accessible energy sources while also striving to enhance energy consumption efficiency tailored to regional characteristics. Within the "Affordable and Clean Energy" category, 36 scientific research projects have been conducted, resulting in publications indexed in SCOPUS.

**36 publications  
on SDG 7  
in Scopus in 2023**

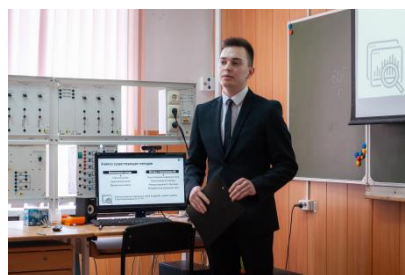
Additionally, a student scientific society named 'Carbon' exists among the research laboratories, bringing together students and industry professionals who are inclined towards scientific inquiry and creative endeavors.

This society fosters intellectual growth and professional expertise in specific subjects as well as modern technologies.



### Startup for energy companies

A [forecasting methodology](#) for power consumption of energy systems based on machine learning was developed by an INRTU graduate. The project was implemented within the framework of the Startup as a Diploma program. During the preparation of the thesis project, the climatic features of the region were analyzed and research was conducted on how the load is affected by temperature fluctuations and solar activity. In addition, the graduate examined the impact of the bitcoin exchange rate on electricity demand in the region. The INRTU graduate software product is capable of performing hourly forecasts, taking into account the set parameters, to determine the peak hours when the cost of electricity reaches its maximum. This function will be of particular relevance to data centers, which incur significant electricity costs. Potential customers may include energy companies and data processing centers.



## PUBLIC ENGAGEMENT

INRTU actively disseminates knowledge regarding energy efficiency and conservation beyond its campus by participating in national and international events, conferences, and forums. The university also organizes independent environmental education initiatives aimed at youth and schoolchildren, encouraging their engagement with electricity and energy-saving practices.

### EN+ company Days at INRTU

INRTU hosted the En+ Days, an event where students were told about [career opportunities](#) at the Russian energy holding company. Several locations were set up for guests to learn detailed information about the company. The program included master classes by top managers of the organization, career guidance meetings, contests and quizzes.

The organizers prepared interactive zones with information about the company's main activities: hydropower, heat and power generation, coal mining, energy sales, digital technologies, volunteering and social projects. There was also a multimedia map "The Power of Siberia Industry" and a photo zone where everyone could try on the uniform of a power engineer.



### Energy Laboratory 2023

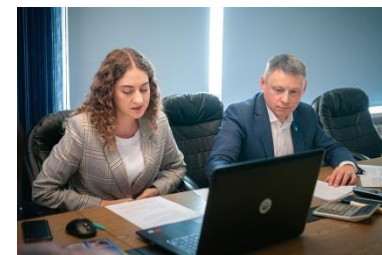
In October 2023, INRTU and EN+ company jointly organized and held the VI season of [Energy Laboratory accelerator](#) program 2023.

323 students from 25 universities and colleges of Russia showed interest in the program.

The accelerator goal is to develop innovative solutions for the benefit of En+ enterprises.

Over the past six years, over a thousand people from 35 educational institutions have joined the project.

From INRTU 22 teams consisting of 124 people were announced. The three winning teams in the accelerator will receive grants of 300, 350 and 400 thousand rubles.



## OPERATIONS

### Energy efficiency policy

The university has adopted a proactive energy efficiency policy that is currently being implemented across its facilities. This policy focuses on identifying and mitigating sources of heat and energy loss while also preventing potential risks associated with energy inefficiency. A centralized monitoring and control system for energy management has been established throughout the university campus. [Two key projects](#) are being implemented on the territory of the technopark: the installation of a wind power plant and the creation of a solar power plant with sun-tracking technology.

