



STRATEGY IN THE FIELD OF CLIMATE AND ENVIRONMENTAL  
SUSTAINABILITY 2023-2030



STAVROPOL  
STATE  
AGRARIAN  
UNIVERSITY

**STRATEGY IN THE FIELD OF CLIMATE AND ENVIRONMENTAL  
SUSTAINABILITY 2023-2030**

**Stavropol**

**2023**



## SECTION 1.

### GENERAL INFORMATION ABOUT THE FEDERAL STATE BUDGET EDUCATIONAL INSTITUTION OF HIGHER EDUCATION STAVROPOL STATE AGRARIAN UNIVERSITY

Federal State Budgetary Educational Institution of Higher Education “Stavropol State Agrarian University” (hereinafter – SSAU), one of the oldest universities in the South of Russia, carrying out educational, research and consulting and methodological activities. Year of foundation: 1930.

The structure of SSAU includes 10 faculties, 39 departments, 75 innovation departments and centers, a scientific library, an Institute of additional professional education, 6 dormitories, a sports and recreation complex, an equestrian school, 3 greenhouses, 2 vivariums(barns). The property complex of SSAU includes 105 real estate objects with a total area of 164 thousand m<sup>2</sup>, 26 land plots with a total area of 9451.6 hectares. The total area of teaching and laboratory premises per student is 27.05 m<sup>2</sup>.

In terms of area occupied, SSAU is one of the largest agricultural universities in Russia, which has 105 real estate objects with a total area of 163,958.41 square meters, including: 124.3 thousand sq. m. m – training and laboratory base (75.8%); 37.6 thousand sq. m – dormitories; 9459.1 hectares of land, of which 9422 hectares are agricultural land.

SSAU campus facilities are located in several territories - in the center of Stavropol, in the industrial zone of the city and in the suburbs (educational and experimental farm), which sets the priorities of campus policy. Student dormitories are located within walking distance from academic buildings in each of the territories.

In 2015–2020 SSAU was the winner of the city competition “The best territory adjacent to an enterprise or institution.”

More than 7,700 thousand students and listeners study at SSAU in 3 specialty programs, 42 bachelor’s programs, 39 master’s programs, 25 secondary vocational education programs, 20 postgraduate programs for training scientific and pedagogical personnel. The total number of personnel is 866 people, of which 814 people – regular ones. In the 2021-2022 academic year, the educational process is provided by 401 employees of the academic staff, the share of academic staff with academic degrees is 92.63%, the share of employees with an academic degree of Doctor of Science is 19.29%. The average age of the academic staff of SSAU is 39.9 years.

In 2019, SSAU passed the state accreditation procedure and received a Certificate of State Accreditation for a period of 6 years. The share of basic educational programs implemented by SSAU that have professional and public accreditation is 62%.

According to the results of monitoring the effectiveness of the activities of educational organizations of higher education, carried out by the Ministry of Science and



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Higher Education of the Russian Federation, in 2012-2020, SSAU is an effective university.

SSAU occupies good positions in university rankings compiled by major news agencies - 1st place among agricultural universities in Russia in 2016-2019. in the rating “Universities in demand in the Russian Federation: agricultural universities” (project “Social Navigator” of the International Media Group “Russia Today”) (<https://vid1.ria.ru/ig/ratings/Agrar-2019.htm>); 59th place out of 100 in the 2021 annual ranking “100 Best Universities in Russia” (project of the RAEX Rating Agency (Expert RA)) ([https://raex-a.ru/rankings/vuz/vuz\\_best\\_2021#2](https://raex-a.ru/rankings/vuz/vuz_best_2021#2)); 62nd place out of 341 in 2021 in the National University Ranking (project of the Interfax International Information Group) (<https://academia.interfax.ru/ru/ratings/?page=1&rating=1&year=2021>).

In the global ranking of the European Foundation for Quality Management EFQM GLOBAL EXCELLENCE INDEX, SSAU received the Platinum (highest) level in the Education sector (1st place among 52 educational organizations in the world in 2017-2021) (<http://www.globalexcellenceindex.org/sector/11-education>).

In 2017-2020 SSAU was among the TOP-350 universities in the world (912 participants in total) (<https://greenmetric.ui.ac.id/rankings/overall-rankings-2020>) and in the TOP-15 Russian universities (51 participants in total) (<https://greenmetric.ui.ac.id/rankings/ranking-by-country-2020/Russia>) GreenMetric World University Rankings.

SSAU is a three-time Laureate of the Government of the Russian Federation Award in the field of quality (2017, 2011, 2005); twice winner of the GRAND PRIX of the All-Russian competition of the Ministry of Labor and Social Protection of the Russian Federation “Russian organization of high social efficiency (2018, 2013); Winner of the priority project “Universities as centers of space for creating innovation” (2017); three times Winner of the Prize of the largest European competition in the field of quality EFQM “Excellence Award” (2016, 2013, 2010).

SSAU pays a lot of attention to ensuring the security of all its facilities, therefore, starting in 2013, a modern access control and management system (ACS) based on Sigur software, developed at the University, has been introduced. All buildings and structures are included in a unified access control and management system. SSAU became the first university in the South of Russia to implement a biometric facial recognition system using artificial intelligence and computer vision “Vizir”, which identifies visitors passing through the turnstile.

### SECTION 2.

#### KEY PRIORITIES FOR CLIMATE AND ENVIRONMENTAL SUSTAINABILITY

The SSAU Strategy in the field of climate and environmental sustainability for the period until 2030 (hereinafter referred to as the SSAU Strategy in the field of climate and environmental sustainability) focuses on the following priorities:

A priority	Characteristic
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**Education** Studying the basics of environmental sustainability within the framework of ongoing educational programs

### Research

- Expanding Research on Environmental Sustainability
- Implementation of technology in the development of sustainable agriculture

### Conservation and rational use of energy resources

- Reducing energy consumption by campus facilities
- Increased use of renewable energy

### Sustainable ecology ■ Minimizing air emissions

- Waste minimization
- Environmental projects for residents of Stavropol and the Stavropol Territory

### Territory

#### Reducing travel-related emissions

- Air travel restrictions
- Restrictions on the use of public transport and private cars

#### Sustainable food

- Providing affordable, healthy food and drink available to all and consistent with sustainable procurement practices
- Waste minimization

SSAU intends to inspire employees, students, partners and residents of the Stavropol Territory to create a culture of sustainability everywhere, both at the regional and global levels. By implementing our research and our knowledge in the field of sustainable development, we will enrich and change for the better the lives of future generations of the South of Russia.

The SSAU strategy in the field of climate and environmental sustainability will be implemented within the framework of specialized projects and programs.

Information on the results of the implementation of the SSAU Strategy in the field of climate and environmental sustainability will be publicly available on the SSAU website.

## SECTION 3

### EDUCATION AS A KEY PRIORITY OF THE STRATEGY IN THE FIELD OF CLIMATE AND ENVIRONMENTAL SUSTAINABILITY

The most important tool for environmental protection is the understanding and recognition of environmental values and their implementation in everyday professional and private life. To achieve this, the younger generation must be immersed in these values from birth or taught the basics of leading an environmentally friendly lifestyle.

SSAU operates in the Stavropol Territory, which for many years has been among the regions of Russia leading in terms of production of grain products, open-ground vegetables, and gross grape harvest. Therefore, SSAU in its Strategy in the field of climate and environmental sustainability SSAU attaches great importance to education in the field of sustainable agriculture and environmental sustainability.



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SSAU provides continuous education along the following tracks: secondary vocational education – Bachelor’s – Master’s – postgraduate studies in the field of sustainable agriculture and environmental sustainability in areas such as:

- Ecology and environmental management
- Food products made from plant materials
- Land management and cadastres
- Agronomy
- Gardening
- Electrical power and electrical engineering
- Agroengineering
- Technology of production and processing of agricultural products
- Food of animal origin
- Tourism planning and development
- Veterinary medicine and veterinary-public health
- Economics and Management.

While studying in these programs, students learn to analyze the issues of sustainable development from different points of view: from economics, ecology, politics and law to ethics and pedagogy. It is important for SSAU to convey the knowledge acquired in this area to civil society and translate it into specific projects.

In 2020, SSAU opened on its territory the Advanced Professional Training Center of the Stavropol Territory (APTC) - this is an educational and consulting platform open to the population for accelerated vocational education, training, retraining, advanced training of citizens in the most in-demand and new promising professions, and competencies that meet requirements of WorldSkills standards, including in the field of environmental sustainability.

The content of educational programs is consistent with the environmental agenda of the Stavropol Territory and the North Caucasus Federal District, and knowledge of basic disciplines will help the younger generation to effectively respond to challenges and make optimal management decisions and maximally contribute to the sustainable development of any territory.

SSAU has formed an effective model for building trusting and mutually beneficial relationships with strategic partners, in which industrial partners are maximally involved in the processes of improving the material and technical base and program and methodological support of implemented educational programs.

One of the principles of the cooperation strategy between universities and strategic partners is the promotion of sustainability and social responsibility. This is largely facilitated by the fact that among SSAU’s partners there are large and small agricultural enterprises of state and private ownership, financial and credit institutions, regional authorities, educational institutions, and public organizations.

SSAU, building a partner ecosystem, were focused on the development and implementation of real solutions to promote sustainable development of agriculture, rural areas of the Stavropol Territory and the North Caucasus Federal District.

Our current Climate and Environmental Sustainability Strategy for Education



continues this tradition of sharing knowledge with our strategic partners on their territory, and on the territory of SSAU. To maximize the immersion of our students in a real “live” production environment, our partners open their specialized laboratories in the educational buildings of SSAU. For example, by 2021 In the structure of the faculties, specialized laboratories have been opened from the Energomera agricultural holding, Energomera Concern JSC, PhosAgro-Stavropol LLC, Syngenta LLC, Bayer JSC, TEPLOKOM, VZLET, Teploset JSC, Interelectrokomplekt ", LLC "Production Association OVEN", LLC "Glavenergomontazh", LLC "KZ Rostselmash", APH "ECO-Culture", PJSC IC "Rosgosstrakh", JSC "Rosselkhozbank", PJSC Sberbank, JSC "Minsk Tractor Plant".

These laboratories provide a “living” view of the sustainability processes being studied in various areas of agriculture - from the processes of growing products to their delivery to consumers. This allows SSAU not only to provide knowledge and develop the necessary professional competencies, but also to provide training in ethical behavior based on the balance of human and economic well-being, respect for the earth and its natural resources.

As one of the leading agricultural universities in Russia, SSAU clearly understands that modern world food systems are entering a fundamentally new stage of technological development, which is called “Agriculture 4.0” and is based on the introduction of “smart” solutions (robotics, “precision” agriculture, IoT – “Internet of Things”), biotechnology, alternative technologies and sources of raw materials.

The development of scientific potential and the introduction of innovative solutions is becoming critically important in ensuring competitiveness and further development of the Russian agro-industrial complex. The leading agricultural universities of the Russian Federation are faced with the task of proactively training modern professionals for the industry, taking into account the transition to a new technological structure in the agro-industrial complex and the principles of sustainable agriculture.

Therefore, SSAU in the field of education in the field of sustainable development intends to ensure maximum involvement of the population of rural areas of the North Caucasus Federal District in lifelong education by 2030. This will ensure the reproduction of personnel capable of creating businesses and a new economy in accordance with the challenges of the global agricultural agenda not only in the North Caucasus Federal District, but also in Russia as a whole.

For these purposes, SSAU intends to focus its efforts until 2030 on:

- creation and launch of a digital platform that accumulates the latest personnel and educational technologies, resources, competencies, methods of their development, teams, talents to ensure interaction between all FoodNet market participants;

- the use of digital technologies to minimize the use of paper and plastic when creating banners, stands, prospectuses, collections of modules and assignments;

- transformation of agricultural education with a focus on personalization and choice, the formation of competencies in the digital world, the competencies of creating



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a new market with segments such as alternative sources of raw materials and food, smart and highly productive agriculture, smart supply chains, personalized and specialized nutrition;

- forming partnerships with current and future global agricultural leaders on the principles of open networking, intellectual and resource integration of partners, and priority attention to end-to-end technologies.

SSAU will support the strategy in providing real-world experiences that prepare students for life, and support our research to find real solutions to tomorrow's problems. SSAU will achieve this,

- continuing to share their experience, knowledge, technologies in the field of environmental sustainability through lectures for students, local communities, and strategic partners;

- implementing our sustainability solutions in real time into actual agricultural production;

- encouraging and supporting the creation of new “living” laboratories on campuses to find new solutions in the field of sustainable development.

SSAU has the opportunity to contribute to achieving all global climate and environmental sustainability goals through our teaching, learning and research.

### SECTION 4.

#### RESEARCH AS A KEY PRIORITY OF THE STRATEGY IN THE FIELD OF CLIMATE AND ENVIRONMENTAL SUSTAINABILITY

SSAU carries out research in the field of conservation and research into food security and environmental sustainability, which we have combined into a single project - “SmartAgroBioTech 2030 (technological HUB of biologization, animal genomics, digitalization, and territorial development).”

The choice of such research topics at SSAU as the basis of the Strategy in the field of climate and environmental sustainability is due to objective reasons.

Ensuring sustainable development of the region is associated with the need to transition agriculture to technologies that can meet the current food needs of the population while preserving environmental conditions and natural resources for future generations. This goal cannot be achieved only through economic growth without taking into account the influence of the “human factor”, social responsibility and compliance with the environmental balance.

The Stavropol Territory is one of the leaders in the Russian Federation in terms of agricultural production volumes and plays a vital role in ensuring the country's food security.

At the same time, intensive land use has led to the development of a number of processes that negatively affect the state of land resources. As a result, more than 92% of arable land is characterized by low and very low organic matter content; areas with low humus content increase annually by 1%, phosphorus by 5%, and potassium by 3%. The balance of nutrients in agriculture is negative.

The intensification of agriculture, based only on the increasing use of technogenic



means (fertilizers, pesticides, machinery), could not ensure an increase in land use productivity; on the contrary, the incorrect use of traditional technologies and agrochemicals led to a deterioration in the ecological state of soil fertility. In this regard, the development and implementation of a biologization program for agriculture will ensure an improvement in the environmental situation, preservation of soil fertility and an increase in the quality of life.

The culture of farming and animal husbandry that has developed in the region is aimed at obtaining organically pure raw materials, which can become a significant competitive advantage for increasing the export potential of the industry. These trends are a great challenge for the university and require a significant transformation of research and educational policies in order to conduct fundamental and applied research, introduce new educational technologies and programs for advanced training.

Agriculture is one of the life-supporting systems of society, forming its food resource, the state of which determines the economic security of the country. In addition, it acts as a basic sector for the development of rural areas, since it largely ensures employment of the rural population, their standard of living, the vector of demographic processes and, ultimately, the reproduction of rural society. In recent years, negative trends have emerged associated with a reduction in the total rural population in the Stavropol Territory. In addition, in the spatial aspect, the development of rural areas is currently extremely uneven.

These circumstances create an urgent need to conduct a comprehensive study of the state and development of rural areas within the framework of the strategic project “SmartAgroBioTech-2030”.

Therefore, the goal of the project “SmartAgroBioTech 2030 (technological HUB of biologization, animal genomics, digitalization, territorial development)” is to create an innovative model for the development of sustainable production systems based on the development and implementation of breakthrough adaptive innovative technologies for biologization of agriculture and genetic improvement of breeding animals using digital solutions for ensuring conditions for food security and sustainable development of the territories of the socio-ecological-economic system of the Stavropol Territory and the North Caucasus Federal District.

Based on the results of the project, SSAU plans to develop and implement in the Stavropol Territory a set of technological solutions, information and analytical resources, innovative products and methods in the field of biologization of agriculture, animal genomics, digitalization of agriculture and rural development.

The project “SmartAgroBioTech 2030 (technological hub for biologization, animal genomics, digitalization, territorial development)” will be implemented in 3 directions.

Direction 1 – biologization of agriculture:

- Development and implementation of elements of nature-like technologies for maintaining and restoring soil fertility, optimizing the condition and nutrition of agricultural crops, including fruits, vegetables (open and protected ground), ornamental and vineyards.





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- Design and optimization of resource-, energy- and soil-saving production processes and technical means for biologization of agriculture using alternative energy sources and digital technologies.

- Development of technology for the production and regulations for the use of biological products of plant and microbiological origin for various functional purposes.

- Selection, seed production and creation of an information and analytical base for the genetic diversity of varieties and hybrids of agricultural crops.

Direction 2 – animal genomics and biotechnology:

- Development of an innovative selection and genetic model for creating dairy herds of Holstein and black-and-white breeds of pedigree cattle in the South of Russia with improved parameters for creating high-quality functional dairy products.

- Formation of an integrated regional information base of dairy cattle populations of Holstein, Black-and-White, Jersey and Red Steppe breeds for assessing the breeding value of animals using the BLAP method based on national regulatory documents and taking into account international recommendations of ICAR.

- Creation of a set of selection, genetic and technological measures to improve the system of feeding and keeping breeding animals and poultry using elements of artificial intelligence, as well as the rational use of agricultural waste.

- Development of technology for the use of remote digital aerospace monitoring in the raising of pedigree pasture animals (beef cattle, sheep) and the production of livestock products, taking into account the natural and climatic factors of the North Caucasus and optimizing the efficiency of use of pasture areas.

Direction 3 – sustainable development of rural areas:

- Development of methodological tools and information and analytical support for the formation of a digital profile of rural areas, differentiated depending on resource potential, social, economic, natural features, way of life, as well as cultural traditions.

- Creation of an open digital platform “Business Consultant” for organizational and legal support of the processes of opening and running a business in rural and specially protected ecological resort areas of the Stavropol Territory and the North Caucasus Federal District.

- Creation of an interregional resource center for the development of rural and specially protected ecological resort areas of the Stavropol Territory and the North Caucasian Federal District to monitor the processes of socio-economic transformation of rural areas.

- Development of an organizational and economic mechanism for monitoring the development of rural areas based on the Quality of Life Standard, including a system of indicators and standards, a set of measures and a forecast assessment of their effectiveness for the Stavropol Territory and the North Caucasus Federal District.

- Monitoring the tourist and recreational potential of municipal districts of the Stavropol Territory and the North Caucasus Federal District, carrying out certification of municipalities by tourist and recreational potential and typology of territories by type of tourism.



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Thus, the strategic project “SmartAgroBioTech-2030” is aimed at developing and implementing a program for the biologization of agriculture based on expanding the genetic diversity of crops, improving the elements of agrobiotechnologies, introducing digital and intelligent tools, strengthening the scientific and technological potential of the region, which will ensure the preservation of soil fertility, growth production and consumption of environmentally friendly products.

The results of the implementation of the project “SmartAgroBioTech 2030 (technological HUB of biologization, animal genomics, digitalization, territorial development)” will be:

creation of a biologized farming model, including an information and analytical portal, a database of genetic diversity of varieties and hybrids of agricultural crops and the development of new technical, technological and intellectual solutions for their cultivation, obtaining recipes for the production of functional products, digital solutions for the design and optimization of energy-intensive production processes;

creation of an integrated information database of productive traits of pedigree dairy cattle on the territory of the Stavropol Territory through the activities of control-assistant (accounting the milk productivity of cows) and expert-bonitary (assessment of the exterior of animals) services created and operating on the basis of Stavropol State Agrarian University, dissemination of the practice of this work in the regions of the North -Caucasian Federal District by attracting veterinary specialists and scientific personnel from the Kabardino-Balkarian Republic, the Republic of North Ossetia and the Republic of Dagestan;

a new model of interaction between government structures, business and the population to ensure conditions for equalizing development of territories of the macroregion of the North Caucasus Federal District, including a structured and detailed system of methods and tools that ensure effective targeted management of territorial development using a set of adaptive and selective measures to ensure equal opportunities access to the use of factors to improve the quality of life in rural areas of the Stavropol Territory and the North Caucasus Federal District;

increasing the efficiency of business processes and technological development of the industry, which will increase the competitiveness of regional products and increase the sustainability of rural areas of the Stavropol Territory and the North Caucasus Federal District.

The University will continue to encourage research to address complex sustainability issues at global and local scales. Since these problems are interconnected, SSAU will continue to work to erase interdisciplinary boundaries and combine the knowledge, experience, resources and ambitions of SSAU and its strategic partners to find and implement solutions and technologies that will promote sustainable development of agriculture in the Stavropol Territory and the North Caucasus federal district.

In implementing research as one of the priorities of the Strategy in the field of climate and environmental sustainability, SSAU intends to:

- directly support sustainability as one of the main directions of the research



strategy of research teams of each faculty;

- retain its scientists in the field of sustainable development and attract new knowledge and research leaders to build the capacity of SSAU to implement new ways of studying and finding solutions to the problems facing humanity;
- support outstanding students at all stages of their studies – undergraduate, graduate, postgraduate, research laboratory leadership – to support their professional careers as sustainability researchers;
- explore the possibility of using key ideas from the UN Sustainable Development Goals as a basis for combining research conducted by SSAU and developing new external partnerships.

## SECTION 5.

### CONSERVATION AND RATIONAL USE OF ENERGY RESOURCES AS A KEY PRIORITY OF THE CLIMATE AND ENVIRONMENTAL SUSTAINABILITY STRATEGY

SSAU is well aware that the use of fossil energy increases greenhouse gas emissions, which accelerates global warming and causes climate change, which leads to various natural disasters and causes poor health in people living in various areas of our planet.

The main types of resources consumed by SSAU are electricity, heat, cold and hot water. Monitoring of resource consumption is carried out monthly based on meter readings, and the feasibility and effectiveness of energy saving measures are also analyzed.

Based on monitoring results since 1999, SSAU has identified the development and implementation of fundamental institutional commitments to environmental responsibility and the implementation of methods to reduce energy consumption and associated costs while maintaining comfortable conditions and the environment on campus as key priorities for its sustainability policy.

In accordance with this, SSAU intends to carry out a set of measures in order to annually reduce energy consumption by at least 2-3% until 2030.

To achieve the stated reduction goal, SSAU plans to implement several strategic directions that will cover existing buildings, new construction and renovation, energy data collection and analysis, communications, energy project processes and energy information systems.

1. Technical re-equipment and modernization of the engineering infrastructure of campus facilities:

- All SSAU buildings and facilities will be operated in the most energy efficient and integrated manner so that we can focus our energy strategies on building and maintaining a university that educates, enriches and engages;
- SSAU will encourage the use of cost-effective renewable energy sources whenever possible, both in new construction and in renovation of existing buildings;
- Energy efficient retrofits on campus - LED lighting, commissioning, troubleshooting and upgrades to HVAC systems and building envelopes;



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- SSAU will find sources of financing for the implementation of projects to improve energy efficiency and update utility infrastructure, including opportunities for obtaining grants at the federal and regional levels, as well as from its strategic partners.

2. Introduction of the results of research and development work of SSAU scientists into energy saving processes at the university:

- modernization of the automatic control and dispatch system for heat consumption developed and implemented at SSAU and its installation in all facilities of SSAU campuses;

- increasing the capacity of the integrated system of alternative energy sources of SSAU, which makes it possible to illuminate both the internal and adjacent urban areas of the University, as well as individual campus facilities, at night.

3. Formation of a culture of rational consumption of resources among employees, students and in a partner environment:

- improving energy information and accessibility for employees, students and strategic partners;

- increasing the share of startup projects of students and teachers in the field of energy saving in the total volume of startups being developed;

- involvement of employees, students and strategic partners in seminars, forums, conferences with the development of practical recommendations in the field of reasonable energy consumption for residents of the city of Stavropol and the Stavropol Territory.

### SECTION 6.

#### SUSTAINABLE ECOLOGY AS A KEY PRIORITY OF THE CLIMATE AND ENVIRONMENTAL SUSTAINABILITY STRATEGY

The goal of SSAU in the field of environmental sustainability is to increase the level of environmental safety of the university by taking consistent measures to minimize the negative impact on the environment, rationalize the use of natural resources, restore the disturbed state of environmental components, aimed at preserving a favourable environment.

Achieving this goal is based on the following principles of sustainable environmental development of SSAU:

■ prevention and minimization of environmental pollution - the university gives priority to activities and technologies aimed at preventing possible negative impacts on the environment; if such an impact is unavoidable, takes measures aimed at minimizing it and, if necessary, eliminating negative environmental consequences;

■ compliance with mandatory environmental requirements - the university confirms its commitment and willingness to comply with legal requirements and fulfill voluntary obligations to promote best practices in the field of environmental management;

■ creating shared values for the university and stakeholders - the university recognizes that achieving the goals of environmental policy is possible with maximum



awareness and involvement of employees and stakeholders in solving environmental problems.

Following the principles of sustainable environmental development, the following tasks are aimed at achieving this goal:

1. Environmental management. SSAU recognizes its commitment to environmental protection and, in this regard, intends to:

- strictly comply with the requirements of the legislation of the Russian Federation in the field of environmental protection and natural resource management;
- commit to complying with internationally recognized standards and practices, applying international best practices in environmental management and implementing the best available technologies;
- comply with the requirements of ISO international standards, including a commitment to continuous improvement of the environmental management system;
- provide policies to reduce exposure to alien species and biological contaminants at the university;
- ensure assessment and control of environmental impact;
- prevent, control and compensate for the impact of significant environmental aspects of the university's activities on the environment;
- ensure the constant readiness of the management and staff of the university to prevent and eliminate the environmental consequences of accidents and incidents.

2. Use of natural resources. SSAU is aware of its responsibility for the rational use of natural resources and in this regard:

- recognizes the urgent need to reduce the consumption of water and energy resources;
- is aware of its responsibility and undertakes to reduce the consumption of non-essential and auxiliary resources;
- intends to increase the energy efficiency of equipment through timely technological equipment and the introduction of advanced technologies;
- commits to responsible management of water resources;
- intends to provide sustainable food production at the university with a source of sustainable agriculture.

3. Waste management. SSAU recognizes responsibility for the management of waste arising from its activities and undertakes to:

- adhere to the following priorities in waste management: preventing their formation - ensuring their use - taking measures to neutralize them;
- reduce the generation of all types of waste through responsible consumption of resources;
- keep reliable records of generated waste, organize their accumulation in accordance with established requirements, ensuring their separate accumulation as much as possible;
- reduce plastic waste on campus;
- implement a process or practice for the disposal of waste associated with hazardous materials;



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- search and implementation of the most environmentally friendly methods of waste management, giving priority to their removal and neutralization;
- strive to reduce the amount of waste sent to landfill; When disposing of waste, use garbage chutes that prevent secondary pollution of the environment.

4. Biodiversity conservation. Conservation of ecosystems and protection of biodiversity are key principles of sustainable development. SSAU is aware of the responsibility and need to take measures to prevent negative impacts on biodiversity and preserve the habitat and undertakes to:

- ensure the conservation, restoration and sustainable use of terrestrial ecosystems associated with the university, in particular forests, mountains and drylands;
- be open to dialogue and cooperation with local communities, environmental associations, and research centers for the conservation of biodiversity;
- take into account the specifics of identification, monitoring and protection of any species included in the IUCN Red List and species included in the national environmental list, taking into account the habits in the region, which are influenced by the activities of SSAU;
- take the necessary measures to prevent and compensate for negative impacts on flora and fauna and their habitats.

5. Ensuring transparency of environmental information. SSAU undertakes to ensure maximum transparency in matters relating to the environmental aspects of its activities, as well as maintain a constant dialogue on this topic with stakeholders, and therefore undertakes to:

- ensure open access to information on environmental impact;
- strive to engage stakeholders and be prepared for open dialogue on environmental sustainability issues;
- train and raise awareness of employees on environmental issues, involve employees in environmental campaigns;
- demonstrate by personal example of managers the desire to constantly improve the level of environmental safety;
- implement initiatives for environmental education of the population, form and promote a culture of respect for the environment and natural resources;
- discuss the best practices of universities with enterprises, authorities, and public organizations in order to improve approaches to environmental management and develop joint initiatives.

Management of environmental issues, achievement of strategic goals, and compliance with environmental requirements is ensured by every employee of the university.

The Scientific Council of SSAU collectively determines strategic directions, reviews and evaluates the achievement of key environmental indicators, and also assumes responsibility for the implementation of this policy and undertakes to allocate the necessary resources for this.

This policy serves as the basis for setting goals and objectives in the field of ensuring environmental safety, is implemented by the environmental management



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system and is mandatory for every employee of SSAU.

The goals and objectives of SSAU in the field of environmental sustainability are developed in accordance with the identified environmental aspects and areas of negative impact on the environment.

Soil pollution by waste from the operation of motor vehicles (except for waste containing petroleum products) Garage Manager Carry out repairs and technical inspection of vehicles in a timely manner; Equip waste storage areas in accordance with regulatory requirements; Control over the transfer of waste for recycling and neutralization to third parties Job description, Instructions for waste management, Agreements for waste disposal and neutralization

Soil contamination with waste from cleaning the territory Heads of departments Increasing the number of trash cans and bins; Constant control over the regularity of waste removal Job Description, Waste Management Instructions,

#### Educational and experimental farm

The educational and experimental facility of SSAU is an integral part of the educational, scientific, and production process of the university and is located in the village Demino, Shpakovsky district, Stavropol Territory.

The purpose of the educational and experimental farm is to create in the structure of multi-level education the integration of educational, scientific and production activities aimed at training qualified, competent specialists in the agro-industrial complex.

The main objectives of the educational and experimental economy are to create conditions for improving the quality of vocational education through a deeper and more complete connection of training with the production work of students. They will acquire practical skills and abilities to effectively use agricultural machinery and manage production processes, conduct research work with students, introduce new technologies for the production of environmentally friendly crop and livestock products, as well as the production of innovative agricultural products.

The diverse soil and climatic conditions of the location of the educational and experimental farm, the provision of the most modern agricultural machinery, make it possible to introduce scientific developments in many farms of the North Caucasus and Southern Federal Districts.

Currently, 9,453 hectares of land are assigned to the agricultural farm, including more than 5 thousand hectares of arable land. The land use of the experimental station is 446 hectares, of which 88% is arable land, which is due to the crop production focus of scientific research.

In 2018, the area of fruit and berry plantings on the territory of the experimental station was increased to 3.7 hectares, an intensive trellis garden and 0.14 hectares of strawberry nursery on drip irrigation were laid out on an area of 0.12 hectares, a vineyard was laid out for the purpose of studying table varieties .

As part of seed production of grain crops, a variety plot was established on the territory of the training and experimental station to study the adaptive potential to the



conditions of the zone of moderate moisture of grain and leguminous crops.

Eight stationary long-term multifactorial experiments and more than 20 short-term experiments are used to test and implement the results of scientific research into production. The property of Russian agricultural science is the hospital of the departments of agrochemistry and plant physiology and general agriculture, crop production, selection and seed production, on the basis of which research is conducted within the framework of the scientific school “Theoretical and technological flows of biogeochemical substances in agricultural landscapes.”

Currently, on the basis of the educational and experimental farm, 55 professors, 25 graduate students and more than 1,300 students are conducting research on improving farming systems, developing resource-saving technologies for cultivating crops and other topical issues of agriculture, agrochemistry, crop production, plant protection, economics, mechanization, resource saving.

The educational and experimental facility of SSAU is one of the most dynamically developing departments of the university. In the future of its development, it is planned to increase the volume of production of vegetable crops and acquire specialized equipment, expand the range of scientific research in the field of vegetable growing, fruit growing, feed production and crop breeding. In the future, it is planned to increase the number of beef cattle and sheep, build a mill and bakery, a sausage shop, and develop the fish farming industry and beekeeping.

Being an agricultural university, the university, over its more than 90-year history, has accumulated enormous knowledge and technologies in the field of rational environmental management, biologization of agriculture, and the fight against soil degradation, therefore it is aware of the value of its knowledge for promoting the environmental sustainability of the Stavropol Territory.

Considering that SSAU is an agricultural university with more than 90 years of history, within the framework of the activities of its scientific schools and scientific directions - “Phytosanitary monitoring and systems for the rational use of chemical and biological protection of agricultural plants”, “Soil formation and soil evolution”, “Rational use of natural resources and resource conservation in agricultural production in arid regions of Russia”, “Modern farming systems on a landscape basis” St. State Agrarian University intends to develop and implement in agricultural production of the Stavropol Territory by 2030:

- at least 20 new technical, technological and intellectual solutions in the field of biologization of the cultivation of grain, industrial, fodder, fruit, vegetable and ornamental crops, including software systems for managing technological processes based on artificial intelligence in urbanized agricultural production;
- technologies for obtaining and regulations for the use of at least 3 biological products that can optimize the phytosanitary state of agrocenoses and activate the processes of nitrogen fixation and phosphate mobilization in the soil;
- systems of biologized resource-energy-intensive agriculture on an agrolandscape basis, ensuring the production of environmentally friendly products and reproduction of soil fertility.





## SECTION 7

### REDUCING TRAVEL-RELATED EMISSIONS AS A KEY PRIORITY OF CLIMATE AND SUSTAINABILITY STRATEGY

Transport emissions include emissions from the use of public and private transport, vehicle fleet and air travel, which are used from time to time by SSAU employees and its guests. It is obvious that some trips are very important for SSAU employees and guests and are crucial for education, scientific research and social projects.

However, the lessons learned during the COVID-19 pandemic have helped us see opportunities to rethink our business travel strategy to take into account environmental, social and economic impacts. With this in mind, SSAU aims to develop alternative ways of cooperation and knowledge exchange that significantly reduce the need for travel or involve the use of environmentally friendly modes of transport.

SSAU employees and students must ensure that their business trips and travel expenses are justified and necessary, and are a reasonable use of university funds. It is expected that for essential business trips, travel options will be selected that include the possibility of abandoning air travel in favor of other modes of transport.

SSAU is also committed to consolidating and streamlining campus parking and reducing internal vehicle traffic to make SSAU grounds cleaner, more comfortable and safer for pedestrians through our campus master plan. Improved pedestrian connections will be key to improving walkability on campus, creating a more clearly defined network of pedestrian routes and open spaces.

To continuously reduce travel-related emissions, SSAU by 2030 intends to:

- Minimize the carbon and environmental impact of SSAU travel and transportation, including commuting, business and research travel, and promoting greater use of environmentally friendly modes of transport when travelling;
- together with the city community, implement projects to improve the city's pedestrian and cycling infrastructure, as well as public transport infrastructure, to make travel without using transport more comfortable, safe and attractive;
- develop and implement programs to support staff and students who have made the conscious transition from single-occupancy vehicles to active modes of transportation or who have chosen to carpool;
- review the parking permit system near and on campus in favor of purchasing short-term, monthly parking permits as a basis for consciously reducing travel to and from work by personal vehicles;
- significantly increase the number of convenient and safe parking for bicycles on the campuses of SSAU, as well as convenient lockers and showers in places of study and work;
- purchase cars for the SSAU vehicle fleet that belong to the most economical categories;
- technical modernization of the information and communication system of



SSAU, an intelligent schedule will create more opportunities for maximum use of the space and resources of SSAU and its strategic partners to ensure the most comfortable holding of business meetings, conferences, educational, cultural, social and other events in video conferencing format as an alternative when holding events in the format of business trips and other movements.

## SECTION 8

### SUSTAINABLE FOOD AS A KEY PRIORITY

#### CLIMATE AND ENVIRONMENTAL SUSTAINABILITY STRATEGIES

SSAU is committed to providing good, tasty, healthy, nutritionally balanced, sustainable food that is widely available to the university community.

The Sustainable Food Policy stipulates that SSAU is committed to ensuring that food and drink are produced, supplied, consumed and disposed of in an environmentally friendly manner.

SSAU is dedicated to sourcing and supplying food and beverage products produced in compliance with the highest environmental, social and economic standards.

SSAU will achieve this through the decisions we make regarding sourcing and product offerings and in the management of our food service operations.

At SSAU, all conditions have been created so that children can replenish spent energy by enriching the body with the necessary complex of vitamins and microelements.

The university has a whole complex of public catering outlets, including buffets, several dining halls, and cafeterias. Every day this complex serves about 2000 people.

The cafeteria staff tries to do everything possible to please visitors. The menu has an enviable variety, i.e. includes dishes from fish, vegetables and fruits, dairy products.

In addition, there are always hot dishes available that promote proper digestion and enrich the body with useful substances necessary for the normal mental and physical development of children.

However, with all the variety of assortment, the cost of dishes corresponds to the purchasing power of the target audience. After all, the student canteen is not so much a commercial enterprise as a catering point, responsible for the proper and healthy nutrition of young organisms in need of healthy and tasty food.

The student canteen can serve about 500 visitors at a time. In addition, the canteen provides meals for non-resident students living in dormitories on a boarding system.

So SSAU students have an alternative: have a snack on the go, dry food, or eat in the canteen, where the food is really tasty, home-style.

For the systematic formation of a culture of healthy, nutritious nutrition, by 2030 SSAU intends to:

- improve our plant-based food offerings and appeal and increase the proportion of plant-based meals and food products available in foodservice outlets and hotel services

- help ensure that food production is environmentally friendly and protects ecosystems and biodiversity;



## STRATEGY IN THE FIELD OF CLIMATE AND ENVIRONMENTAL SUSTAINABILITY 2023-2030

give preference to food products that are produced by regional producers to maintain health, sustainable nutrition, and the sustainability of the regional economy;

promote conscious consumption of food within the framework of educational programs and projects implemented by the university in the field of catering and hospitality;

develop partnerships with suppliers who demonstrate good environmental and social practices throughout the supply chain and adhere to the commitments and principles of sustainable food policies to enable the University to provide healthy, quality and safe food services.