



## LEARNING AND STUDENTS

### Study Programs

Traditionally INRTU has been the leading university in the region, training highly qualified specialists in electrical and thermal power engineering. The university has upheld the traditions of energy education since 1963, continuously improving and maintaining the relevance and demand for its [educational programs](#). Modern methods and technologies in energy saving, energy efficiency, and energy auditing serve as conceptual benchmarks for engineering degree programs at the bachelor's, master's, and doctoral levels for both Russian and international students, offered in Russian and English.



In 2024, INRTU significantly expanded these programs within the framework of SDG 7 "Affordable and Clean Energy." The "IT Academy" project trained more than 200 school and university students in IT tools for monitoring and optimizing energy consumption, including the development of smart metering applications. The university integrated [courses](#) on renewable energy, BIM modeling, and sustainable development into engineering curricula and launched new [master's programs](#) in digital economy and energy.

Students participated in [IT Academy Hack hackathons](#) in collaboration with Samsung, where teams developed solutions for industrial energy efficiency. NRTU students also took an active part in the ["Russian Energy Week"](#) forum.

Altogether, these initiatives engaged over 1,500 students and fostered competencies essential for the green energy sector.

## RESEARCH

### Research Activities

The university's research activities are focused on improving the efficiency and environmental sustainability of the energy sector. INRTU scientists presented their findings at major conferences, including ["Enhancing the Efficiency of Energy Production and Use under Siberian Conditions"](#).



[Research](#) has been initiated on hydrogen fuel cells, and studies have been published on optimization of computational methods for industrial [processes](#), [hydrogen energy](#), and adaptability of [power systems](#). Applied research has also been conducted, including the development of microbial fuel cells and methods for industrial equipment [diagnostics](#), as well as projects in collaboration with regional energy [companies](#).



### PUBLIC ENGAGEMENT

INRTU is actively engaged in addressing the energy challenges of the local community. Power engineering students founded the youth initiative ["Energy Patrol"](#), which focuses on energy conservation through the study of heat losses in the Irkutsk Region.

The university has served as a [platform](#) for dialogue with industry, discussing current trends in training IT specialists for the energy sector.



### International Events

Educational and outreach activities in the field of energy are held on a regular basis, including the ["Universe of Energy"](#) quest for school and university students from Russia and Mongolia and the ["Science 0"](#) festival, both promoting awareness of alternative [energy sources](#).



### Regional Updating

An important step was the [updating](#) of the heat supply scheme for the city of Baikalsk by INRTU experts, demonstrating the practical application of the university's competencies to solving sustainable development challenges within the region.

## OPERATIONS

### Green Infrastructure

INRTU [internal policy](#) focuses on the rational use of resources and development of green infrastructure. Regular inspections of campus buildings are scheduled for winter seasons to identify energy losses.

## Important Projects

The Research and Education Center develops renewable energy projects for regional enterprises



Energy-efficient [lighting](#) arches have been installed on campus. The university is also modernizing its material and technical base by creating [shared access services](#) for high-performance computing, which optimizes energy consumption in research activities.

