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REPORT

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COOPERATION OF TURKPA MEMBER STATES ON ENVIRONMENTAL SUSTAINABILITY AND GREEN WORLD IN THE CONTEXT OF SUSTAINABLE DEVELOPMENT GOALS

INTRODUCTION

In accordance with the Secretariat's Action Plan for 2025 and the TURKPA Strategic Roadmap for 2023-2028 adopted at the 13th Plenary Session of TURKPA held in Baku on June 6, 2024, it was decided to discuss the topic "Cooperation of TURKPA member states on Environmental Sustainability and Green World in the context of Sustainable Development Goals" as the main topic of the agenda of the Tenth meeting of the Commission.

Adopted by all Member States of the United Nations in 2015, the Sustainable Development Goals (SDGs) offer a universal blueprint for peace and prosperity for people and the planet by 2030. The 2030 Agenda and the Sustainable Development Goals (SDGs) reflect a shift in the world's approach to global development.

Unlike the Millennium Development Goals, the SDGs recognize that the economy and the environment are interconnected. The SDGs have a total of 17 goals, 169 targets, and 244 indicators, 93 of which are related to the environment.

The 2030 Agenda integrates the three pillars of sustainable development across all SDGs. Some of these are closely linked to the environment: SDG 3 (healthy lives and well-being), SDG 6 (water and sanitation), SDG 11 (cities and human settlements), SDG 12 (sustainable consumption and production), SDG 13 (climate change), SDG 14 (oceans, seas or marine resources), SDG 15 (Life on Land). The links between these SDGs and other SDGs that may be closer to economic and social dimensions are balanced. This interlinkage exists between all SDGs and related targets. Many organizations and institutions have comprehensively identified the links between multilateral environmental agreements and the SDGs.

A very good example is the United Nations Environment Programme (UNEP), which provides a comprehensive analysis that demonstrates the interrelationships between the SDGs. This program coordinates its environmental activities and helps to implement environmentally sound policies and practices in developing countries.

"Transforming our world: The 2030 Agenda for Sustainable Development" reflects the collective actions deemed necessary by the international community to achieve balanced governance across the economic, social and environmental dimensions of sustainable development.

The member countries are distinguished by their geo-economic relations and favorable geographical location, as well as their wealth of natural resources. Countries rich in natural resources such as oil fields, natural gas, coal, iron ore and other such resources have always been part of regional and global projects such as energy, transport, logistics, etc. Azerbaijan's Green Energy Partnerships, Kazakhstan's Green Economy Strategy, Kyrgyzstan's hydropower potential, Türkiye's 2053 Net-Zero Target and Long-Term Climate Change Strategy create a strong foundation for regional cooperation.

AZERBAIJAN

The Sustainable Development Goals (SDGs) were adopted by the United Nations member states at the Sustainable Development Summit held on September 25-27, 2015.

Azerbaijan has joined the Sustainable Development Goals set by the United Nations member states for 2016-2030 and has taken consistent steps towards their implementation.

The goals and targets set are based on the Millennium Development Goals, covering the economic, social and environmental aspects of sustainable development, and determine the next development directions.

In order to coordinate the implementation of the tasks of state institutions related to the commitments arising from “Transforming our world: The 2030 Agenda for Sustainable Development”, the National Coordination Council for Sustainable Development of the Republic of Azerbaijan was established by the Decree of the President of the Republic of Azerbaijan dated October 6, 2016, and 4 Working Groups were established within the National Coordination Council in the areas of “Economic development and decent employment”, “Social”, “Environmental issues”, and “Monitoring and evaluation”. The Working Group on environmental issues is chaired by the Ministry of Ecology and Natural Resources.

The National Coordination Council for Sustainable Development of the Republic of Azerbaijan has identified national priorities and indicators relevant to the country and relevant to global goals and targets, and has aligned state programs and strategies covering socio-economic and environmental areas with the Sustainable Development Goals. At the same time, 4 Voluntary Reports have been prepared and submitted to the High-Level Political Forum on Sustainable Development on the implementation of "Transforming Our World: The 2030 Agenda for Sustainable Development".

18 goals, 101 targets and 144 indicators have been adopted as priorities for Azerbaijan, of which 8 indicators have been identified as country-wide priorities in the field of environment. These indicators cover 6 targets (6.3, 6.5, 12.4, 14.4, 14.b and 15.4) under 5 SDGs (6, 11, 12, 14 and 15).

The state of the environment is considered an important factor in determining sustainable development. The environmental aspects of sustainable development include goals in the areas of ocean and marine resources, climate change, the environment, waste management, ecosystems, and biodiversity.

In order to contribute to the solution of global challenges, reports on the work done on the implementation of the priority-defined Sustainable Development Goals in the field of Environment, achievements, as well as the challenges encountered are regularly submitted to the Secretariat of the National Coordination Council for Sustainable Development (Ministry of Economy), as well as to the responsible international organization(s).

The document “Azerbaijan 2030: National Priorities for Socio-Economic Development” approved by the President of the Republic of Azerbaijan sets the task of ensuring a high-quality environment that responds to global climate change and ensures the population lives in a healthy environment against the backdrop of sustainable and

high-speed economic growth in the new strategic stage. The document identifies directions for the efficient use of natural resources, clean and sustainable energy sources, waste recycling, and the expansion of the application of environmentally friendly technologies.

In addition, in accordance with the Joint Work Plan of the Fourth Outcome Group on Environment and Climate Change of the Joint Steering Committee on the Implementation of the "Framework Document for Cooperation on Sustainable Development for 2021-2025" between the UN and Azerbaijan, the activities carried out in the field of environmental protection and mitigation of climate change are directly coordinated with the implementation of the Sustainable Development Goals, which are prioritized in the environmental field.

Regular measures are being taken to exchange experiences and strengthen cooperation in bilateral and regional formats with partner countries, as well as with the United Nations Environment Programme and other relevant international organizations in the field of environmental protection and combating climate change.

KAZAKHSTAN

Kazakhstan is firmly committed to environmental sustainability, aligning its national strategies with the United Nations Sustainable Development Goals (SDGs). The country has made significant progress in various areas, reflecting its commitment to a greener future.

Kazakhstan has advanced in the SDG Index, moving up 12 positions over three years to rank 66th out of 166 countries. This improvement underscores the nation's efforts in areas such as clean energy, climate action, and sustainable economic growth.

In 2013, Kazakhstan launched its Green Economy Plan, aiming to source 50% of its energy from alternative and renewable sources by 2050. This ambitious strategy positions Kazakhstan as a leader in sustainable development within the region. This ambitious strategy positions Kazakhstan as a leader in the field of sustainable development in the region. In September 2015, at the UN summit on the adoption of the Post-2015 Development Agenda within the framework of the 70th session of the UN General Assembly, Kazakhstan, together with other UN member states, signed a new document for future global development, emphasizing that the goals and targets of the Sustainable Development Goals (SDGs) fully coincide with Kazakhstan's priorities.

Despite these initiatives, Kazakhstan faces significant environmental challenges. The Caspian Sea has been receding by approximately 25 centimeters annually since 2006, leading to biodiversity loss and economic impacts on sectors like fishing and tourism. This decline is attributed to climate change and water management practices.

Kazakhstan has committed to achieving carbon neutrality by 2060, emphasizing the role of nuclear power as a low-carbon energy source. The government is exploring safe and environmentally friendly nuclear energy options to diversify its energy mix and reduce greenhouse gas emissions.

The country has established a monitoring system comprising 280 indicators to track progress toward the SDGs, with 205 global and 75 national indicators. This framework enables Kazakhstan to effectively measure and guide its sustainable development efforts.

he holding of the EXPO-2017 international exhibition and the establishment of the "Energy of the Future" Center for Green Technologies and Investment Projects on the basis of the exhibition with the support of the UN are a significant contribution of Kazakhstan to international efforts to implement the SDGs.

The implementation of the SDG methodology and indicators for Kazakhstan allows for the systematic adaptation of the strategic planning and monitoring system of the Republic of Kazakhstan to world standards, taking into account the alignment of Kazakhstan's program documents, primarily the "Strategy 2050" and the programs derived from it, with global development goals.

Overall, the SDGs or the so-called 2030 Agenda are in many ways consistent with Kazakhstan’s development efforts and can serve as a useful and compelling policy framework for achieving them, as well as for monitoring and evaluating progress towards achieving the SDGs.

The mission of international UNDP experts for the purpose of a rapid comprehensive assessment of Kazakhstan’s readiness to implement and monitor the SDGs, which took place in November 2016, revealed a fairly high degree of inclusion of SDG targets in national and sectoral plans - 61% of SDG targets are already covered by national strategic documents.

The Declaration adopted by the deputies of the Senate of the Parliament of the Republic of Kazakhstan in November 2016 notes the need to promote the application of sustainable development principles and assist in the integration of the SDGs into existing legislation in order to create favorable conditions for their implementation.

Currently, the Government of the Republic of Kazakhstan is considering the establishment of a coordinating structure to ensure the effective implementation of the SDGs at the national level, synergy between the program documents of the Republic of Kazakhstan and the SDGs, and the involvement of the private sector, NGOs, and academic circles.

In addition to implementing the SDGs, monitoring their achievement is an important task at both the global and national levels. Countries have the primary responsibility for monitoring and reviewing progress towards achieving the goals, and this

requires ensuring the collection of high-quality, accessible and timely data, as outlined in Sustainable Development Goal 17.

Kazakhstan is a member of the High-Level Group on Partnership, Coordination and Capacity Building on Statistics for the 2030 Agenda for Sustainable Development, which consists of member states, as well as regional and international UN agencies as observers.

In September, the first national technical meeting on SDG statistics was held with the participation of representatives of all government agencies, NGOs, research organizations, various trade unions and associations, national companies, UN agencies, and international experts from various sectors.The main purpose of the meeting was to assess the readiness of the national statistical system to develop global indicators for monitoring the SDGs, as well as to identify additional national indicators that will be relevant for Kazakhstan.

A specially created interdepartmental Working Group on the implementation of indicators for monitoring SDGs is developing a system of indicators that includes both global and national indicators, taking into account the priorities of Kazakhstan.

In general, the systematic implementation of the SDGs in Kazakhstan will undoubtedly have a positive multiplier effect, in particular:

- facilitating the process of becoming one of the 30 most competitive countries in the world by achieving the indicators of the Organization for Economic Cooperation and Development through the implementation of the SDGs;

- giving additional impetus to processes such as increasing human potential, attracting foreign technologies and experience, and increasing qualifications in the field of processing large volumes of data (Big Data);

- implementing the SDGs is becoming one of the factors of investment attractiveness for large international corporations, therefore a socially responsible business model and its compliance with the SDGs are an important component of their image.

KYRGYZSTAN

The Kyrgyz Republic, together with other member states, has committed to contributing to the achievement of the global SDGs, as well as monitoring the SDG achievement indicators. Thus, in accordance with the National Development Strategy for 2018-2040, Kyrgyzstan will strive to achieve the Sustainable Development Goals adopted in the 2030 Agenda.

The National Statistics Committee, as a member of the Coordination Committee for the Adaptation, Implementation and Monitoring of the SDGs in the Kyrgyz Republic by 2030 and the lead body of the “Monitoring and Evaluation” working group for the

preparation of the National Review on Progress in Achieving the Sustainable Development Goals, and in accordance with the Decision of the 47th Session of the UN Statistical Commission on the collection of global SDG indicators based on comparable and standardized official statistics, is authorized to lead and oversee the collection of data and evidence-based efforts related to the SDGs, prepared in accordance with the Core Principles of Official Statistics. Kyrgyzstan ranked 45th in the 2023 Sustainable Development Goals.

In the context of combating climate change, the following figures are provided for Kyrgyzstan: In 2021, CO2 emissions from fossil fuel combustion and cement production amounted to 1.4 tons. At the same time, CO2 emissions related to the export of fossil fuels amounted to 202.9 tons.

To implement SDG 15, Kyrgyzstan has created a network of specially protected natural areas, including 10 state nature reserves, 13 state nature parks and 64 sanctuaries, which account for 7.38% of the country's total area. Kyrgyzstan is considered a sparsely forested territory: forests are mainly represented by mountain plantations, are quite diverse and rich in valuable species. All forests of the Kyrgyz Republic are protected. The forest area accounts for 5.6% of the country's total area (according to the 2021 census), with about 90% of forest stands located at an altitude of 700-2500 m above sea level.

Climate change adaptation strategies, such as innovations in climate-resilient agriculture, agroecology, and risk-informed social protection, should target populations and areas most vulnerable to climate change and disasters.

Citizen engagement and evidence-based approaches - building new connections with citizens is essential for the long-term foundation of Kyrgyz society. The SDGs and the many different goals, targets and indicators are the perfect platform to facilitate this new approach to engagement with society. In addition, the role of Parliament in monitoring and assessing progress on the SDGs should be enhanced to improve evidence-based data and citizen engagement.

The National Development Program of Kyrgyzstan until 2030, aimed at improving the well-being of citizens, has been developed within the framework of the National Development Strategy until 2040, based on the country's long-term strategic development goals, while maintaining the principle of sustainability, focusing on the people-oriented and the main commitment of the Sustainable Development Goals to "leave no one behind." The general picture of the future is associated with the long-term development perspective of the Kyrgyz Republic (until 2040) as a single, independent and comfortable country for people to live in, a country of free and prosperous citizens, with great opportunities and the right to choose their lives.

The goals of the program are to create a favorable environment for the socio-economic development of the country, to improve the well-being of citizens, to implement anti-crisis measures and to form the basis for the successful achievement of long-term development goals.

Today, Kyrgyzstan ranks 122nd out of 189 countries in the Human Development Index and 96th out of 141 countries in the Global Competitiveness Index compiled by the World Economic Forum. The country's position in these indices has been deteriorating in recent years. As a result of the implementation of this program, Kyrgyzstan is expected to improve its position in major international rankings.

Significant progress will be made in implementing the Sustainable Development Goals. The implementation of the program will ensure an increase in the country's national wealth and the well-being of its citizens by at least a quarter. Economic growth will gain stability, income inequality among the population will decrease, and the middle class will expand. The main priorities of economic policy will be issues of support and development of the hard-working sectors of the economy. Positive changes will occur in the countryside, which will reduce the gap in the quality of life with the city. New enterprises will be launched and jobs will be created. The streets of cities and villages will be cleaner and safer. The phased introduction of decent labor standards (decent wages, decent employment, social partnership) will form the basis of human well-being and the development of the country.

Memorandum of cooperation with the Republic of Türkiye on environmental issues

On September 10, 2021, in Bishkek, following the results of the 10th Kyrgyz-Turkish joint intergovernmental meeting on economic cooperation, a Memorandum of Understanding on cooperation was signed between the Cabinet of Ministers of the Kyrgyz Republic and the Government of the Republic of Türkiye.

The purpose of the Memorandum is to develop cooperation between the two countries in the field of environmental protection.

The Memorandum identifies the following main areas of cooperation:

- Waste reduction and ensuring environmental sustainability;

- Exchange of knowledge, best practices and technologies;

- Environmental awareness and education of the population;

- Increasing the capacity of environmental institutions;

- Organization of training programs, meetings, conferences and symposiums;

- Organization of mutual visits of researchers, consultants, experts, as well as members and representatives of non-governmental organizations;

- Preparation and joint implementation of projects and other events.

TÜRKİYE

To protect Türkiye's rich biological diversity, Special Environmental Protection Areas and Natural Protected Sites are designated and scientific studies are being conducted to increase terrestrial and marine protected areas. The largest areas hosting this richness are the special environmental protection areas, natural protected sites and other conserved regions. Special Environmental Protection Areas (SEPAs) were established under the obligation imposed on signatory countries by the Convention for the Protection of the Mediterranean Sea Against Pollution (Barcelona). These are areas of ecological importance on both a national and global scale, yet they face the risk of degradation or destruction due to pressures such as industrialization, tourism and construction. As a result, they have been placed under special protection by Presidential Decree. In Türkiye, there are approximately 2.7 million hectares of natural protected sites and 19 SEPAs. Göksu Delta, Belek, Kaş-Kekova, Patara, Finike Seamounts, Köyceğiz-Dalyan, Fethiye-Göcek, Datça-Bozburun, Gökova, Foça, Karaburun-Ildır Gulf, Saros Gulf, Pamukkale, Salda Lake, Gölbaşı, Tuz Lake, Ihlara, Marmara Sea and Islands and Uzungöl Special Environmental Protection Areas are exceptionally sensitive regions due to both the biological diversity they harbor and the natural and cultural resource values they possess.

Since the UN Conference on Environment and Development held in Rio in 1992, Türkiye has been reflecting the concept of sustainable development in its Development Plans, which are the highest policy framework. With this long-standing experience, Türkiye has the potential and infrastructure to define a roadmap consistent with the SDGs. Türkiye is adopting a holistic approach to the SDGs and their indicators by integrating them into Development Plans and sectoral strategies.

The 2030 Agenda has brought a new perspective to sectoral development policies in Türkiye by providing a broad framework, a holistic approach and a structure that addresses all elements of development together. The 2030 Agenda for Sustainable Development is a very important agenda for the implementation processes of comprehensive cooperation and transparent mechanisms for all stakeholders.

The Intergovernmental Panel on Climate Change report highlights that even if greenhouse gas emissions are minimized today, we will continue to face the inevitable impacts of climate change for a long time.

The average temperature in the Mediterranean basin has increased by 1.4 degrees Celsius since the end of the 19th century, compared to the global average of 1.1 degrees. If targeted global climate action fails, temperatures are projected to rise by an additional 1.5 degrees by 2050.

The erratic, sudden and intense rainfall and flooding that we are experiencing with a changing climate are increasing landslides, erosion and desertification. Increased windstorms are causing disasters such as heavy rain, hail, tornadoes, lightning, floods and urban flooding to be more frequent, severe, long-lasting and widespread.

According to the General Directorate of Meteorology, while the number of extreme weather events in 2022 was 1030, in 2023 this number increased to 1475. Although climate change is a reality accepted worldwide, complementary policies and measures are required to adapt to its impacts. This clearly shows the need to adapt to the impacts of climate change. Adaptation efforts are as important in combating climate change as efforts to reduce greenhouse gases.

One of the most important components of environmental sustainability is the protection and sustainable use of water, which is one of the essential elements of the environment and one of our limited resources. Today, with the advancing technology, water resources are used for many different purposes such as drinking and use, energy production, agriculture and industry, and they have an indispensable place in the economic development of countries. However, unfortunately, the quality and quantity of clean and usable water resources, which are vital for living beings and extremely limited, are decreasing day by day and are approaching dimensions that threaten sustainable development. Türkiye is one of the countries likely to face water scarcity in the future, especially considering the anticipated effects of climate change on the Mediterranean basin.

In this context, preserving and improving the quality of our water resources, and utilizing them with a balance between protection and use in the short, medium, and long term, is of great importance for the sustainable management of these resources, which are of vital significance to us. It is not enough to focus solely on the conventional treatment of water, which is a scarce resource. Within the framework of the principle of “sustainability”, it is of vital importance to approach wastewater management holistically, from the economical use of water in both households and industry to the treatment of wastewater generated by considering the highest level of benefit-cost ratio, from the reuse of treated wastewater to the evaluation of treatment sludge.

The reuse of treated wastewater is gaining importance day by day due to global climate change, drought and increasing demand and pollution pressure on water resources. As Türkiye, water and wastewater management policy is being developed considering the ongoing EU accession process, increasing population, rapid industrialization and urbanization, global and regional developments, current needs and future effects of climate change.

To this end, Türkiye aims to increase the reuse rate of treated wastewater, which is currently 6.35%, to 15% in 2030.

As stated in Article 2 of the United Nations Framework Convention on Climate Change, the natural adaptation of ecosystems to climate change, food security and sustainable economic development are as critical as maintaining atmospheric greenhouse gas concentrations at a certain level.

It is considered useful to consider the following issues in the fight against climate change.

- Strengthening climate change adaptation activities to achieve sustainable development;
- The need for increased cooperation to reduce biodiversity loss;
- The need for increased cooperation on combating desertification, land degradation and drought;
- The need to prioritize ecosystem-based approaches and nature-based solutions when determining policies to combat climate change;
- Expanding early warning systems for disaster risk reduction efforts;
- Expanding the reuse of treated wastewater due to global climate change, drought and increasing demand and pollution pressure on water resources;

The results show that people in vulnerable situations (elderly, children, women) are at high risk of suffering from the consequences of climate change. In this context, the impact of existing social, economic and political conditions on people in vulnerable situations should be identified, followed by efforts to reduce the effects of climate change on people in vulnerable situations and eliminate inequalities in order to create more resilient communities. Necessary financial instruments should be created to establish action strategies and monitoring systems for climate change adaptation.

Türkiye has been a party to the United Nations Framework Convention on Climate Change (UNFCCC) since 2004 and has accelerated its efforts on climate change in recent years. A turning point for Türkiye in this regard was the ratification of the Paris Agreement in 2021, followed by the announcement of the 2053 Net Zero Emission Target. To outline Türkiye's roadmap for combating climate change, the first Climate Council of Türkiye was organized by the Ministry of Environment, Urbanization, and Climate Change from February 21-25, 2022. With the participation of 5,000 people, a total of 217 recommendation decisions were made, 76 of which were prioritized. Subsequently, Türkiye's Intended Nationally Determined Contribution (INDC), which was previously submitted to the UNFCCC Secretariat in 2015, was updated, and in April 2023, Türkiye submitted its first Updated Nationally Determined Contribution (NDC). Within this framework, Türkiye's emission reduction target for 2030 was increased from 21% to 41% compared to the reference scenario.

To achieve the goals set out in Türkiye's NDC, Climate Change Mitigation and Adaptation Strategies and Action Plans covering the years 2024-2030 have been prepared as a roadmap and implementation plan. The Mitigation Action Plan includes 49 strategies and 260 actions across 9 sections, covering energy, industry, buildings, transportation, waste, agriculture, land use, land-use change, and forestry (LULUCF) sectors, as well as cross-cutting issues. The Adaptation Action Plan, on the other hand, identifies 40 strategies and 129 actions across 11 sections, addressing agriculture and

food security, biodiversity and ecosystem services, water resource management, tourism and cultural heritage, industry, urban areas, social development, public health, transportation and communication, energy, disaster risk reduction, and cross-cutting issues. In line with the 2053 net-zero target, Türkiye has also prepared its Long-Term Climate Strategy (LTS) as part of its climate action efforts. The document announced at COP 29 outlines Türkiye's long-term strategies for climate change mitigation and adaptation sectors, as well as finance, technology, education, just transition, and sustainable development goals.

The main topics of the country's policy regarding the transformation of green energy in Türkiye are renewable energy, energy efficiency, nuclear energy, natural gas and hydrogen as a transitional fuel.

The main framework for energy efficiency studies in Türkiye was established by the Energy Efficiency Law No. 5627, which came into force in 2007. The Energy Efficiency Strategy Paper (2012-2023), published in 2012, aimed to reduce Türkiye's energy intensity (energy per national income) by at least 20% by 2023 (compared to 2011). Türkiye's first energy efficiency action plan, the National Energy Efficiency Action Plan (2017-2023), was prepared as a roadmap for the country's work until 2023 and came into force on 2 January 2018.

The Action Plan aims to achieve cumulative energy savings of 23.9 million tons of oil equivalent (MTOE) and a reduction in greenhouse gas emissions of 66.6 million CO2 equivalent. As a result of studies conducted between 2017 and 2023, it was determined that 24 million 625 thousand tons of energy savings and 68.62 million tons of CO2 equivalent emissions were achieved in the country. In 2022, primary energy intensity is expected to increase by 6.2% compared to the previous year. This represents a 31.2% improvement compared to 2000. An average annual reduction of 1.7% was achieved in primary energy intensity between 2000 and 2022.

On January 8, 2024, the II. National Energy Efficiency Action Plan (UEVEP) (2024-2030), which was implemented in order to achieve Türkiye's new energy efficiency vision and strategy, was prepared and made public. II. UEVEP identified 61 activities and 266 activities in 7 sectors. In order to achieve the targets set within the framework of II. UEVEP, a total investment of 20.2 billion dollars by the public and private sectors, a cumulative energy saving of 37.1 million TOE (tonne of oil equivalent) and a reduction of 100 million tons of CO2 equivalent are expected by 2030. It is targeted to reduce energy efficiency by 16% and energy intensity by 15% by 2030 (compared to 2023). In summary, there is a 6.2% improvement in primary energy intensity in 2022 compared to the previous year and a 31.2% improvement compared to 2000. An average annual reduction of 1.7% was achieved in primary energy intensity between 2000 and 2022.

However, Türkiye became the second country to increase its energy intensity the most among G20 countries in 2021. While energy efficiency research in Türkiye continues

in line with the targets set in national policy documents, it also contributes to the emission reduction target set within the framework of the country's net-zero climate target for 2053.

In line with the goal of carbon neutrality by 2053 of the President of Türkiye, renewable energy plays an important role in Türkiye's energy supply security, competitiveness, and the fight against climate change.

Türkiye is among the leading countries in clean energy investments and ranks fifth in Europe and twelfth in the world in terms of renewable energy potential. Although it ranks seventh in Europe in wind energy and eighth in solar energy, it ranks fourth in the world in geothermal power and first in Europe. It ranks second in Europe and eighth in the world in hydroelectric power. In addition to these achievements, Türkiye aims to more than triple its renewable energy potential by adding 60 GW of renewable energy sources by 2035. There is a grid investment plan of 10 billion USD by 2030 to integrate these renewable energy sources into the grid.

Türkiye's National Energy Plan has been prepared and announced by the Ministry of Energy and Natural Resources to estimate energy supply and demand for Türkiye's long-term greenhouse gas emission target. The plan contains all the details regarding the power plants to be commissioned and the production amounts in line with the reserves. The plan also includes increasing solar and wind energy to help Türkiye meet its greenhouse gas emission targets. According to the plan, the share of renewable energy sources in primary energy consumption is expected to increase from 16.7% currently to 23.7% in 2035, and the share of nuclear energy is expected to increase from zero to 5.9% in 2035.

Regarding environmental sustainability in Türkiye, Ministry of Environment, Urbanization and Climate Change is conducting the studies for preparation of National Sustainable Consumption and Production Plan of Türkiye including the sectors as Food, fisheries and agriculture, Consumer goods manufacturing, Textile, Plastics, Automotive, Housing and construction, and Tourism.

Hydrogen

Hydrogen is very important for the global transformation, and it comes to the fore with its potential to increase the share of renewable energy production and use in the country, reduce greenhouse gases in the heating sector by adding to existing natural gas lines, utilize local coal and boron resources, support carbon capture, and provide a new export area for the country with utilization and storage.

In addition to the Turkish National Energy Plan, the “Türkiye Hydrogen Technology Strategy and Roadmap” was published by the Turkish Energy, Nuclear and Mining Research Council (TENMAK) affiliated to the Ministry in January 2023, and the “Türkiye Carbon Capture and Utilization Technologies Roadmap” and development work by TENMAK are ongoing.

According to the announced strategy document, the installed capacity of the electrolyzer is targeted to be 2 GW in 2030, 5 GW in 2035, and 70 GW in 2053. It aims to create incentive mechanisms for the use of local components in the production and storage of green hydrogen. The use of green hydrogen will be promoted in all sectors, especially in sectors where greenhouse gas reduction is difficult, such as chemicals, iron and steel, transport, glass and ceramics. In addition, it aims to contribute to the gradual decarbonization transformation of the heating sector by blending hydrogen into existing natural gas pipelines.

Clean Energy Institute

The Clean Energy Research Institute (TEMEN), which conducts research in all areas of clean energy technologies, including hydrogen, carbon and renewable energy technologies, under the umbrella of the Turkish Energy, Nuclear and Mining Research Council (TENMAK), carries out R&D projects in the energy and mining sector, especially under the responsibility of the country's energy and mining organizations under the responsibility of the Ministry of Energy and the Ministry of Nature, and carries out the necessary design, production, testing and localization works to produce creative solutions.

The Hydrogen Technologies Laboratory (HTL), which is under the auspices of TEMEN, is equipped with equipment that provides infrastructure to serve researchers in the field of hydrogen and fuel cells in the country and is open to the use of universities, companies and research organizations. Fuel cell tests, green hydrogen production, analytical measurements, system integration and modeling works can be carried out in the laboratory.

The following activities are currently being assessed in the context of climate action: Project activities are being carried out in many different areas of sustainable clean energy, from hydrogen storage-based mobile energy systems to the development of high-performance and cost-effective fuel cell components, from research into green hydrogen solutions in carbon-intensive industries to carbon capture technologies.

Nuclear

The role of nuclear energy could be discussed in a broad perspective within the framework of environmental sustainability and green growth goals during the meetings of TURKPA Commission on Environment, Natural Resources and Health Protection .

Nuclear energy has an important position in achieving environmental sustainability goals with low carbon emissions and high energy efficiency. The role of nuclear energy is important not only in ensuring energy supply security but also in supporting green development strategies.

Especially for countries seeking low-carbon energy sources, nuclear energy has an undeniable position in achieving sustainable development goals. According to the long-term national energy plan prepared by the Ministry in line with the net-zero carbon emission target for 2053, Türkiye aims to increase the share of nuclear energy in electricity production to 11.1% by 2035 and 29.3% by 2053. In order to achieve these goals, at least 30 GW of nuclear power is needed by 2053. In this regard, in addition to the Akkuyu NPP, two more NPP projects are planned to be implemented in the country and small modular reactors are planned to be established.

As is known, the construction work on the establishment of the Akkuyu NPP with a total installed capacity of 4,800 megawatts is continuing at full speed in accordance with the intergovernmental agreement signed with the Russian Federation on May 12, 2010. With the Akkuyu NPP, Türkiye will be free from importing 7 billion cubic meters of natural gas annually and will reduce carbon dioxide emissions by approximately 35 million tons per year. On the other hand, a minimum contribution of $ 6.5 billion is targeted within the project. As of today, a localization rate of approximately 50% has been achieved.

Nuclear energy is also at the heart of regional and international cooperation as a means of creating a balance between environmental sustainability and economic development. TURKPA member states should take various steps to assess the opportunities offered by nuclear energy and increase cooperation in this field in line with sustainable development goals. The sharing of nuclear energy technologies, the establishment of nuclear safety standards and the dissemination of best practices in this field can be discussed. In addition, the positive effects of nuclear energy on environmental sustainability and opportunities for regional cooperation can be explored.

CONCLUSION

The SDGs are designed to promote sustainable development by integrating economic, social and environmental components. The close link between these components is particularly relevant in the current context, when the serious consequences of climate change, the need to preserve limited natural resources and the transition to a “green” economy are becoming increasingly evident.

Cooperation on environmental sustainability between the TURKPA member states – Azerbaijan, Kazakhstan, Kyrgyzstan and Türkiye – demonstrates a shared commitment to achieving the United Nations Sustainable Development Goals (SDGs) and supporting a greener future. This commitment drives TURKPA member states to advance their efforts in the areas of renewable energy development, biodiversity conservation and sustainable finance. Their cooperation in the field of environmental legislation, green investment policies and joint environmental initiatives reflects a strong political will to address climate change, water scarcity and land degradation.

The integration of green policies, such as sustainability programs, into national development strategies of member states further strengthens their commitment to comply with international environmental standards.

By using the institutional framework of TURKPA, member states can increase their collective impact by ensuring a sustainable future for the Turkic World and beyond.

By healing the environment, we indirectly solve numerous socio-economic problems. Therefore, ecological restoration is also a holistic approach to achieving global sustainability. Recognizing this interdependence and acting accordingly is crucial for the collective future of our planet and its inhabitants. Protecting our planet will contribute to ensuring the sustainability of global development. This document can serve to promote cooperation among member states on issues of environmental sustainability and green development.