**The impact of new technologies for climate protection on the enjoyment of human rights**

**Core questions (for all stakeholders)**

**1. Which new technologies for climate protection (NTCP) are of particular importance when it comes to impact on human rights? List three most relevant and explain your choice.**

1. **Nanotechnology - technology of XXI century.**

* The efficiency of solar panels is only about 20% of the energy emitted by the Sun. There are opportunities to significantly increase their efficiency with nanotechnology
* An increase in the amount of carbon dioxide in the atmosphere is a major factor influencing climate change. Nanotechnology can play a special role in normalizing its release into the atmosphere

1. **Hydrogen fuel acquisition technology**

* Hydrogen - powered vehicles (cars, airplanes, industrial plants, etc.) will play an important role in reducing C02 emissions.
* The creation of nanomaterials for the safe storage and transportation of hydrogen fuel is now one of the key issues in nanotechnology.

1. **Technology of programming of agricultural production**

* Agricultural programming will enable the use of robots, automate agricultural processes, improve the area under crops and the collection of agricultural products by creating intelligent algorithms.

1. **Climate change mitigation technologies** include technologies to reduce greenhouse gas emissions across different sectors of the economy, such as energy-efficient technologies to reduce greenhouse gas emissions in residential and commercial areas, including technologies on use of renewable energy sources, technologies on efficient use of water and land, and forest and other natural resources and so on. One of the most important factors in determining actions in this area is conduct assessments on existing technologies for the implementation of actions, the need for additional technology, the amount of funds required, the source of funding (internal or external source), as well as the necessary knowledge and skills for implementation of such actions, new skills needed and the amount of external support needed.
2. **What kind of NTCP may contribute to human rights promotion and protection? Please, explain how.**

Technology of programming of agricultural production in order to improve climate change will have a profound impact on a wide range of human rights, including the rights to life, self-determination, development, food, health, water, sanitation and housing.

1. **What are the key human rights challenges and risks arising from NTCP and from which in particular? Do NTCP create unique and unprecedented challenges or risks, or are there earlier precedents that help us understand the issue area?**

* New technologies require new natural resources, high economic resources and an intellectual society. This will have a serious impact on inequality in the country and internationally, rising unemployment and people's well-being.
* For example, new technologies introduced during industrialization, along with rising living standards, have created deeper problems. Inequalities in society, stratification, aggravated access to resources, inability to protect private property, especially among the poor.

1. **What specific human rights may be affected by the use of NTCP? Please, explain how. Who are the rights-holders that potentially would be the most affected by the use of NTCP? Are they also the most affected by climate change? How could they and the society at large be engaged in the decision­ making process?**

* New technologies that will affect climate change cause significant risks to people's right to health, right to equality, right to free movement, liberty, personal security, right to own property, right to rest and leisure, right to adequate living standards.
* New technologies applied to climate change will pose serious challenges, especially for the poor in underdeveloped and developing countries. Their living standards, freedoms, migration will be limited, and their freedoms will be seriously threatened.
* Information technologies, such as the Internet connection, can pose two interrelated technological risks to human rights: the environmental impact of the Internet connection and the growing inequality in the quality of Internet access worldwide.
* Genetic engineering poses a serious threat to flora and fauna, threatens biodiversity and restricts people's right to a healthy life.
* Climate change will create new challenges for the normal life of humans and wildlife. More frequent and severe droughts, storms, heat waves, rising sea levels, melting glaciers and warming oceans will directly harm human lifestyles and animals, destroying their habitats, and depriving them of natural resources.

1. **Given that NTCP may present potential risks for the enjoyment of human rights, to what extent do human rights legal obligations require the States to pursue other climate protection policies presenting less risks of harm, including mitigation and adaptation measures?**
2. **As opposed to focusing on selected few technologies, do you think a holistic and inclusive approach will help reduce any gaps in the existing system for addressing human rights challenges from NTCP?**
3. **What should be the responsibilities of key stakeholders (UN agencies, states, NHRls, civil society, technical community and academia, private sector) in mitigating the risks of NTCP to human rights and/or fostering its protection?**

* UN agencies, governments, NHRIs, civil society, the technical community and academia, and the private sector must take responsibility and take action to disseminate information on climate change in any form. First of all, the relations between these institutions should be strengthened. These organizations and institutions should assist and support each other in addressing human rights abuses.

**Specific questions for States**

1. **Is your country involved in or supports in any way the development, implementation or use of NTCP?**

Azerbaijan has signed (April 22, 2016) and ratified (January 9, 2017) the Paris Climate Agreement. In its Nationally Determined Contributions (NDC) (2017), the country has outlined climate change mitigation actions in its energy, oil and gas, residential and commercial, transport, agricultural, and waste sectors. Azerbaijan’s NDC is currently under review and an updated NDC is expected to be released by the end of 2022. At the same time, the new composition of the State Commission on Climate Change was approved by the Presidential Decree No. 1920 dated 11.03.2020 for the implementation of the commitments made by the Republic of Azerbaijan in accordance with the UN Framework Convention on Climate Change and the Paris Agreement. In order to ensure the activities of the State Commission, a working group was established. An Action Plan has been prepared by the bodies represented in the Working Group. Azerbaijan is also planning to align its climate change legislation with the EU standards and develop industry-specific guidelines for the implementation of the Paris Agreement across various sectors, in particular agriculture and energy sectors. These actions primarily entail technological improvements to reduce the negative environmental impact of various sectors of the economy, together with some regulatory changes and public awareness measures.

Additionally, adaptation measures in the areas of agriculture, water supply, forestry, coastal communities, human health and tourism have been identified in the country’s Third National Communication to the UNFCCC (NC3) (2015). Azerbaijan has begun its National Adaptation Plan (NAP) process, which is anticipated to be in place by 2024. While Azerbaijan’s National Communications address a wide range of sectors in relation to projected climate change impacts and related adaptation measures, the NAP will focus on three areas, as defined by the Ministry of Ecology: water, agriculture, and coastal areas. Azerbaijan has also developed and implemented its Nationally Appropriate Mitigation Actions (NAMA), which primarily target three key sectors: energy efficiency in buildings (retrofitting), transport through the modification of transport fleet (introduction of hybrid cars) and eco-driving, and oil industry through capturing and use of associated gas. Azerbaijan’s first NAMA projects were piloted with SOCAR (State Oil Company, major GHG emitter) and are being considered for replication across the country and sectors.

1. **What measures, if any, (legislative, administrative, institutional, or other) have been put in place to regulate the use of NTCP? Have the human rights challenges arising from such activity been taken into account in their adoption?**

The country expands the use of modern, green technologies in the production and transportation of oil and gas products, cuts emissions from electricity generation, implements adaptation actions and other policies and measures. At the same time, in order to ensure the self sufficiency of end users of alternative and renewable energy in the coming years, photoelectric power plants will be installed on the roofs of buildings which will be used to promote microelectric power generation, as the local production of this technology in the country. In order to ensure technical and environmental safety during passenger transport in the transport sector, the use of compressed natural gas (CNG) vehicles in public transport will continue in the coming years. In the coming years, a number of actions will be taken to modernize and diversify industry, create new priority production areas, industrial parks, strengthen industrial capacity in the regions, and apply opportunities that will ensure the development of industry based on innovation and modern technologies.

In the waste sector, regional waste management centers based on modern technologies will be established in the country to achieve the goal of 100% waste collection in urban areas and 90% in rural areas by 2036. The initiative to establish modern agro-parks in the agricultural sector will create opportunities for the proper use of resources, such as modern equipment, efficient use of information and communication technologies, cost minimization, environmental protection, efficient use of water and land resources. It is planned to apply the latest technologies for the collection and use of methane gas in these agricultural parks.

Strategic Roadmaps adopted for Main Areas of the National Economy set medium- and long-term goals for each sector and define actions to achieve these goals. Measures to ensure sustainable development of low carbon are among these actions, which involves the use of the latest technologies in the implementation of such measures.