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Approved  
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№ 11 dated 04.04.2024

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# STRATEGY FOR ACHIEVING CARBON NEUTRALITY AND SUSTAINABLE DEVELOPMENT OF THE NJSC KAZNMU NAMED AFTER ASFENDIYAROV UNTIL 2050



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## Introduction

In the modern, increasingly interconnected and rapidly changing world, the pursuit of sustainable development emerges as a paramount imperative for institutions across all sectors. Faced with complex challenges ranging from poverty and inequality to environmental degradation and health crises, the adoption of the United Nations Sustainable Development Goals (SDGs) serves as a beacon of hope and a blueprint for collective action towards a more prosperous, equitable, and sustainable future.


Like the global community, Kazakhstan actively seeks ways to adapt to climate change to ensure sustainable growth, social integration, and environmental protection through partnership and peace.

In early 2023, as part of this strategy, Kazakhstan adopted the "Republic of Kazakhstan's Strategy for Achieving Carbon Neutrality by 2060." This was preceded by multifaceted work, including the implementation of the "concept of the transition of the Republic of Kazakhstan to a 'green economy'," the development and implementation of state programs for the development of industry and innovation, as well as the implementation of the UN Sustainable Development Goals.

Kazakhstan has undertaken long-term commitments to achieve carbon neutrality and has become one of the first countries to ratify the Paris Agreement. The country's policy is aimed at diversifying the economy, promoting renewable energy sources, and sustainable technologies.


Successful implementation of the tasks set before Kazakhstan and other countries requires highly qualified specialists, managers, and researchers who have knowledge and experience in advanced technologies. The quality training of such specialists is entrusted to universities.

As the distinguished Asfendiyarov Kazakh National Medical University (KazNMU), we recognize our profound responsibility and unique opportunity to make a significant contribution to achieving these ambitious goals. This comprehensive SDG strategy underscores our unwavering commitment to harness the power of scientific research, education, infrastructure development, and partnerships to advance the global sustainable development agenda, with particular emphasis on promoting health and well-being for all.

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**Strategy for Achieving Carbon Neutrality and Sustainable Development of Asfendiyarov Kazakh National Medical University (KazNMU) is based on the following core principles:**

1. Health-oriented sustainability components: Prioritize sustainable initiatives that directly contribute to improving public health, such as reducing air pollution, promoting active transportation, and enhancing access to green spaces on campus.
2. Research-based innovations: Foster a culture of innovation by investing in research projects that explore sustainable healthcare practices, eco-friendly medical technologies, and innovative approaches to addressing environmental health determinants.
3. Public health partnerships: Strengthen partnerships with local healthcare organizations, public health agencies, and government entities to address common sustainability challenges and encourage collaborative action towards healthier and more sustainable communities.
4. Climate resilience in healthcare: Develop resilience plans and strategies to mitigate the impact of climate change on healthcare delivery, ensuring continuity of medical services and readiness for emergencies in the face of extreme weather events and natural disasters.
5. Integration of sustainability into the curriculum: Embed sustainability into the medical curriculum, create interdisciplinary educational opportunities that equip future medical professionals with the knowledge and skills to address environmental health issues in clinical practice.
6. Leadership in healthcare sustainability: Position KazNMU as a leader in sustainable healthcare by strengthening partnerships with international organizations, research networks, and academic institutions to exchange best practices, advocate for policy changes, and advance global health diplomacy.
7. Continuous learning and continuous improvement: Foster a culture of lifelong learning and continuous improvement, incentivize innovation, experimentation, and adaptation to new sustainable challenges and opportunities in the field of medicine and healthcare.

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8. Integration of sustainability issues into educational programs and scientific research. We aim to offer courses and training programs dedicated to sustainable development of enterprises, industries, regions, and countries at the university. Scientific research in the field of sustainable development generates new knowledge, which is then translated into concrete actions, programs, and activities.

9. Use of sustainable management principles in the university's current activities, including infrastructure and the environment. This involves the use of energy-efficient equipment, technologies, and alternative energy sources. Sustainable development principles should be integrated into all functions of the university.


10. Creating opportunities for students and university staff to participate in scientific research, projects, and developments. Here, it is important to concentrate intellectual potential on the creation and implementation of environmentally friendly and energy-efficient technologies, as well as prioritize the development of innovative projects in environmental protection.

11. Fostering awareness and a culture of social responsibility in society regarding sustainable development through environmental education and upbringing. This contributes to the assimilation of ecological and ethical values necessary for ensuring sustainable development.

The implementation of the strategy and evaluation of all areas of university activity according to the principles of sustainable development will enable a systematic transition to an energy-efficient economy through the implementation of relevant measures.

## VISION

At the core of our institutional ethos lies a bold and prominent ambition – to serve as a catalyst for positive change and innovation in the healthcare sector, steadfastly adhering to the principles of sustainability and social responsibility. Our vision is a future where equal access to quality healthcare is not just a distant ideal, but a tangible reality for every individual, regardless of their socio-economic status or geographic location. Guided by the universal framework of Sustainable Development Goals (SDGs), we aspire to assume a position of excellence and innovation in medical education, scientific research, and practice. Through our unwavering commitment to quality, fairness, and ethical conduct, we aim to inspire our students, faculty, and staff to become compassionate, globally conscious leaders

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equipped with the necessary knowledge and skills to address the most pressing healthcare challenges of today. Our vision extends beyond the confines of our university, encompassing a broader commitment to fostering a culture of collaboration, inclusivity, and expanding rights and opportunities – a culture that transcends borders and inspires those driving change worldwide to join us in our pursuit of a more sustainable and equitable world.

The strategy of KazNMU to achieve low-carbon neutrality and sustainable development focuses on the following key directions:


1. **Scientific research:** The main emphasis is placed on promoting scientific research aimed at developing innovative methods of treatment, diagnosis, and prevention of diseases. Our goal is to become a leader in medical sciences and create breakthrough technologies that contribute to improving the quality of life and health of people.

2. **Education:** We pay special attention to the formation of highly qualified specialists in the field of healthcare, equipping students with deep knowledge and skills necessary for effective practice and research in the medical field. Our goal is to prepare future medical professionals ready to address current healthcare challenges.

3. **Infrastructure and environmental management:** We attach great importance to effective management of the university's infrastructure and environmental protection. Our strategy includes measures to reduce energy consumption, implement modern waste management technologies, and support initiatives aimed at improving the ecological situation in the region.

4. **Sustainable natural resource management:** We recognize the importance of preserving natural resources and biodiversity to ensure the sustainable development of society. Our strategy includes supporting and conducting research in the field of ecology and biology, as well as implementing practices of sustainable use of natural resources in the educational process and everyday life of the university.

5. **Values and partnership relations:** We strive to strengthen partnership relations with other medical universities, scientific and medical organizations, as well as governmental and private entities. Our strategy is based on the principles of

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cooperation and interaction, aiming at exchanging experiences, resources, and best practices in the field of medicine and science.

### **GOAL:**

Our main goal is to unite efforts and mobilize the intellectual potential of KazNMU to achieve low-carbon neutrality and implement sustainable development plans at the university, city, and country levels.

### **ACTIONS:**


We plan to concentrate efforts and utilize the scientific, educational, and managerial potential of the university to implement sustainable development activities within the university and societal initiatives. We will actively support initiatives aimed at environmental sustainability, social development, and economic prosperity, taking into account the needs of our students, staff, and society as a whole.

### **SCIENTIFIC RESEARCH:**

Research lies at the core of our mission as a leading research university, and we recognize its pivotal role in advancing progress and innovation in healthcare. In alignment with the SDGs, we commit to conducting transformative research that addresses multifaceted aspects of global health, from combating infectious diseases to addressing the growing burden of non-communicable diseases. Our interdisciplinary approach fosters collaboration across various scientific disciplines, enabling us to generate new knowledge, develop innovative solutions, and contribute to positive changes at the intersection of science, technology, and society. Through scientific research, we not only advance medical science but also contribute to the broader sustainable development agenda by tackling key health issues and promoting sustainability through addressing healthcare inequities and advancing health globally.

#### Tasks:

1. Conduct scientific research on the impact of the environment on human health and develop methods for prevention and treatment of associated diseases.

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2. Integrate innovative technologies and methodologies into the educational process to increase students' awareness of environmental conservation and sustainable development issues.
3. Establish interdisciplinary research groups bringing together physicians, ecologists, and experts from other professional fields for comprehensive study of environmental sustainability issues.
4. Organize events and educational programs for staff and students on resource efficiency and environmental impact reduction.
5. Collaborate with governmental and private organizations to implement projects aimed at reducing harmful emissions and medical waste.


## **EDUCATION:**

As an educational institution, we are deeply committed to shaping the next generation of medical professionals who not only possess academic competence but also ethical principles and social responsibility. Our educational programs are designed to integrate sustainability principles into the curriculum in medical, public, and related fields. Through practical learning programs such as healthcare projects and internships in the healthcare sector, we aim to inspire our students to become compassionate, socially responsible leaders in their fields.

### Tasks:

1. Increase the emphasis on environmental conservation and sustainable development in the university's curriculum, including by developing and implementing additional educational modules and practical sessions on these topics.
2. Develop and implement new educational programs and syllabi, as well as modernize existing teaching methods and formats in the fields of ecology and sustainable development.
3. Expand the coverage of university faculties and departments with educational programs and courses on environmental conservation and sustainable development, including the creation of specialized study tracks.
4. Enhance the quality of professional training in medicine and healthcare to meet society's demand for highly qualified specialists.



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5. Strengthen informational educational activities among various segments of the population through ecological programs that promote the adoption of environmental norms, values, and professional skills.
6. Expand opportunities for extracurricular activities for students in the field of ecology and sustainable development, including organizing internships, practices, and additional education courses.
7. Establish and develop interdisciplinary research groups involving students and faculty to address current issues in medical ecology and sustainable development, as well as to implement research findings into healthcare and public health practice.

## **INFRASTRUCTURE AND ENVIRONMENTAL MANAGEMENT:**

As stewards of the environment and custodians of limited resources, we recognize the importance of adopting sustainable practices in infrastructure development and operational management. From energy-efficient buildings and renewable energy systems to initiatives to reduce waste and preserve water, we aim to minimize our ecological footprint and promote resource conservation in all aspects of our operations. Our investments in green infrastructure and eco-friendly technologies are motivated not only by a desire to comply with regulatory standards but also by a sincere commitment to environmental stewardship and sustainability. Through the adoption of principles of eco-design, circular economy, and green building standards, we aim to create an institutional environment that not only promotes learning and health but also ecological resilience and resilience to various contemporary challenges.

### Tasks:

1. Integration of international experience and advanced knowledge in the field of sustainable development, as well as adaptation of this experience to the specifics of medical education and practice.
2. Research, adaptation, and implementation of advanced technologies with a focus on optimizing the campus area and its infrastructure, increasing the energy efficiency of educational and scientific buildings, as well as developing waste management systems and resource utilization.
3. Integration of the campus and the university into the surrounding environment at the city and country levels, involving experts and consultants.

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4. Establishment of a special management body or working group to systematize and coordinate the university's activities in the field of sustainable development, as well as the development of appropriate infrastructure and legal regulation.


5. Establishment of partnerships with medical universities and international organizations for the exchange of experience, joint projects and research, organization of events on sustainable development, and the popularization of advanced technologies and ideas.

### **SUSTAINABLE LAND USE**


The implementation of this strategy at KazNMU involves extensive transformations affecting all aspects of its activities. This process will require not only changes within the framework of the educational process but also a reassessment of the corporate culture, norms, and values that permeate the life of the university community at all levels. Faculty, administrative staff, and students play a key role in the successful implementation of this strategy. They act not only as implementers but also as initiators and catalysts of changes aimed at strengthening the environmental sustainability of the university. Our goal is not only to make changes but also to inspire every member of the university community to actively participate in shaping a new environmentally conscious culture that contributes to a more sustainable future.

#### **Tasks:**

1. Development and implementation of efficient monitoring and energy management systems in educational buildings and administrative facilities of the university to reduce energy consumption and increase energy efficiency.
2. Conducting audits and modernizing heating, ventilation, and air conditioning systems to optimize energy consumption and reduce greenhouse gas emissions.
3. Implementation of a program for the utilization and sorting of organic and inorganic waste on the university campus to reduce the volume of waste sent to landfills.
4. Research and implementation of innovative methods for the purification and reclamation of water sources on campus to ensure access to clean water and preserve aquatic ecosystems.

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5. Implementation of a system for collecting and recycling rainwater and wastewater for reuse in irrigation and other needs on campus.
6. Conducting educational programs and events on eco-friendly living to raise awareness among university staff and students about sustainable land use issues.
7. Creation and support of environmental research projects by students and faculty aimed at studying and assessing the environmental condition of the campus and its impact on the environment.
8. Implementation of a greening and landscaping program for the campus using local plants and creating ecological recreation areas.
9. Development of a strategy to reduce the use of chemical fertilizers and pesticides on the university campus in favor of organic farming methods and greenery care.
10. Implementation of an air quality monitoring system on the campus and development of measures to reduce air pollution from vehicle emissions and other sources.
11. Implementation of projects to organize ecological routes and excursions for students and the community aimed at promoting care for nature and biodiversity.


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## VALUES AND PARTNERSHIPS:

At the core of our CSR strategy lies the recognition that significant progress towards sustainable development cannot be achieved in isolation - it requires collective action, strategic partnerships, and a shared commitment from diverse stakeholders across various sectors. In this spirit of collaboration, we actively seek to establish partnerships and alliances with local and international stakeholders, including governmental bodies, medical organizations, NGOs, academic institutions, industrial partners, and public organizations. By leveraging our collective experience, resources, and networks, we aim to enhance our effectiveness, scale our initiatives, and address complex challenges that extend beyond geographical and disciplinary boundaries. Through strategic partnerships and collaborative efforts, we not only expand our reach and influence but also foster a culture of innovation, inclusivity, and mutual respect essential for achieving sustainable development and positive social change. Together, we are stronger, and together we can build a healthier, more just, and sustainable world for current and future generations.

### Tasks:

1. Development and implementation of a program to instill values and ethical principles among university staff and students, aimed at promoting responsible behavior, including ethics in professional practice, respect for patients and colleagues, as well as principles of solidarity and social responsibility.
2. Creation and development of partnerships with medical organizations, healthcare organizations, and public organizations, with the aim of exchanging experiences, conducting joint projects and programs, as well as organizing internships and practical training for students.
3. Development of a program for training and development of interpersonal skills, communication, and teamwork among students and university staff, aimed at creating a favorable atmosphere of cooperation and mutual understanding.
4. Organization of events to promote intercultural understanding and tolerance among students and staff, including cultural festivals, fairs, and thematic meetings.
5. Establishment and development of partnership programs with international universities and medical centers, aimed at exchanging experiences, conducting joint scientific research, as well as organizing education and internships abroad for students and faculty.

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6. Development and implementation of a program to support students with disabilities and create an inclusive environment conducive to the full participation of every member of the university community in academic and social life.

7. Organization of events to develop leadership qualities and professional skills among students and young professionals, including training sessions, seminars, workshops, and projects aimed at solving real healthcare problems in collaboration with partners.


The sustainable development strategy of KazNMU represents a set of activities and principles aimed at creating an environmentally sustainable and socially responsible educational environment. In light of global challenges such as climate change, depletion of natural resources, and population growth, measures need to be taken to minimize the negative impact of human activities on the environment and ensure sustainable development.

This strategy is based on the principles of balancing environmental, economic, and social aspects of development. We recognize that our university plays a key role not only in training qualified professionals in the field of medicine but also in shaping values and practices conducive to a sustainable future.

One of the main directions of our strategy is the implementation of innovative resource management methods. We aim to reduce energy consumption, improve the energy efficiency of buildings, efficiently use water resources, and reduce waste. By introducing new technologies, developing effective management systems, and motivating staff to adhere to environmental standards, we aim to create a "green" university that serves as an example of environmental responsibility.

An important aspect of our strategy is the education and upbringing of students. We believe that education plays a crucial role in shaping a new generation of leaders capable of making informed decisions in the field of sustainable development. Therefore, we integrate components of ecology, sustainable development, and social responsibility into the educational programs, conduct training events and practical sessions that allow students to apply the knowledge they have gained in practice.

Another important element of our strategy is collaboration with other universities, organizations, and businesses. We recognize that achieving sustainable development requires joint efforts and partnerships at all levels. Therefore, we actively interact with other educational organizations, scientific institutes, social

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justice and economic prosperity. We are ready to take on the challenges associated with sustainable development and strive to become a leader in this field. Our strategy is based on innovation, education, and collaboration, and we are confident that through joint efforts, we can make significant progress in creating a more sustainable and prosperous future for our university, society, and the planet as a whole. governmental and private organizations to exchange experiences, develop joint projects, and address common challenges.

In conclusion, the sustainable development strategy of KazNMU is a key document that defines our course for the future. We believe that implementing this strategy will enable us to create a sustainable and thriving education system that contributes to the preservation of the environment.