

/Proposal/

Acting in line with current scientific knowledge and the university's mission, as well as feeling responsible for future generations and wishing to set an example, the Jagiellonian University acknowledges the seriousness of the climate and ecological crisis and declares immediate action to reduce its own negative impact on the climate and nature and to adapt the university to the new climate and ecological reality. These actions concern, in particular, the infrastructure, resource management and organizational culture of JU, including the promotion of values and standards of climate-friendly and biodiversity-friendly behaviour within the academic community.

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#### **I. SUSTAINABLE, ACTIVE AND RESILIENT JU**

##### **I.1. Striving to make JU's activities harmless to the climate**

Making JU's activities harmless to the climate is impossible without a deep transformation of the national energy system. However, the university can still do a lot to quickly and effectively reduce its consumption of thermal and electrical energy, increase the share of renewable energy sources and improve their efficiency. Other actions to reduce greenhouse gas emissions are also significant, thus demonstrating the academic community's concern for a shared future.

<b>Task</b>	<b>Description</b>	<b>Authority in charge</b>	<b>Date</b>
I.1.1. Developing a methodology for measuring resource consumption and greenhouse gas emissions at JU	Developing a methodology for measuring and estimating resource consumption (e.g. water, paper, plastic, wasted food) as well as the volume of CO <sub>2</sub> equivalent emissions, and a methodology for incorporating various dimensions of university activity and its community into these calculations, estimates, and measurements.	Green Office / Sustainability Unit / JU Centre for Climate Neutrality or a similar newly-established unit/ or a project team created within existing positions	to be decided
I.1.2. Measuring resource consumption and greenhouse gas emissions at JU	Using the developed methodology.	see above	to be decided
I.1.3. Planning actions to reduce and offset the combined actual emissions and emissions estimated according to the amount of wasted resources	Based on measurements, as well as legal solutions applicable in Poland and the EU.	see above	to be decided
I.1.4. Public reporting of resource consumption, energy use, and greenhouse gas emissions	Current data on resource consumption, greenhouse gas emissions and offsetting actions should be publicly available and communicated in an understandable and user-friendly manner. Quarterly reports should take into account the variability of JU emissions throughout the year.	see above	to be decided
I.1.5. Evaluating the schedule of activities and adjustments	Based on quarterly reports. In addition, ongoing evaluation of available solutions that are possible and optimal for implementation at JU, in order to achieve the state of harmlessness to the climate as effectively as possible. Determining a deadline for JU to achieve climate neutrality that is coherent with Krakow's climate policy.	see above	once per year
I.1.6. Educating the university community on the implemented climate policy	Ongoing dialogue with the JU community regarding the actions taken, their significance for the chosen goal, and their added value for everyday academic life.	see above	to be decided
I.1.7. Active dialogue with central authorities and energy suppliers	Appealing to the central authorities for a fast and fair energy transformation. Negotiations with energy suppliers regarding the possibility of purchasing so-called green energy and appealing for an increase in the scope of green energy on	see above	to be decided

	offer.		
I.1.8. Establishing Green Office / Sustainability Unit / JU Centre for Climate Neutrality or a similar unit/ or a permanent project team created within existing positions	Establishing an administrative university-wide unit that employs a sufficient number of personnel to ensure continuity and effectiveness of activities related to JU's pursuit of climate neutrality (or ensuring this in another way).	JU Rector, JU Chancellor	at the time of announcing the Strategy implementation

## I.2. A joint plan for climate and nature

"JU Climate and Ecology Strategy 2030" is addressed to representatives of the JU community but it will also affect affairs in Krakow and Małopolska region. Therefore, interested parties should have the opportunity to co-create it through consultations. The results of the consultations will allow for the preparation of a checklist of urgent actions which do not require strategic planning, which would be arranged in terms of their difficulty of implementation and would include activities that can be undertaken immediately as well as those that will be necessary to undertake in the future. Then, within 3 months of the announcement of the strategy's implementation, a detailed, consulted with JU community, action plan for the period until 2030 will be prepared, which will allow for the organization, systematization, and control of the entire process.

<b>Task</b>	<b>Description</b>	<b>Authority in charge</b>	<b>Date</b>
I.2.1. Checklist	It contains binding and urgent actions, sorted by increasing level of difficulty, which do not require strategic planning and can be immediately implemented or which require time.	to be decided	after the consultation results have been developed, but before the Strategy is announced to be implemented
I.2.2. Action plan	It contains binding: commitments/goals, actions, expected results, indicators of the degree of goal achievement, milestones, persons/units in charge, graphic schedule, and consequences of lack of progress/insufficient progress.	to be decided	3 months after the announcement of the Strategy implementation

### I.3. Resilience, or the ability to withstand adversities

In today's rapidly changing world, which is susceptible to multidimensional crises, leading universities should quickly recognize threats and efficiently solve problems in order to strengthen social and institutional resilience. Therefore, JU should take action aimed at enhancing its capacity to adapt to dynamically changing situations, especially in the context of the complex consequences of contemporary climate change.

Task	Description	Authority in charge	Date
<p>I.3.1. Crisis management in a changing world</p>	<p>Establishing Crisis Modelling Centre (CMC), an interdisciplinary team of experts from JU and beyond, which would prepare forecasts of possible global and local threats, model their course and effects for a given community, and based on the results, prepare mitigating and adaptive recommendations. The task of the CMC could be, for example, to prepare and supervise the implementation of solutions in the event of an epidemic (administrative procedures, adaptation of buildings, e.g. ventilation shafts, work mode, etc.). Another task could be to take similar actions in assessing the impact of contemporary climate change on population movements and social structure, including the preparation of plans related to the sudden influx of people to Krakow and Małopolska region. The centre could also carry out scientific and educational (including commercial) activities which would implement crisis forecasting and management system based on scientific methods.</p>	<p>to be decided</p>	<p>to be decided</p>
<p>I.3.2. Preparation of university infrastructure for the effects of climate change</p>	<p>Conducting an audit of threats related to exposure of infrastructure to the effects of contemporary climate change and urgent implementation of mitigation and adaptation solutions. The continuous increase in the number of hot days (<math>T_{max} &gt; 25^{\circ}\text{C}</math>) and heatwaves (<math>T_{max} &gt; 30^{\circ}\text{C}</math>), as well as hot nights (<math>T_{min} &gt; 20^{\circ}\text{C}</math>) is a consequence of global warming and the existence of an urban heat island in Krakow. It is necessary to intensify the development of green and blue infrastructure in the city and University area in order to improve the local climate. Ground sealing, native trees with large crowns providing shade, green roofs, green walls, lawns with limited mowing frequency, etc. are ways to lower air temperature. Green areas, especially meadows, promote water retention and prevent both drought and flash floods. The intensification of extreme weather events (e.g. strong winds, storms, heavy rainfall) should be reflected in the appropriate approach to transportation, including commuting and movement in connection with studying or working at the university, ensuring the safety of archives, server rooms, and other data storage facilities. One of the consequences of contemporary climate change will be population migration from areas</p>	<p>to be decided</p>	<p>to be decided</p>

	particularly vulnerable to these changes, which requires both infrastructure preparation and academic community readiness, also in terms of social resilience to propaganda and fake news.		
I.3.3. Changes in work regulations and study regulations	<p>Exploring reforms inspired by ecological economics of degrowth, such as cooperation and sharing of equipment and space, strengthening interpersonal relationships within the university community, shortening the workweek, increasing the amount of free time, changing the study schedule to optimize energy consumption according to the seasons (less air conditioning, less heating).</p> <p>Moving away from work and studying based on the number of hours towards problem-solving and project-based models.</p> <p>Adapting office equipment to the requirements of digitization, including electronic document circulation (fast connections, digitization of procedures). Increasing optimally the digital competencies and technical possibilities of students and employees, e.g. assisting in equipment selection, configuration, suggesting digital solutions. Preparation for flexible transition to remote work mode, if necessary.</p>	to be decided	to be decided

## II. COST-EFFECTIVE AND PLANET-FRIENDLY JU INFRASTRUCTURE

### II.1. Energy transformation towards low-emission self-sufficiency

Striving towards a state when JU's activities are harmless to the climate requires changes in the way energy is obtained and used. According to estimates by the JU Climate Council working group, the university consumes about 300 TJ of energy annually. Electricity accounts for about 47% of consumption, while heat accounts for 53%. The share of RES (renewable energy sources) is negligible (~1% for electricity, ~2% for heat). Analysis of JU's energy requirements and current RES capabilities allows for recommending solutions that can lead to a 50% reduction in energy consumption and an increase in the share of "green energy" in the university's energy balance.

<b>Task</b>	<b>Description</b>	<b>Authority in charge</b>	<b>Date</b>
II.1.1. Energy audit of the entire JU, energy consumption monitoring	Gathering data from all JU buildings for the purpose of conducting an audit. Audits should be periodic and frequent, or monitoring of results should be made possible in real-time.	to be decided	to be decided
II.1.2 Analysis of audits, energy consumption monitoring, and public disclosure of results	This will allow for the development of a plan to reduce energy consumption and to eliminate its wasting. Making dynamic results of energy consumption and production measurement constantly and publicly available in university buildings would motivate the academic community to strive for minimizing energy usage according to the data.	to be decided	to be decided
II.1.3. Photovoltaic installations and heat pumps	Increasing the share of RES (renewable energy sources) in the heat production for JU buildings through the use of heat pumps, where justified. Ideally, this would lead to a reduction in energy consumption by approximately 50%. The electricity produced by photovoltaic cell installations should be used to power heat pumps. It is necessary to identify and use possible sources of financing of photovoltaic installations and other RES, as well as to take an inventory of areas where photovoltaic cell installations are justified.	to be decided	to be decided
II.1.4. Electricity from RES (renewable energy sources)	JU will strive to replace power grid electricity with electricity generated from RES, understanding that in the current situation, it is not possible for the university to transition to 100% RES.	to be decided	to be decided
II.1.5. Purchase of "green energy"	Reducing emissions can be achieved through the purchase of so-called "green energy", and ultimately through the transition of the national energy sector to emission-free sources of energy, once they are made	to be decided	to be decided

	available to domestic electricity consumers by entities operating on the market.		
II.1.6. Actions to reduce and offset greenhouse gas emissions	<p>As JU is unable to achieve a complete energy transformation towards activities that are entirely harmless to climate and nature in the current conditions, it is necessary to take action to offset the damage that cannot be avoided, such as:</p> <ul style="list-style-type: none"> <li>• reducing resource consumption</li> <li>• reducing energy consumption</li> <li>• optimizing building usage</li> <li>• refraining from investing in areas of high natural value</li> <li>• expanding and re-naturalizing green areas</li> <li>• installing electric vehicle charging stations (for cars, mopeds, kick-scooters, motorcycles, scooters, and bicycles) powered by energy from JU's photovoltaic (or other RES) installations.</li> </ul>	to be decided	to be decided

## II.2. Low-emission transport and academic mobility

Transport is becoming an increasingly significant contributor to CO<sub>2</sub> emissions due to its reliance on fossil fuels and coal. Without changes to our lifestyles, consumption patterns and land use, it is not possible to succeed in reducing greenhouse gas emissions. The academic community can reduce the negative impact on the climate by changing certain behaviours when undertaking domestic and foreign travel as part of their duties at JU. Travelling by means of transport that generate high consumption of fossil fuels (such as air travel and single-occupancy cars) should be reduced, while low-emission modes of transport and communication technologies (such as trains, buses, bicycles, and electric vehicles powered by renewable energy sources) should be encouraged. Access to public transportation, bike paths, bike-sharing stations, car-sharing systems, and other eco-friendly solutions should be emphasized to achieve sustainable transportation to work or study. Krakow, being a historic city, is not designed for the current volume of traffic. Therefore, alternative means of transport should be used and the infrastructure adapted to the specifics of Krakow should be created in order to improve the quality of travel while minimizing negative environmental impact.

Task	Description	Authority in charge	Date
II.2.1. Principles of choosing means of transport for national and international trips related to duties performed at JU	Recognizing the discrepancy between internationalization processes and the principles of sustainable academic mobility, it is important to develop comprehensive principles of choosing means of transport that take into account the distance to the destination, the economy of travel, and responsibility for the environment (including carbon footprint), along with verification of possible low-emission means of transport.	the executive entity responsible for organizing domestic and international trips, selected through a tender process that includes the criterion of carbon footprint reduction, in collaboration with the International Relations Office	to be decided
II.2.2. Promoting sustainable mobility	<ul style="list-style-type: none"> <li>• promoting and supporting commuting to work by bicycle or public transport</li> <li>• supporting bicycle and pedestrian infrastructure in the external areas of the university (bike racks, bicycle repair stations)</li> <li>• creating a connected and coherent system of bicycle paths and pedestrian routes that ensure easy access and commute to places of learning and work, in cooperation with</li> </ul>	to be decided	to be decided

	<p>the City Hall</p> <ul style="list-style-type: none"> <li>restoring the semester student ticket for public transport commuting</li> </ul>		
<p>II.2.3. Optimizing parking policy in external areas of JU</p>	<ul style="list-style-type: none"> <li>rationally reducing the number of parking spaces by using shared parking options or by occupying them for a specified time, as well as using an electronic system for verifying the availability of parking spaces</li> <li>allocating a portion of parking fee revenues to support initiatives aimed at reducing and offsetting greenhouse gas emissions caused by vehicle traffic, e.g. planting trees</li> </ul>	<p>among others, Administration Office of the Campus of the 600th Anniversary of the JU Revival</p>	<p>to be decided</p>
<p>II.2.4. Transport audit</p>	<ul style="list-style-type: none"> <li>verifying periodically the ways of commuting to work and study by the academic community</li> <li>publishing the results of audits</li> <li>comparing the results with the offered infrastructure, such as the number of parking spaces and bike racks, availability of public transport stops</li> </ul>	<p>to be decided</p>	<p>to be decided</p>

### II.3. Green and blue university infrastructure

In Poland, we are observing a decreasing number of days with rainfall (a risk of drought), but there are increasingly frequent occurrences of heavy rainfall, known as flash floods (a risk of flooding and inundation). Blue infrastructure refers to the design of spaces that helps to manage water in the area where precipitation occurs and to reuse it. Examples include rain gardens, reservoirs, and ponds. Green infrastructure refers to areas that contribute to preserving the natural environment in a stable state as well as to protecting biodiversity, such as parks, green spaces, green roofs, walls, lawns with limited mowing frequency and pocket parks. Blue infrastructure helps to utilize water resources better and improve water quality. Green infrastructure reduces the impacts of climate change, protects against noise pollution, purifies air, and improves people’s well-being and health. Both blue and green infrastructures help to protect ecosystems, retain rainwater, reduce flood risks, and mitigate the effects of both floods and droughts. For example, reducing lawn mowing promotes carbon accumulation in the soil root mass, plant regeneration, water retention and prevents drought and inundation; well-maintained green areas (such as flower meadows) are excellent receivers of large amounts of water.

Task	Description	Authority in charge	Date
II.3.1. Managing existing green areas and creating new ones in accordance with scientific knowledge	<ul style="list-style-type: none"> <li>• gradually replacing designed greenery with exclusively native species</li> <li>• planting large trees, shrubs, and other pollinator vegetation friendly for native species exclusively</li> <li>• extensive mowing of lawns, composting of cut grass</li> <li>• abandoning flail mowers and leaf blowers (which will reduce the demand for fossil fuels)</li> <li>• introducing green walls and roofs</li> <li>• creating parks, pocket parks, green spaces, and wildflower meadows</li> </ul>	among others, Administration Office of the Campus of the 600th Anniversary of the JU Revival in collaboration with the university's academic staff who specialize in this area	constantly
II.3.2. Water retention	Introducing small retention solutions, especially in the III Campus area, such as: <ul style="list-style-type: none"> <li>• creating small reservoirs in natural terrain depressions</li> <li>• constructing check dams wherever hydrological conditions permit</li> <li>• installing rainwater collection systems</li> <li>• reconstructing gutter outlets and connecting water tanks</li> <li>• eliminating unnecessary impermeable surfaces</li> <li>• creating rain gardens</li> </ul>	Administration Office of the Campus of the 600th Anniversary of the JU Revival, among others	to be decided

<p>II.3.3. Revising local development plans and adopting a consistent policy on the JU spatial management</p>	<ul style="list-style-type: none"> <li>• verification of planning documents in terms of investment activities (e.g. JU III Campus - East)</li> <li>• audit of the condition of existing buildings in order to determine the actual demand for new university buildings and infrastructure</li> </ul>	<p>Administration Office of the Campus of the 600th Anniversary of the JU Revival, among others</p>	<p>to be decided</p>
<p>II.3.4. Plants in the JU interiors</p>	<ul style="list-style-type: none"> <li>• increasing the number of (allergy-friendly) plants in the interiors of buildings, particularly in classrooms and social rooms</li> <li>• placing plants in common areas and on stairwells, in compliance with fire safety regulations</li> </ul>	<p>entities that administer the buildings</p>	<p>to be decided</p>
<p>II.3.5. Preventing bird collisions with glass surfaces</p>	<ul style="list-style-type: none"> <li>• monitoring bird collisions</li> <li>• applying markers with verified technical parameters to glazed surfaces (alternatively: installing facade blinds)</li> <li>• developing bird-friendly specifications for new buildings</li> <li>• establishing best practices for controlling lighting after dusk and at night</li> </ul>	<p>Administration Office of the Campus of the 600th Anniversary of the JU Revival, among others</p>	<p>to be decided</p>

### III RESPONSIBLE DAILY PRACTICES AT JU

#### III.1. Sustainable, nutritious and tasty university catering

One of the less obvious but significant sources of greenhouse gas emissions is the industrial breeding of animals, which requires vast areas for both pastures and growing crops, often acquired by deforestation. It also consumes substantial amounts of water, whereas the carbon footprint of producing the same amount of calories speaks in favour of plant-based, rather than animal food. Therefore, increasing the proportion of sustainably produced plant-based foods in the JU catering offer - a standard at leading universities worldwide - is justified for both permanent and temporary facilities such as canteens, restaurants, vending machines, photocopy points, etc., as well as catering services at conferences, council meetings and other events. Furthermore, focusing on local (including sustainably produced meat) and seasonal products helps to reduce emissions caused by food transport.

Task	Description	Authority in charge	Date
III.1.1. Research	<ul style="list-style-type: none"> <li>• identifying the dietary needs and habits of JU students and staff, as well as the university community's acceptance of increasing the proportion of plant-based, local, and seasonal foods on the JU catering offer</li> <li>• conducting interviews with entities offering catering services at JU to explore the reasons for the current catering offer</li> <li>• identifying best practices from other universities in the area of sustainable, wholesome, and tasty catering</li> </ul>	to be decided	to be decided
III.1.2. A catering offer tailored to the needs of a climate and environmentally friendly university community	<ul style="list-style-type: none"> <li>• providing access to local, seasonal plant-based food at any place and time at an affordable price at JU</li> <li>• expanding the range of nutritious, tasty, and affordable plant-based meals based on local and seasonal products, and gradually moving away from meals containing industrially farmed meat, animal products, and products imported from distant locations such as palm oil, avocados, and almonds</li> <li>• menu promoting sustainable meals based on plant-based, local, and seasonal food, with symbols associated with them; introducing in the menu the information about the harmfulness/friendliness of meals to the climate</li> </ul>	entities that administer the buildings	to be decided

	<ul style="list-style-type: none"> <li>• taking into account the ecological and climate costs in the prices of highly-emissive meals</li> <li>• canteens/gastronomic points becoming centres for nutritional education (information on food production, transportation, healthy habits)</li> <li>• in places where the main service is not the sale of food (e.g. copy centers, kiosks) - only healthy, local, seasonal, sustainable plant-based food</li> <li>• annexes to contracts with gastronomic points that will include good practices for tasty, wholesome, and environmentally friendly university nutrition (shortening the supply chain - local, seasonal products; sustainable production - plant-based products)</li> </ul>		
III.1.3. Vending machines	<ul style="list-style-type: none"> <li>• healthy, local, seasonal, and shelf-stable plant-based food (such as apples, nuts, local dried fruits, etc.) produced sustainably, placed alongside the vending machines on the university campus that offer highly-processed food (snacks/drinks)</li> <li>• an audit of the profitability of providing space for vending machines at JU in relation to the energy consumption they use</li> <li>• progressively phasing out vending machines (not renewing contracts) or changing the assortment of vending machines to healthy, local, seasonal, sustainable plant-based food</li> </ul>	entities that administer the buildings	to be decided
III.1.4. Catering	Catering based solely on healthy, local, seasonal plant-based meals made from sustainably produced ingredients.	conference and event organizers	to be decided
III.1.5. Community kitchen	<ul style="list-style-type: none"> <li>• creating friendly, open, and inclusive spaces in all buildings at JU, not only for meetings, conversations, leisure time and relaxation, but also for peaceful communal food preparation, heating and consumption, as well as for community building</li> <li>• consultations with architects, students and employees to gather ideas on what these spaces could look like and how they could operate</li> </ul>	entities that administer the buildings	to be decided

<p>III.1.6. Water</p>	<ul style="list-style-type: none"> <li>• publicly accessible points where drinking water can be obtained free of charge (water fountains)</li> <li>• providing information on the safety of drinking water (on toilet doors, near taps)</li> </ul>	<p>entities that administer the buildings</p>	<p>to be decided</p>
<p>III.1.7. Minimizing food waste</p>	<ul style="list-style-type: none"> <li>• food products from catering and canteens made available for free to the public on the following day in designated areas in each building</li> <li>• in the following days, the food waste composted at a location that does not require the use of combustion engine powered vehicles</li> <li>• transparent (publicly visible) reporting of data related to food waste, reuse, and composting</li> </ul>	<p>entities that administer the buildings</p>	<p>to be decided</p>
<p>III.1.8. Nutritional education</p>	<ul style="list-style-type: none"> <li>• spreading knowledge about healthy and environmentally friendly ways of eating, especially among people working in canteens and providing other catering services</li> <li>• manuals specifying good practices for environmentally friendly nutrition for companies and conference and event organizers employed by JU</li> </ul>	<p>to be decided</p>	<p>to be decided</p>

### III.2. Responsible Collaboration

An organization's responsibility towards society and the environment is not only demonstrated by its own actions, but also by who it collaborates with. Therefore, JU's choice of suppliers should not be based solely on economic factors, but also on aspects such as the place and manner of production of goods, disposal practices, as well as emission of greenhouse gases and other pollutants caused by the manufacture and transportation. Standards for responsible collaboration should be included in contracts, annexes, tender procedures, purchase orders and procurement. Also, the selection of entities that JU provides services to should be determined by social and environmental ethics.

Task	Description	Authority in charge	Date
III.2.1. Specification of responsible collaboration standards	Specifying standards applicable in the following cases: <ul style="list-style-type: none"> <li>• provision of services or delivery of products to JU by an external entity, for example, contracts, contract amendments, tender procedures, product purchase</li> <li>• provision of services by JU to another entity, such as paid research, consulting, publishing activities, etc.</li> <li>• promoting environmental benefits over the economic ones, e.g., considering energy efficiency, water conservation, biodiversity protection, impact on climate, recycled materials, production of goods in the region or country, possession of certificates for tendering purposes</li> <li>• principles for what and why JU will not order due to social and environmental responsibility</li> </ul> Creating a list of certificates recognized by JU as credible evidence that a given product or service is eco-friendly, climate-friendly, zero-waste, fair trade, etc.	to be decided	to be decided
III.2.2. A manual of good practices for external entities	Providing the JU standards of responsible cooperation for external entities considering cooperation with the university.	to be decided	to be decided
III.2.3. Results monitoring	Verifying the enforcement of responsible cooperation standards.	to be decided	to be decided
III.2.4. Responsible collaboration with financial institutions that provide services to JU	<ul style="list-style-type: none"> <li>• preparing a list of financial institutions whose activities would exclude them from cooperation with JU</li> <li>• verifying whether the financial institutions that JU cooperates with operate in a sustainable, socially and environmentally responsible manner, whether they invest in projects harmful</li> </ul>	to be decided	to be decided

	<p>to the climate and nature or those ethically questionable, such as mining and distribution of fossil fuels</p> <ul style="list-style-type: none"> <li>• cooperating only with socially and environmentally responsible financial institutions</li> </ul>		
<p>III.2.5. Standards for entities that provide services to JU using plastic packaging</p>	<p>Eliminating single-use plastic packaging in all catering points, shops, copy centres, vending machines, souvenir shops, etc. by e.g.:</p> <ul style="list-style-type: none"> <li>• allowing drinks to be refilled in reusable containers</li> <li>• packing takeaway meals in customers' own containers</li> </ul> <p>or providing alternative packaging in reusable materials. Collaborating with delivery companies in order to reduce the amount of disposable packaging.</p>	to be decided	to be decided

### III.3. Ethical consumption, responsible choices, sustainable management

Even though decisions that do not concern the entire university community, but are individual or made by their management at the level of administrative units, are not a sufficient response to the systemic problem of the university's negative impact on the climate and nature, they are still important. Therefore, ethical consumption of goods, responsible daily choices and sustainable management of resources at the micro and mezzo levels are important aspects of JU's efforts to achieve a state when the university's activities are harmless to the climate and nature.

Task	Description	Authority in charge	Date
<p>III.3.1. The effectiveness of recommendations for sustainable management</p>	<p>Ensuring the effectiveness of implementing recommendations for individual sustainable management of paper, water, energy, etc. that cover all units of JU and operating within JU.</p>	<p>to be decided</p>	<p>to be decided</p>
<p>III.3.2. Eco-friendly substitutes</p>	<p>Wherever possible:</p> <ul style="list-style-type: none"> <li>• creating a list of all types of products that are used</li> <li>• creating a list of recommended types of products (e.g. paper, envelopes, hygiene and cleaning products, printer ink)</li> </ul>	<p>to be decided</p>	<p>to be decided</p>
<p>III.3.3. Sustainable paper management</p>	<p>Minimizing paper usage, which includes:</p> <ul style="list-style-type: none"> <li>• simplifying the electronic system, purchasing/adapting a system to minimize printing and bureaucracy (including the need for transporting printed materials)</li> <li>• economical printing: using paper with low grammage, recycled paper, eco-paper, double-sided printing, using toner saving mode; creating a list of desired types of paper and using it</li> <li>• using reusable envelopes and other recycled paper products; creating a list of desired types of envelopes and paper products and using it</li> <li>• abandoning the printing of invitations to JU events; if necessary to print paper invitations - sending them without envelopes</li> <li>• providing electronic versions of diploma theses without printing them</li> <li>• introducing subscriptions for printed versions of JU journals (e.g., in the form of an annual online survey); this will allow</li> </ul>	<p>to be decided</p>	<p>to be decided</p>

	<p>for matching the number of printed copies to the actual needs of readers</p> <ul style="list-style-type: none"> <li>• promoting the issuance of WUJ e-books adapted for individual printing</li> <li>• developing good practices for photocopying materials</li> <li>• if justified, scanning notes instead of photocopying</li> <li>• JU internal correspondence: further (ultimately: complete) reduction of paper correspondence in favour of electronic correspondence</li> <li>• educational campaigns and training</li> </ul>		
<p>III.3.4. Minimizing the consumption of resources by reducing excess production</p>	<ul style="list-style-type: none"> <li>• focusing on low-emission promotion</li> <li>• discontinuing the production of unnecessary promotional gadgets; promotional items, including clothing, should be produced locally using natural or recycled materials that are easy to recycle and should have markings indicating their "eco-friendly" origin</li> <li>• establishing best practices for all promotional and conference activities: ideally, there should be no conference gadgets, an option to opt-out of conference packages that include gadgets (in exchange for a reduced conference fee), and the creation of conference storage facilities - each JU conference organizer can use their resources (such as lanyards, badges) instead of gadgets - for example, experience vouchers for the Botanic Garden, Natural Education Centre, and JU Museum visits</li> <li>• introducing an instruction manual to best practices for the use of single-use plastics and plastic packaging in scientific research and teaching</li> </ul>	to be decided	to be decided
<p>III.3.5. Waste</p>	<p>Improving the waste segregation system by:</p> <ul style="list-style-type: none"> <li>• removing trash bins from office rooms</li> <li>• relocating trash bins from rooms to hallways</li> <li>• providing each bin with a bilingual, accessible, and symbolic description of the type of waste</li> <li>• equipping bins for organic waste with</li> </ul>	to be decided	to be decided

	<p>activated carbon filters</p> <ul style="list-style-type: none"> <li>• launching a promotional campaign to raise awareness of the initiative</li> </ul>		
<p>III.3.6. Spreading awareness of disposable packaging (including plastic)</p>	<ul style="list-style-type: none"> <li>• providing a set of glasses and carafes for use during meetings, conferences, and for daily use in JU spaces, including dormitories, for students and staff</li> <li>• optimizing the use of packaging materials for parcels, especially storing and handing over for reuse/recycling Styrofoam packaging</li> </ul>	to be decided	to be decided

#### IV. JU SUPPORTING OPEN AND NECESSARY SCIENTIFIC KNOWLEDGE

##### IV.1. Universal climate and ecological education

The climate and ecological crisis is a fact - the scientific community agrees: changes are happening, they are caused by human activity, and avoiding pessimistic scenarios requires urgent and decisive action. These issues are increasingly less questioned in public debate, but they are still marginalized, which hinders and delays the implementation of effective preventive, remedial and adaptive actions. Therefore, JU should take particular care to provide students with reliable knowledge not only in the field they have chosen from the JU's offer but also about significant challenges of modern times, including the climate and ecological crisis.

<b>Task</b>	<b>Description</b>	<b>Authority in charge</b>	<b>Date</b>
IV.1.1. Online course (MOOC) available for the JU community	<ul style="list-style-type: none"> <li>• content based on explaining the JU Climate and Ecology Strategy 2030</li> <li>• professional production</li> <li>• face-to-face meetings (discussions, field trips)</li> </ul>	to be decided	to be decided
IV.1.2. Short training sessions for JU community	<ul style="list-style-type: none"> <li>• for employees, e.g. "What should you know about the climate and ecological crisis while working at JU?"</li> <li>• for students, e.g. "What should you know about the climate and ecological crisis while studying at JU?"</li> </ul>	to be decided	to be decided
IV.1.3. Promotion of courses and training	Active actions promoting the offer of courses from tasks IV.1.1. and IV.1.2. among the JU community	to be decided	to be decided
IV.1.4. Specialized optional classes in every JU unit	Encouraging JU faculties to prepare offers of optional classes on climate and ecological crisis for all their students, tailored to the specificities of the education offered by each faculty.	to be decided	to be decided
IV.1.5. Education on daily choices that are climate-friendly and nature-friendly	3 educational campaigns per year for the JU community on the following thematic areas: food, water, packaging (plastic, disposable), RES, blue and green infrastructure, transport and academic mobility, sharing economy, and others.	to be decided	to be decided
IV.1.6. Training sessions for climate educators	Annual training for individuals who will disseminate credible knowledge about contemporary climate change, including school teachers from Krakow, for example in cooperation with the Krakow Climate Education Centre.	to be decided	to be decided

#### IV.2. University for the popularization of knowledge

Having reliable knowledge is the basis for effective climate and nature protection policy at institutional, local, national and international levels. Therefore, leading universities are obliged to provide open and unpaid popularization of knowledge about contemporary climate change and loss of biodiversity in an understandable and accessible way for the social environment, in order to generate positive social and environmental impact.

<b>Task</b>	<b>Description</b>	<b>Authority in charge</b>	<b>Date</b>
IV.2.1. Popularization of scientific knowledge	Spreading reliable information about the state of ecosystems and climate within the society by reaching out actively to all social and demographic groups.	to be decided	to be decided
IV.2.2. Communication of scientific knowledge during events	Organizing "Climate Week" e.g. in cooperation with the JU Promotion Office, further editions of the JU ECO Congress, etc.	to be decided	to be decided
IV.2.3. Appreciation of popularization activities	Highlighting in employee performance appraisal the activities that aim at the popularization of knowledge (including knowledge of contemporary climate change, but not limited to it), with the aim of encouraging academics to appear as experts in the media, to write for the popular press, to give public speeches outside the university, etc.	to be decided	to be decided

### IV.3. Partnerships for climate and nature

The challenges related to the climate and ecological crisis are complex. Therefore, JU should cooperate - as an academic community - within the university, with the local community and local authorities, national authorities and international institutions. In this way, we can achieve more, better and faster.

<b>Task</b>	<b>Description</b>	<b>Authority in charge</b>	<b>Date</b>
IV.3.1. Cooperation with the community	<ul style="list-style-type: none"> <li>• collaboration with Polish universities (including CRASP) and foreign universities (especially from the region) to actively promote actions towards achieving a state when universities are harmless to the climate</li> <li>• expert support for the implementation of climate policies at the local, national and international levels (especially in the region)</li> <li>• expert support for political and economic decision-makers</li> <li>• collaboration with non-institutional entities, including NGOs, urban movements, and grassroots initiatives</li> <li>• collaboration with socio-economic entities in the field of applied research on resilience and adaptation</li> <li>• creating favourable conditions for students and graduates who are involved in climate and nature protection activities, to help them to carry out these activities</li> </ul>	to be decided	to be decided
IV.3.2. Expert directory	Creating an expert directory of various specialties related to reducing the negative impact of organizations on climate and nature and adapting to contemporary climate changes with an open recruitment (to assist in the implementation of task IV.3.1.).	to be decided	to be decided
IV.3.3. Future Generations Representatives Programme	Creating favourable conditions for the establishment of student groups that actively engage in the climate and nature protection debate, by using social and traditional media, as well as cooperation with the community.	to be decided	to be decided

JU Rector is responsible for the implementation of the "JU Climate and Ecology Strategy 2030", in particular through:

- verifying the implementation of goals and tasks,
- preparing and publishing reports on progress,
- evaluating and updating the document, on the basis of systematic consultations with the university community.

- ❖ **adaptation to climate change** – the process of adjusting to current or expected climate conditions and reducing their negative impacts, such as increasing air temperatures or rising sea levels. Adaptive actions are implemented, for example, through green and blue infrastructure, sealing off impermeable surfaces and increasing water retention. Examples of adaptive measures may include tree planting and appropriate city design, which reduces the impact of deadly heat waves, as well as local food production, distribution, and consumption networks that protect communities from global climate-related food crises, etc.
- ❖ **Anthropocene** - the newest (proposed) geological epoch distinguished because of the human impact imprinted in geological layers (e.g. extraction of natural resources, production of enormous amount of plastic, concrete, dam building, etc.). Its symbolic beginning (1950) is associated with the escalation of economic activities that irreversibly and rapidly change the planet.
- ❖ **biodiversity** - the wide range of biological diversity of life on Earth.
- ❖ **blue infrastructure** - ecological solutions in spatial planning aimed at managing water in the place where precipitation occurs, as well as the reuse of water in the form of rain gardens, ponds, terrain depressions, rainwater tanks. The application of blue infrastructure contributes to the better use of water resources in urban areas, improving the condition of water, as well as reducing the risk of floods.
- ❖ **degrowth** - a proposal to move away from the doctrine of economic growth measured primarily by Gross National Income (GNI)
- ❖ **CO<sub>2</sub> equivalent (CO<sub>2</sub>eq)** - a unit used to express the carbon footprint, which is a measure of the total emissions of various greenhouse gases (such as carbon dioxide, methane, nitrous oxide, etc.) produced directly or indirectly by a person, organization, country, etc.
- ❖ **climate-ecological crisis** - one of the fundamental processes of contemporary times, associated with anthropogenic climate change and the loss of biodiversity, posing a threat to the safety of the planet, including humans.
- ❖ **climate mitigation** - the reduction and slowing down of climate change through the reduction of greenhouse gas emissions. Mitigation involves, among other measures, improving energy efficiency and reducing energy consumption in various sectors of the economy.
- ❖ **climate neutrality** - a state in which human activity is not harmful to the climate.
- ❖ **carbon neutrality** - a zero balance between emitted CO<sub>2</sub>eq and absorbed CO<sub>2</sub>eq, meaning "we absorb as much as we emit."
- ❖ **resilience** - the ability of a system to survive despite a crisis situation; it does not rely on stable endurance but on flexible adaptation to dynamically changing circumstances.
- ❖ **energy self-sufficiency** - the ability of a particular institution, building, region, etc. to meet its own energy needs independently.
- ❖ **just transition** - the enforcement of workers' rights and the provision of state aid to individuals employed in sectors of the economy that undergo changes in connection with the transition to a low-emission economy (e.g. miners and farmers).
- ❖ **climate justice** - incorporating ethics and justice into the analyses of climate change; a perspective that enhances a broader and more sensitive view of the climate crisis, its effects, and possible ways to mitigate it by involving different social groups, in order to prevent the deepening of existing inequalities. It takes into account post-colonial relationships, racism, gender or class inequalities and their relations to the distribution of climate disaster risks. Climate justice includes such categories as climate debt, and ecologically unequal exchange.
- ❖ **social justice** - granting each individual or group equal rights and access to socially valued

goods (safety, land, water, food, medical care, civil rights, education, government assistance, and other crisis intervention networks), as well as the opportunity to participate in the development of methods for adapting to climate change and decisions regarding mitigation activities, etc.

- ❖ **energy transformation** - the transition from high-emission energy systems based on fossil fuels to systems based on renewable energy sources.
- ❖ **net zero emissions** – the state of not emitting greenhouse gases into the atmosphere.
- ❖ **green infrastructure** - strategically planned and managed network of (semi) natural areas in urban and rural areas, aimed at preserving the natural environment in a stable state and at protecting biodiversity. In urban areas, it includes parks, green spaces, vegetation in building construction (green roofs and walls), and public utility objects (green stops and tracks), as well as green areas surrounding streets or housing estates (lawns with limited mowing frequency, pocket parks). The basic functions of green infrastructure include: combating climate change, reducing the urban heat island effect, noise protection, air purification from CO<sub>2</sub> and dust, increasing evapotranspiration, free airflow, increasing ecosystem resilience, retention of rainwater, and mitigating the effects of floods.