

Green Growth and Climate Change in Uzbekistan Policy Dialogue Series: A Compendium of Proceedings





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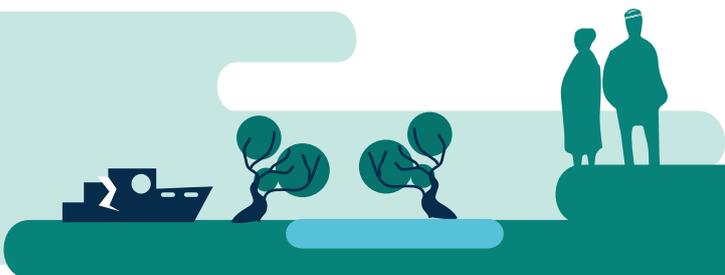
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The policy dialogue series sought diverse perspectives and views by inviting civil society and academic institutions to participate in discussions, including International Center for Agricultural Research in the Dry Areas (ICARDA), Interstate Commission on Sustainable Development (ICSD), Institute for Forecasting and Macroeconomic Research (IFMR), Center for Economic Development, UZGIP Research Institute, Tashkent State Agrarian University, Karshi Engineering and Economics Institute, Ecological Movement of Uzbekistan, AUCA Environment and Development Centre (EDC), Consortium of Agricultural Universities for Development in Central Asia and the Caucasus (CASCAD), The Central Asia-Caucasus Global Water Partnership, SunPhysics NGO, and ACTED, among many others.

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Executive Summary: Uzbekistan Green Growth and Climate Change Policy Dialogue Series



Over the last few decades, **Uzbekistan's remarkable economic growth has been largely fueled by resource extraction** and the mining and manufacturing sectors of the economy. Yet, this progress has come at a high price. The country's economy is now the fifth most intensive in terms of greenhouse gas (GHG) emissions in the world¹ and the most intensive in Europe and Central Asia due to a fossil-fuel heavy energy mix, an energy-intensive industrial sector, and low energy efficiency across the sectors (with inefficient housing stock responsible for almost half of all energy related GHG emissions).

iv | Like the rest of Central Asia, **Uzbekistan is also highly vulnerable to climate change.** The changing climate threatens its [natural capital](#), agriculture, land, and water productivity, and exacerbates natural disaster risks. The country ranks 96 out of 191 countries in climate vulnerability ([ND-GAIN 2019](#)). It is prone to earthquakes and floods that affect an average of 1.4 million people and cause almost \$3 billion in losses every year. A regional study² estimates that about 70% of developmental problems in the Central Asia region is caused by freshwater shortages. According to the World Resources Institute,³ Uzbekistan is among the 25 countries most exposed to water stress, and the changing climate will likely further exacerbate water scarcity. [Severe water scarcity and land degradation](#) threaten agricultural productivity and food security.

Recently, many regions in Uzbekistan, including Tashkent, experienced an unprecedented sand and dust storm – the worst in 150 years of recorded history. President Mirziyoyev noted at the time that the sand and dust storm was the latest evidence of the increasing negative impacts of environmental threats facing Uzbekistan and that it served as an important lesson on the needed transition to a green economy. A delay in transitioning to greener forms of energy production risks locking-in obsolete technologies and investments that are costly to reverse and may close the country off from valuable export markets.

Green transition is also important for the people of Uzbekistan, who are the most vulnerable to climate change. The COVID-19 pandemic has added yet another shock to the compounding impacts of many challenges that vulnerable populations already face, with the potential to create devastating health, social, economic, and environmental crises that can leave a deep and long-lasting mark. The projected impacts of climate change, which include higher temperatures, more frequent droughts, growing water shortages, and an increased threat of desertification and soil salinization, are likely to disproportionately affect the living standards of parts of Uzbekistan that are already poor. For example, households in Uzbekistan spend a relatively high proportion of their income on food – 47.3% in 2016 – higher than the average of 38.6% across a representative sample of 92 developing countries⁴, leav-

¹ The energy sector accounts for c.a. 9/10 of total GHG emissions of the country (data for 2014), Greenhouse Gas Emissions Factsheet: Uzbekistan. <https://www.climate-links.org/resources/greenhouse-gas-emissions-factsheet-uzbekistan>, based on the World Resources Institute Climate Analysis Indicators Tool (WRI CAIT) data.

² Berndtsson, R. and Tussupova, K. 2020. "The Future of Water Management in Central Asia." Water 12 No. 8: 2241. <https://doi.org/10.3390/w12082241>.

³ According to data from WRI's Aqueduct tools. <https://www.wri.org/insights/17-countries-home-one-quarter-worlds-population-face-extremely-high-water-stress>.

⁴ World Bank Climate Knowledge Portal. Uzbekistan Country Profile. <https://climateknowledgeportal.worldbank.org/sites/default/files/2021-09/15838-Uzbekistan%20Country%20Profile-WEB.pdf>.

ing poorer groups exposed to rises in food prices. Energy production and distribution are also inequitable: around half of Uzbekistan's population lives in rural areas that experience significant problems with electricity shortages and cut-offs due to high distribution losses, illegal energy tapping, and poor infrastructure in remote areas.

Today, Uzbekistan recognizes a **unique opportunity to overcome limits to growth** under its current development pattern and to strengthen its economic competitiveness in a global marketplace that has become more climate- and environmentally aware. Building on the impetus of structural reform, the country is taking steps to chart a path towards a low-carbon and climate-resilient green growth model based on the resilient, inclusive, sustainable, and efficient (RISE) use of natural resources for its economy, people, and the planet, while creating new jobs in emerging fields.

New green and existing jobs that are evolving as part of the green transition will require a trained workforce and ensuring social inclusion, vocational training, reskilling, and transferability across sectors. Green and just transition calls for targeted stimulus measures, structural reforms to strengthen skills and reduce barriers to employment. Vulnerable groups, such as the poor and female-headed households are disproportionately affected by shocks such as natural hazards, pollution, and climate variability. They also bear the risk of being impacted the most by the transition to a more sustainable model. They will need to be protected through targeted support at the household level as part of just transition.

In the 2022–2026 Development Strategy, the Government of Uzbekistan has outlined its vision to become an industrialized, upper-middle-income country by 2030 and it is undertaking reforms on economic liberalization (including in agriculture), elimination of monopolies, improved competition, privatization, price stabilization, decentralization, and land ownership. Investments in human capital aim to provide productive employment opportunities to the country's predominantly young population. They encourage economic initiative and innovation and strengthened future work capabilities and digital skills.

At the United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP26) in Glasgow, the Government of Uzbekistan announced an ambitious target of reducing by 2030 specific greenhouse gas emissions per unit of GDP by 35% below the 2010 levels. To achieve this target, several strategic documents and resolutions have been adopted and implemented over the past five years. Among them is Presidential Resolution No. 4477, dated October 2019, which endorsed the 2019–2030 National Strategy on Green Economy Transition and established an Interagency Green Economy Council.

Pursuing a green transition with widespread benefits requires a whole-of-society approach that considers a broad range of stakeholders. To that end, the Ministry of Economic Development and Poverty Reduction of the Republic of Uzbekistan (MEDPR), The World Bank, and the Regional Environmental Center for Central Asia (CAREC) jointly held a series of [public policy dialogues on green growth and climate change](#). From August 2021 to February 2022, eleven roundtables brought together for the first time a diverse group of more than 700 stakeholders in a hybrid offline and online format. The group included policymakers, members of the Legislative Chamber of the Oliy Majlis, officials from more than 30 Uzbekistan ministries, agencies, and municipal authorities, as well as leading national and international experts, civil society, academia, development partners, and the public.

The policy dialogue series has helped to build a shared and robust understanding of the challenges and opportunities that Uzbekistan faces in implementing its climate change commitments and accelerating green growth. The series' 11 roundtables have helped:

- **Build consensus** affirming that the shift to a competitive and inclusive market economy needs to be supported by a long-term green transition strategy that includes climate mitigation and adaptation. To make the win-win case for a green transition, building awareness and technical capacity are the top green economy transition priorities.
- **Explore diverse perspectives** by creating an inclusive, open, and interactive space for a diverse group of stakeholders. It leveraged partnerships and expertise in Uzbekistan and across Central Asia, and from among the international development community, including the United Nations Development Programme, the European Bank for Reconstruction and Development, the Organization for Economic Cooperation and Development, and the Asian Development Bank, as well as a rich network of non-governmental organizations and academic and research institutions.
- **Elevate the green transition agenda as a core national development priority** across all levels of the government and internationally at the November 2021 UNFCCC COP26 in Glasgow. For the first time the green economy has been reflected as a key priority in Uzbekistan's new 2022–2026 Development Strategy.
- **Build steadfast commitment, cross-sectoral coordination, common vision, ownership, and a space for coordination** to accelerate implementation of the green economy transition.
- **Facilitate broad green growth and climate change engagement and awareness** among the public across traditional and social media platforms reaching more than 200 000.

The policy dialogue roundtables have contributed towards the country's Green Growth Strategic Framework by identifying stakeholder roles and responsibilities; existing policy, knowledge, and investment gaps; and assistance needed to build the country's long-term green transition model. The participants discussed progress, issues, and challenges of the green transition and identified practical and actionable opportunities for investments and policy actions based on international best practice and national and regional experience. The needed policy actions aim to:

- **Involve** a wide range of stakeholders to foster partnerships and collaboration. For example, local governments – mahallas – can be actively engaged to raise public awareness of climate and to identify climate action. This is critically important as the poorest population groups face significant exposure to climate risks and vulnerability from droughts and wildfires hazards.
- **Inform reforms and policy** to enable investments and increase access to international and innovative climate finance. For example, a green taxonomy could be developed to clarify what is considered a green project.
- **Invest across the green economy transition framework priorities** identified in the course of the policy dialogues. For example, this would include investments in climate-smart agriculture, integrated landscape restoration, solar pump irrigation systems, and renewable energy, among others.

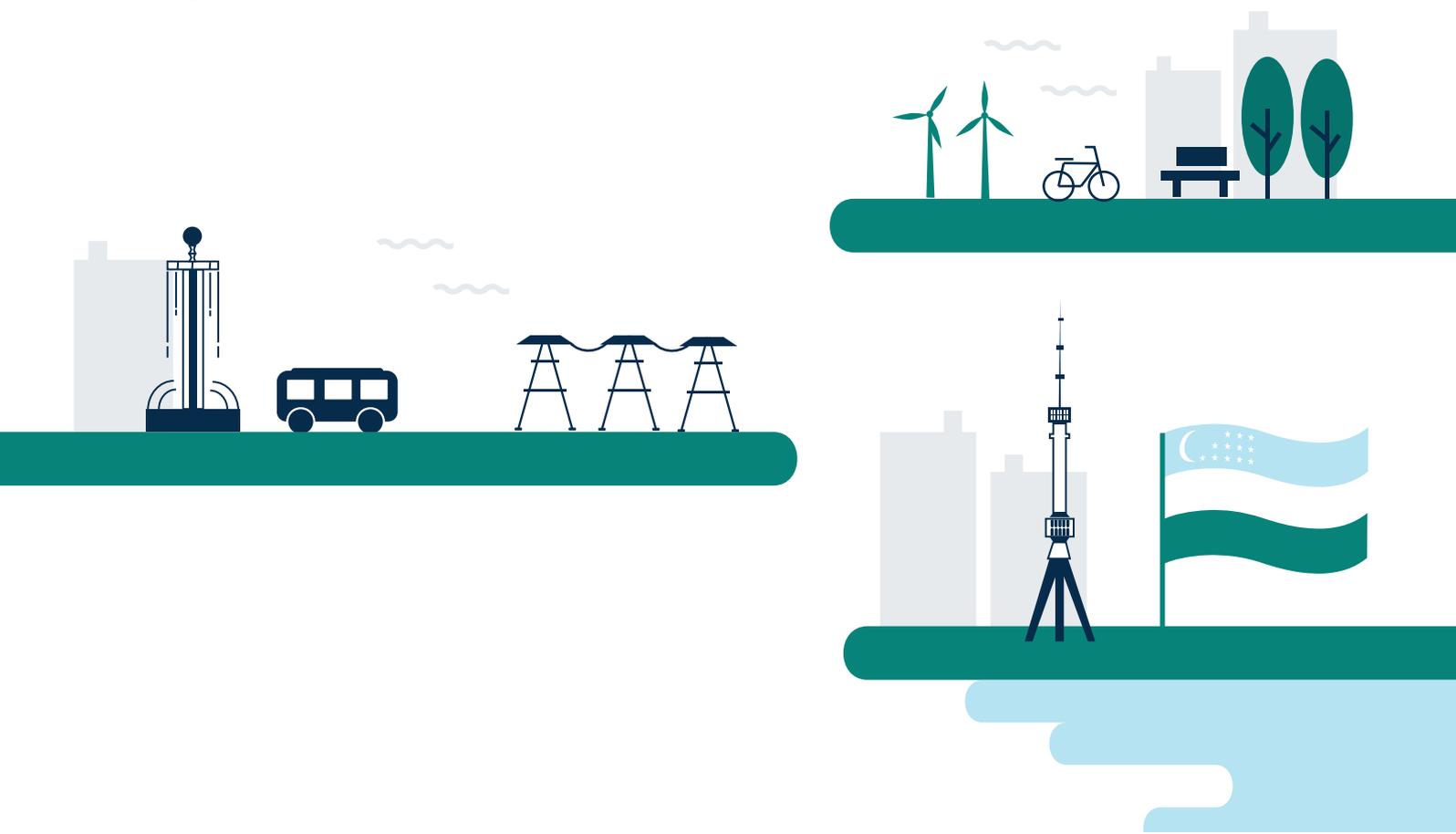
The World Bank Group remains committed to continuing to be a trusted partner of the Government Uzbekistan. Through its [new Country Partnership Framework \(CPF\) for 2022–2026](#), which will have a special focus on supporting green transition in Uzbekistan, and in coordination with development partners and other stakeholders,

The World Bank aims to help the Government of Uzbekistan to:

- accelerate the transformation of the electric power sector towards carbon neutrality (the energy sector accounts about 80% of total GHG emissions);
- update the legal and regulatory environment to create incentives to attract and maintain green investment in key industries (such as mining, agriculture, manufacturing) and optimize the use of resources through a circular economy action plan;
- support the adoption of new low-carbon technologies such as digital platforms, renewable energy, and e-commerce;
- invest in landscape restoration, water security, and climate-smart agriculture; and
- invest in resilient cities and build resilience to natural disasters.

These actions can position Uzbekistan to become a green growth pioneer in Central Asia and, ultimately, help advance a green future for the entire region. Summaries of the eleven policy dialogue roundtables presented in this compendium should inspire many other countries in Europe and Central Asia to follow Uzbekistan's lead on this agenda.

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TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Setting the Stage for Green Growth and Climate Change Policy Dialogue in Uzbekistan

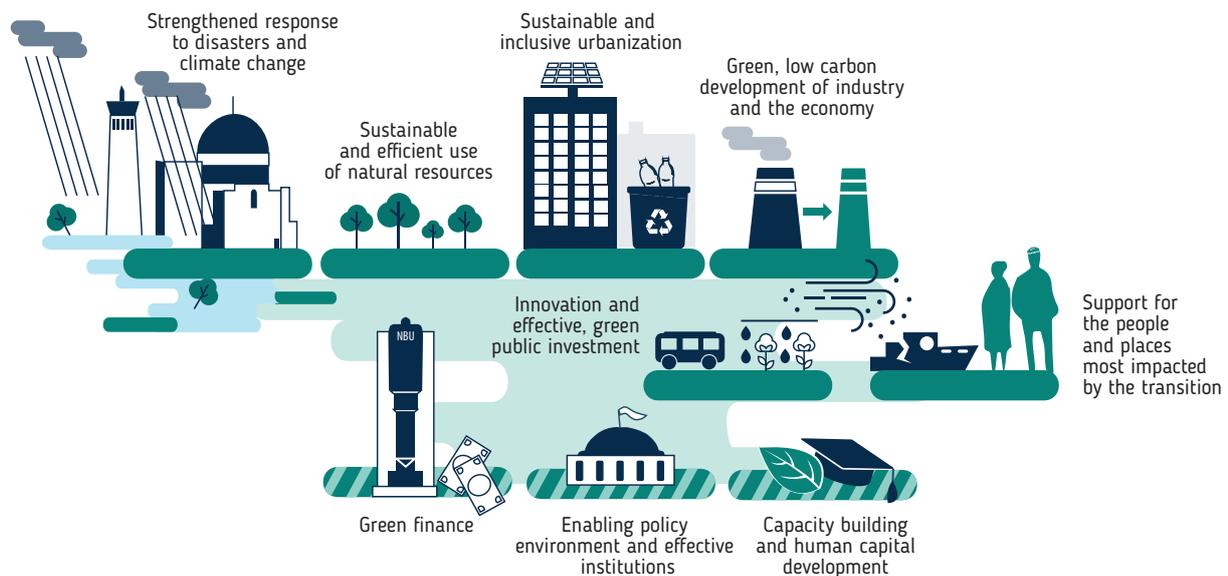


Session 1 | 20.08.2021 | Uzbekistan, Tashkent

Organized by the Government of Uzbekistan, the World Bank and the Regional Environmental Centre for Central Asia (CAREC), and held in Tashkent and virtually in August 2021 – January 2022, [the Policy Dialogues](#) provided an open forum for examining the country’s progress in meeting Uzbekistan’s climate commitments and accelerating transition to green economy. The dialogues manifest a new phase of intersectoral and interdisciplinary cooperation on green economy issues both in Uzbekistan and Central Asia.

The Ministry of Economic Development and Poverty Reduction of the Republic of Uzbekistan partnered with the World Bank and the UN Development Programme (UNDP) to identify six (6) green economy transition priorities and three (3) cross-cutting themes.

Green Economy Transition Priorities



Uzbekistan’s climate change and green growth strategies chart a new path towards increased efficiency and sustainability of nature resources use and lower carbon intensity of its economy. They help to ensure that the benefits of the transition are durable and inclusive for all the citizens of the country.

Green transition efforts will boost resilience of the country’s economy highly vulnerable to changing climate and mounting water stress – the risks no longer distant but imminent. The Aral Sea crisis makes climate impacts more intense and severe. Preserving unique ecosystems and biodiversity, transitioning to efficient use of water and energy resources, and implementing climate mitigation and adaptation are critical measures to ensure Uzbekistan’s transition to a green economy.

Speakers

- Uzbekistan’s Ministry of Economic Development and Poverty Reduction • Uzbek Hydrometeorological Service (UzHydromet)
- Committee for the Development of the Aral Sea Region in the Senate of the Oliy Majlis of Uzbekistan • Ecological Party of Uzbekistan
- The World Bank • Regional Environmental Center for Central Asia (CAREC) • UN Development Programme (UNDP)

Uzbekistan's 2019–2030 Green Economy Transition Strategy

Uzbekistan's Government has made great strides in shaping its environmental sustainability priorities as outlined in the Climate Change Strategy and the [Strategy on Green Economy Transition 2019–2030](#) developed by the Ministry of Economic Development and Poverty Reduction.

Selected Actions and Targets



- ✓ Reducing specific greenhouse gas emissions per gross domestic product (GDP) unit by 35% by 2030 against the 2010 baseline
- ✓ Upgrading industrial infrastructure to raise its energy efficiency by 20%, and introducing cleaner and safer industrial technologies



- ✓ Raising the renewables share in the total power generation over 25%, including bringing the share of solar and wind power in power generation to 25% or 8 GW
- ✓ Providing access to modern, affordable and reliable electricity supply to 100% of the population and economic sectors



- ✓ Improving water use efficiency in all economic sectors, expanding farmland under drip irrigation up to 1 million hectares, and increasing food crop yields by 20–40%
- ✓ Achieving land degradation neutrality



- ✓ Introducing internationally compatible "green" criteria in public investment and procurement
- ✓ Developing a building energy certification system



- ✓ Training and capacity building on green economy, investing in education and research collaborations with leading international institutions



- ✓ Mitigating the impacts of the Aral Sea environmental crisis

Discussion and Conclusions

Green growth transition requires:

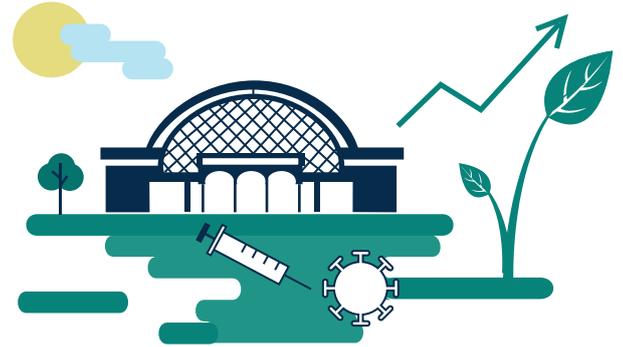
- Long-term strategy and road map;
- Strong political commitment and technically informed and objective recommendations;
- Multi-sectoral reforms under centralized coordination of economic policy among multiple government and nongovernment actors;
- Cross-sector institutional and regulatory framework;
- Bridging data gaps to support economic modeling and analysis;
- Monitoring and reporting on climate change actions and managing greenhouse gas emissions as part of the country's commitments under the Paris Agreement;
- Coordination of efforts among national and international organizations to promote green recovery and green transition;
- Inclusive engagement of civil society, academia, small- and medium-sized enterprises, and the general public, particularly youth;
- University and school curricula and learning systems to build environmental and climate awareness and prepare young people for green jobs.

The Government of Uzbekistan with support from World Bank and development partners prioritizes the following areas of the green transition representing the themes of 10 subsequent policy dialogue roundtables:

1. Post-COVID recovery and green growth framework;
2. Green, low-carbon industrial and economic development;
3. Low-carbon, sustainable and inclusive urban development;
4. Assessing climate change risks and opportunities: 2050 Long-Term Strategy;
5. Building climate resilience through strengthened disaster response;
6. Building climate resilience through crosscutting measures: Sustainable and efficient natural resource use;
7. Just transition: Supporting people and localities most impacted by climate change policies;
8. Enabling policy environment: Reforms, legal and policy processes and plans for climate change and green growth;
9. Mobilizing green finance and innovative and effective green public investment;
10. Roadmap development and institutional setting for advancing climate change and green growth agenda.

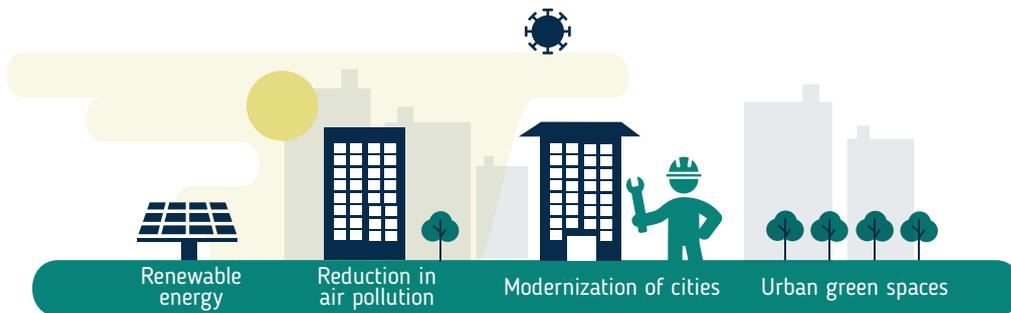
TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Post-COVID Green Recovery: Green Economy Transition Framework



Session 2 09.09.2021 Uzbekistan, Tashkent

Uzbekistan is one of the most greenhouse gas emission-intensive economies of Europe and Central Asia and has low water productivity. Its high reliance on natural resources coupled with significant climate change impacts exacerbates the country's socio-economic vulnerabilities. A greener economic growth based on sustainable and efficient use of natural resources and energy would minimize pollution and emissions and enhance disaster and climate resilience. The COVID-19 pandemic has only amplified the challenges caused by climate change. Green investments, including creation of green jobs, reduction of air, water and soil pollution, deployment of renewables, and upgrading buildings and cities, can support Uzbekistan's decarbonization and post-pandemic recovery.



The Government of Uzbekistan has set the goal of increasing the Gross Domestic Product (GDP) per capita from the current 1 700 to 4 200 US dollars by 2030 (President's Decree No. Up-60, dated January 28, 2022, on "2022-2026 Development Strategy of New Uzbekistan"). International development partners support the country in low-carbon development, climate resilience, and disaster risk reduction projects. The cumulative budget of these projects exceeds 1 billion US dollars. The World Bank supports Uzbekistan's green transition by forging the long-term strategy 2050 and financing several projects on agriculture and water improvements, renewable energy, and energy efficiency. The Effective Governance for Economic Development (EGED) Programme supports evidence-based actions and decision making. Small and medium enterprises are involved in implementation of [Uzbekistan's Strategy on Transition to a Green Economy 2019-2030](#) through the Green Economy Financing Facility (GEFF).

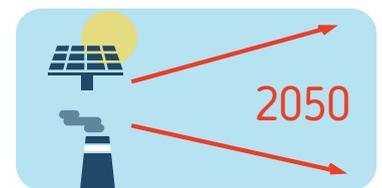
The World Bank supports the Government of Uzbekistan in green economy transition framework through:



- ✓ Green Growth Just-in-Time Policy Note
- ✓ Policy dialogues
- ✓ International conference



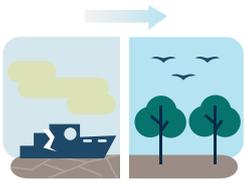
- ✓ Institutional assessment and policy review and gaps analysis



- ✓ Long-Term Strategy of green growth and decarbonization 2050

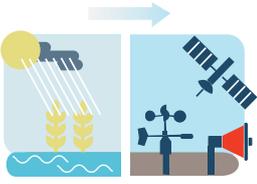
Speakers

- Ministry of Economic Development and Poverty Reduction • Ministry of Agriculture • UNDP Uzbekistan • NGO "For Ecologically Clean Ferghana"
- World Bank • NGO "Ecomaktab Ecological Education Centre" • Tashkent State Agrarian University • Qarshi Engineering and Economics Institute



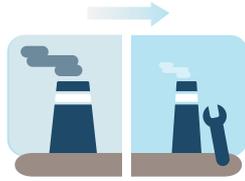
Sustainable and Efficient Use of Natural Resources

- ✓ promoting sustainable agricultural production to achieve food security
- ✓ creating jobs in agriculture, natural resources, and eco-tourism
- ✓ reducing demand for and improving efficiency of water use and irrigation
- ✓ reducing land and forest degradation due to farming and grazing



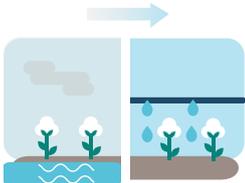
Strengthening Resilience to Natural Disasters and Climate Change

- ✓ addressing the impacts of desertification in the Aral Sea Region and climate change
- ✓ strengthening planning and preparedness through improved hydrological, weather, and climate information
- ✓ combining nature-based and technical solutions to improve the resilience of infrastructure
- ✓ building financial resilience of the economy, households, and businesses to extreme weather



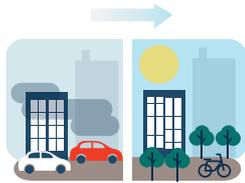
Green and Low-Carbon Development of Industry and the Economy

- ✓ diversifying the energy mix to support a growing economy, while reducing energy intensity, pollution, and carbon emissions
- ✓ adopting global best practices to reduce the environmental impacts of mining
- ✓ adopting circular economy practices to extend the life cycle of products and modernize industrial enterprises



Innovations and Effective Green Investment

- ✓ developing policies to support technical innovations as tools for spurring green growth
- ✓ taking advantage of global investments and creating new local jobs driven by the green transition



Sustainable and Inclusive Urbanization

- ✓ transitioning to more compact cities and more inclusive urban growth
- ✓ addressing the lack of access to and quality of basic urban services
- ✓ promoting green and integrated urban transport to reduce traffic congestion, use of cars, demand for parking, and emissions
- ✓ reducing waste and improving waste management in cities to reduce pollution
- ✓ minimizing urban air pollution to improve public health and reduce health costs
- ✓ developing sustainable tourism along the ancient Silk Road



Support for People and Places Most Impacted by the Transition

- ✓ creating good jobs for low-skilled workers and those living in lagging regions of the country, together with training and reskilling workers
- ✓ put in place systems to protect the most vulnerable from the effects of a green transition

Discussion and Conclusions

- The COVID pandemic has exacerbated the climate change impacts;
- Civil society organizations are key stakeholders in the green economy transition;
- Environmental education is a cornerstone of green transformation;
- Uzbekistan's progress en route to a more efficient economy depends on land management/ownership and power sector reforms;
- Green investments, coupled with institutional, education, and policy reforms can create new green jobs, reduce air pollution, upscale renewables, and accelerate decarbonization in post-pandemic recovery;
- Environmental and carbon taxes represent important instruments for reducing emissions.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Supporting Green, Low Carbon Economic Development of Energy and Industry

Session 3 | 23.09.2021 | Uzbekistan, Tashkent



Decarbonizing Energy and Industry Sectors

Uzbekistan has accelerated policy reforms towards a market-based system and opening of the country towards economic partnerships in the region. Energy reform is among the highest reform priorities for the Government of Uzbekistan. Key areas of the energy reform include addressing the inadequate operational and financial performance of the energy state-owned enterprises, removing infrastructure bottlenecks, sector restructuring and transitioning to a competitive market, decarbonizing the energy value chain in clean energy transition, promoting the renewable energy and energy efficiency, involving the private sector, and improving the institutional and market structure.

The Republic of Uzbekistan has increased its commitments in the updated nationally determined contribution (NDC) and intends to reduce specific greenhouse gas emissions per unit of GDP by 35% by 2030 from the level of 2010. The NDC recognizes the important role of structural reforms to enable the strategic change in the long run, assigning high priority to energy efficiency and renewable energy measures from both the economic and the climate mitigation actions as follows:

- | | | |
|--|---|---|
|  |  | 1. upgrade power generation capacities with introduction of efficient and low carbon technologies; |
|  |  | 2. large-scale deployment of renewable energy sources (solar, wind, small and micro hydro, biogas, etc.); |
|  |  | 3. greater use of energy efficient technologies in energy-intensive sectors, civil construction, and buildings; |
|  |  | 4. eliminate natural gas leakages and flaring in oil & gas sector; |
|  |  | 5. reduce losses in transmission and distribution networks. |

Speakers

- Ministry of Economic Development and Poverty Reduction • Ministry of Energy • State Committee on Ecology and Environment
- Center for Economic Development (NGO) • International Finance Corporation • World Bank • Tashkent State Agrarian University
- Solar Power Laboratory under the Institute of Physics • Uzbek Academy of Sciences

The international development partners – the World Bank Group (IBRD, IDA, IFC and MIGA), the European Bank for Reconstruction and Development (EBRD), the Asian Development Bank and others are supporting reforms and investments in the country’s energy sector decarbonization. In this context, in addition to the ongoing sector reform, energy efficiency, and transmission engagements, the World Bank Group has supported the competitive tendering and procurement of a first photovoltaic power plant (PPP), integrated power plant (IPP) and grid-scale solar energy project in Uzbekistan, Nur Navoi Scaling Solar IPP (100 MW), as part of 1 000 MW assignment, through WB Technical Assistance and Guarantees and IFC Advisory and Financing in line with the Government of Uzbekistan Energy Sector Concept. The Concept calls for development of about 16 GW of net generation capacity by 2030, of which 7 GW and 5 GW are solar and wind power, respectively. Recently, an integrated Energy Sector Decarbonization Pathway Assessment has been initiated by the World Bank to inform the Government strategy, policies, actions, and investments in clean energy transition and climate targets.

Steps Towards Circular Economy for Food Waste

Circular economy offers a pathway for Uzbekistan to address development challenges and meet national and sectoral strategic targets towards to green economy. Circular economy is a system solution framework that tackles global challenges like climate change, biodiversity loss, waste, and pollution. The circular economy is based on three principles, driven by design: eliminate waste and pollution, circulate products and materials (at their highest value), and regenerate nature. It is underpinned by a transition to renewable energy and materials.

Since March 2020, the World Bank launched a Technical Assistance (TA) activity funded by the Korea Green Growth Trust Fund (KGGTF) for promoting Circular Economy in Uzbekistan. It includes analytical work, capacity building, and knowledge exchange to specifically promote circular economy as a pathway to green economy. The Technical Assistance selected the agriculture-food value chain for a deep dive to assess circular economy actions for improving natural resource efficiency and reducing agriculture and food waste, pollution, and greenhouse gas emissions. The recommended Circular Economy Action Plan in the agri-food value chain is being consulted with government agencies.



Discussion and Conclusions

- In terms of prioritizing low carbon development of energy- and industry-sector reforms empowered through renewable deployment and energy efficiency can further be extended in the electricity sector, buildings, pumping (irrigation), industry, and residential heating as part of clean energy transition and decarbonization efforts;
- Institutional reforms, a growing role of the private sector and competitive markets in energy, water, agriculture, and municipal waste management combined with optimization of state regulations and controls will contribute to faster green economy transition;
- Focus on the vulnerable groups and people at large is essential for embracing of green transition changes and softening potential challenges ahead. Actions and targeted support at household level are as important as at industrial scale.
- Tariff and subsidy reform enforcing energy efficiency standards and codes, and introducing green tariff systems for renewables and subsidies for low-carbon vehicles are among instruments;
- Development partners support through financing, guarantees, technical assistance, advisory and capacity building is instrumental to promote the institutional and regulatory reforms in the energy sector.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Supporting Low Carbon, Sustainable and Inclusive Urbanization

Session 4 | 07.10.2021 | Uzbekistan, Tashkent



Sustainable Urban Development

Urbanization and urban growth in Uzbekistan are dominated by sprawl. Urban build up areas are expanding substantially faster than in comparable countries and cities. Cities are becoming less dense and commuting distances and motorization levels are growing, pushing up emissions and pollution. The current urban growth model is associated with the mounting expenditure on urban infrastructure and shrinking cropland. Only about half of the country’s population has access to waste collection services. At the same time, according to State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection, municipal waste contributes to 8 percent of total methane emissions due to poor management and municipal solid waste generation is expected to double by 2050 if business-as-usual continues. Moreover, urban residents and infrastructure are increasingly suffering from heat waves and dust storms.

The main challenges for Uzbekistan’s cities include:

- 

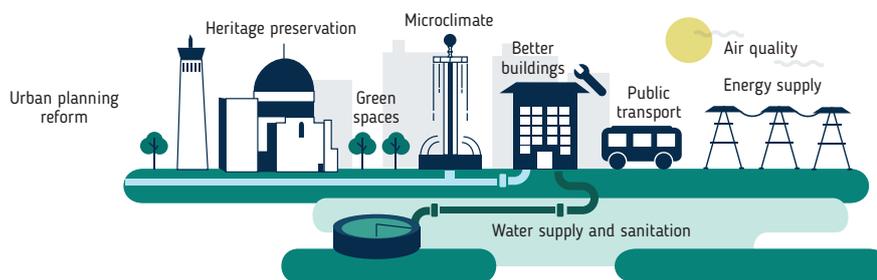
✓ Rapid urban area expansion and density reduction
- 

✓ Growing motorization and vehicle emissions
- 

✓ Mounting urban waste and methane emissions
- 

✓ Exposure to heat waves, heavy rains and dust storms

The Government of Uzbekistan and its international development partners such as the World Bank, Asian Development Bank, and AIIB (Asia Infrastructure Investment Bank) have been promoting the green transition of mid-sized cities, including their buildings, green spaces, public transport, and water and power supply infrastructure. This work also includes support for critical national level reforms: land privatization, urban planning system reform, strengthening sub-national governments, etc.



The Urban Planning Code of the Republic of Uzbekistan (2021) is the primary document regulating domestic construction. The Strategy for the Development of the Construction Industry of Uzbekistan for 2021–2025 (President’s Decree No. UP-6119, dated November 27, 2020) stipulates modern urban planning norms and construction innovations. In addition, in 2022 the Government of Uzbekistan intends to update the urban development master plans for all major cities of Uzbekistan, including their green spaces and waste management schemes. According to the State Statistics Committee, Tashkent’s green space consists of 23 city parks with an average of 5.5 m² per resident. The government is also on track for a significant urban green space expansion via the nationwide project “Green Environment.”

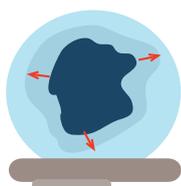
Speakers

• Ministry of Economic Development and Poverty Reduction • Ministry of Construction • State Committee for Ecology and Environmental Protection • World Bank

Tashkent City Resilience and Sustainability

Due to [climate change](#), the mean air temperature in Tashkent – the capital of Uzbekistan – may rise by 2.7–5.7 °C by the end of this century* under a high emissions scenario exerting additional pressures on its residents, energy, and waste systems. More intense and frequent rainfalls may contribute to severe urban flooding events. Earthquakes also pose a potential threat to Tashkent and other cities of Uzbekistan. To prevent and mitigate seismic risks, sufficient resilience of urban buildings, services and infrastructure must be ensured. The underdeveloped public transportation system results in traffic congestions by private vehicles – the source of up to 80% of the total emissions in large cities according to State Committee of the Republic of Uzbekistan for Ecology and Environmental Protection. The seasonal sources of air pollution include the traditional open burning of leaves and residential heating.

The main challenges for Tashkent and other major cities of Uzbekistan include:



- ✓ Unplanned urban expansion resulting in growing emissions and climate vulnerability of cities



- ✓ Extreme weather events affecting residents and infrastructure



- ✓ Seismic risk



- ✓ Public transport lagging behind urban growth

Tashkent could be the first major city of Central Asia that joins the leading group of cities that work on a systemic urban resilience strategy inspiring other cities of Uzbekistan and neighboring countries. The Concept of Environmental Protection of the Republic of Uzbekistan until 2030 provides tools and opportunities for curbing the transport-related pollution in urban areas by 10 percent; conversion of 80 percent of public transport to natural gas and electricity; and reducing emissions by enforcing domestic and imported fuel standards. Reliable earthquake-proof construction technologies allow denser construction. The national plan on urban green space expansion is under elaboration.

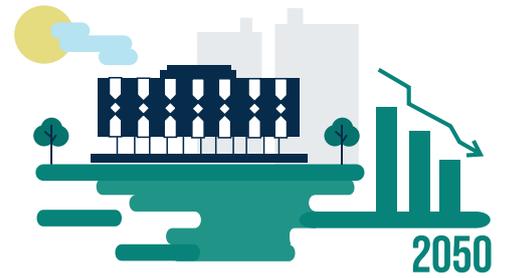
Discussion and Conclusions

- Uzbekistan's government dedicates significant attention and allocates sufficient funding to creating and expanding urban green space;
- Urban living conditions and city landscapes across Uzbekistan are improving, and additional targeted measures can further promote sustainability, green economy and climate mitigation;
- The Concept of Urban Development in the Republic of Uzbekistan till 2030 (draft) and the government's intentions to update the urban development master plans for all major cities of Uzbekistan provide a good framework for action;
- Increasing built up density of cities, scientifically in the central areas will help optimize the urban infrastructure, including drinking water and sewage systems, public transit routes, motorways, and green spaces;
- The Strategy on Waste Management 2019–2028 aims to optimize municipal waste collection and improve management while transitioning to a regional approach. Waste management must be addressed in an integrated manner considering sustainability with regards to operations, financing, legislation, monitoring and enforcement, environmental management, and social inclusion for all residents for long-term sustainability.

* World Bank's Climate Change Knowledge Portal: <https://climateknowledgeportal.worldbank.org/country/uzbekistan/climate-data-projections>

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Risks and Opportunities of Climate Change: Moving from Draft Climate Change Strategy 2030 to Long-Term Strategy for Decarbonization 2050



Session 5 | 14.10.2021 | Uzbekistan, Tashkent

Green Growth Priorities

The Government of Uzbekistan prioritizes an economic growth model based on sustainable and effective natural resource use, low-carbon energy, pollution reduction, and an increase in resilience to disasters and climate change. Several international development partners are supporting the country in green transition frameworks 2030 and a long-term decarbonization strategy 2050. The agreed priorities on green growth include:

- ✓ **Resilience to natural disasters and climate change** through reducing impacts, protecting the population, and providing recovery and financial assistance to disaster-affected areas, communities and sectors;
- ✓ **Sustainable and effective use of natural resources** through market reforms and inclusive policies in agriculture and water management coupled with stronger engagement of the private sector;
- ✓ **Green industrial and economic development** through reducing waste, upgrading enterprises, improving energy efficiency, and curbing carbon emissions;
- ✓ **Green investments and innovations** to support the green transition across the sectors;
- ✓ **Sustainable and inclusive urbanization and support to the people and localities most affected by green economy transition**, including skills development, capacity building, and green jobs.

Uzbekistan’s Commitments under the UN Framework Convention on Climate Change

The Center of Hydrometeorological Service of Uzbekistan (Uzhydromet) is the national authority responsible for climate monitoring and maintaining the network of 87 meteorological stations. Fifty automated weather stations were installed under the CAMP4ASB project and 10 stations under the Adaptation Fund project. Uzbekistan’s climate has been warming by 0.3 °C per decade. Depending on global carbon emission pathways, the country may face a 1.5–3 °C or even higher temperature rise by the end of the century.

Observed and projected climate change impacts in Uzbekistan:

- 
 - ✓ Increase in average and maximum temperatures
- 
 - ✓ Increase in intense precipitation and flashflood zones
- 
 - ✓ Change in snow cover extent and duration, shift in water flow
- 
 - ✓ Increase in extent and severity of droughts

Speakers

- Ministry of Economic Development and Poverty Reduction • The Center of Hydrometeorological Service of Uzbekistan (UzHydromet)
- Institute for Forecasting and Macroeconomic Research • World Bank • Ecological (Green) Party of Uzbekistan

A party to the United Nations Framework Convention on Climate Change (UNFCCC) and Paris Agreement, Uzbekistan has committed to reduce its greenhouse gas emissions and enhance climate adaptation. At the 26th Conference of the Parties, the country officials proposed new targets of reducing carbon intensity and emissions per GDP by 35 percent by 2030. UzHydromet is the UNFCCC focal point and chairs a working group on greenhouse gas inventory.

Uzbekistan has drafted its climate change strategy 2030. As many as 24 ministries and agencies have reviewed the draft and it will be approved shortly. With support from the Green Climate Fund (GCF), Uzbekistan has started the preparation of a national plan on climate change adaptation focusing on water management and agriculture, public health, urban environment, and disaster risk reduction.

Towards a Long-term Climate Change Strategy

The World Bank supports Uzbekistan in elaborating a long-term decarbonization strategy 2050. In Chile, the similar process took 1.5 years, including numerous multi-stakeholder consultations, workshops, and round tables to forge the country's climate vision, formulate the strategy, set the corresponding goals and objectives, and design robust sector-specific targets and indicators. The effort gave due consideration to greenhouse gas emission projections, mitigation potential in key economic sectors, and Chile's commitments under the Paris Climate Agreement. In neighboring Kazakhstan, the coal sector contributes 50% of carbon emissions, but the social aspects of the transition away from coal are challenging.

Reaching carbon neutrality is a complex and long-term process. Acknowledging Uzbekistan's rapidly growing energy demand, the World Bank has partnered with the Ministry of Energy, Ministry of Investments and Foreign Trade, and other authorities to design a strategy to decarbonize the country's energy sector. The European Bank for Reconstruction and Development assists in designing a roadmap for zero-carbon power development to 2050. In 2019, Uzbekistan adopted the Law on the Use of Renewable Energy Sources and Law on Public-Private Partnership, thus establishing a new legal framework to accelerate clean energy deployment across the country. Among the main climate and air pollutants in Uzbekistan and globally, transportation is one of the energy-related sectors that had lacked attention thus far. A new OECD project funded by Germany and Switzerland will conduct a feasibility study and propose recommendations for greening Uzbekistan's transport sector.

10 | According to Uzbekistan's first biennial update report under the UN Framework Convention on Climate Change (2021), the agriculture sector is the second largest carbon emitter responsible for more than 17% of the total emissions or 33 million tonnes of CO₂ equivalent. Uzbekistan's agriculture is growing due to domestic demand and exports, consequently pushing up greenhouse gas emissions. Expanding organic farming and horticulture, installing greenhouses, introducing energy-efficient pumping and drip irrigation will help restrain agricultural emissions and accelerate the green transition.

Discussion and Conclusions

- Long-term decarbonizing strategies are essential for successful implementation of global and national climate policies and targets;
- Clear vision, multisector approach, and road maps for each sector are the key elements of the successful strategies;
- Uzbekistan draft climate change strategy 2030 is being finalized, and once approved, its implementation road map will update every three years. The global climate policy is evolving quickly – regular roadmap review and upgrading will ensure sufficient time and flexibility in adopting global good practices and UNFCCC decisions, as well as tailoring them to the changing circumstances in Uzbekistan;
- Specific climate change legislation and regulatory instruments should be in place to support the implementation of the abovementioned strategies at different levels.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Building Climate Resilience Through Strengthened Response to Disasters

Session 6 | 18.11.2021 | Uzbekistan, Tashkent



Outcomes of the COP26: Uzbekistan and Central Asia at the Global Scene



The 26th Conference of the Parties (COP26) to the UN Framework Convention on Climate Change (UNFCCC) took place in Glasgow, the United Kingdom, from October 31 to November 13, 2021.

For the first time in the history of this high-profile international climate forum, the five countries of the region, Regional Environmental Centre for Central Asia (CAREC) and international development partners jointly organized the Central Asia Pavilion under the motto “5 Countries – 1 Region – 1 Voice.” Seizing the opportunity, Uzbekistan informed about its [climate and green transition priorities](#), risks, and raised climate action commitments.

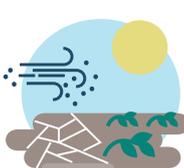
Climate Change Impacts and Adaptation Planning

Air temperatures across Uzbekistan have already increased by 1.5 °C and are expected to warm in the future. Water resources are [highly sensitive to climate change](#) making water shortage, drought, and mudflow risks even more severe according to the Center of Hydrometeorological Service of Uzbekistan (UzHydromet). The Green Climate Fund (GCF) and UNDP are supporting Uzbekistan in elaborating its national climate adaptation plan focusing on water management and agriculture, vulnerable communities, the Aral Sea Region crisis, ecosystems, and strategic infrastructure. Certain adaptation actions are reflected in and implemented under sector-specific strategies, concepts and programmes underway in Uzbekistan.

Disaster Risk Reduction

Uzbekistan is highly exposed to extreme weather events: floods, mudflows, avalanches, droughts, dust storms, as well as geo-hazards like earthquakes, landslides, and rockfalls.

Disasters affecting Uzbekistan:

-  ✓ Floods, flash floods
-  ✓ Avalanches, land-slides
-  ✓ Droughts, dust storms
-  ✓ Earthquakes

In cooperation with the Ministry of Emergency Situations and other stakeholder authorities, UzHydromet is responsible for [assessing climate change](#) impacts and issuing early warnings. The World Bank is helping to plan effective modernization of UzHydromet, building on ongoing support to reinforce its national and regional capacities, including training of staff, provision of equipment, and introduction of new tools and models for forecasting and early warning.

Speakers

- Ministry of Economic Development and Poverty Reduction • Ministry of Emergency Situations • Center of Hydrometeorological Service (UzHydromet)
- National University of Uzbekistan • World Bank • UNDP

Desertification affects 2 million hectares of land in the Aral Sea region and contributes to dust storms. To respond to the crisis, Uzbekistan continues ambitious afforestation: today, tree plantations around the Aral Sea occupy over 1.6 million hectares (State Committee on Forestry). Uzbekistan’s annual afforestation capacities and efforts have increased from 50 000 hectares to 500 000 hectares per year (UzHydromet). More than a hundred water wells drilled in different parts of the Aral Sea region supply local communities with potable and irrigation water (Unesco, 2020).

The Government of Uzbekistan is taking steps to prevent, reduce, and respond to disaster risks, including resettling vulnerable communities from flood- and landslide-prone areas to safer locations, riverbank protection, afforestation, emergency training, and awareness-raising.

Selected disaster risk reduction measures:



With support of the Adaptation Fund, UNDP and UzHydromet have introduced a broad range of adaptation practices to address local climate risks, particularly drought, in the Aral Sea Region. These include soil- and water-saving technologies, fodder production, pasture management, laser levelling of croplands, and drought early warning system. The CAMP4ASB project supports climate adaptation measures in the agriculture of Uzbekistan through loans and technologies. The Ministry of Agriculture and domestic agricultural actors could replicate the project’s experiences and lessons learned in other parts of the country. Market reforms and access to climate finance and awareness raising among farmers are essential for future progress.

12 | Challenges and Gaps

- Risk of water scarcity, droughts, dust storms, floods, mudflows, and glacial lake outburst floods (GLOFs) will increase due to climate change;
- Warmer winters reduce snow reserves in the mountains resulting in water shortages in spring and summer, when water is most needed for irrigation;
- More intense precipitation in spring causes floods, and as snowmelt shifts earlier in the year, the chances of intense precipitation and strong snowmelt occurring at the same time will increase;
- Growing temperature variability is affecting plant development and promoting plant diseases.

Discussion and Conclusions

- Reforestation, restoration of landscapes affected by erosion and desertification, and early warnings to population and urban services can reduce dust storm impacts;
- Transboundary weather and flood forecasting is critical and is currently being supported by the World Bank through the development of the Central Asian Flood Early Warning System (CAFEWS);
- Regional cooperation on disaster prevention and response is important and coordinated through regional forums organized by emergency ministries and agencies of Central Asian countries;
- Need to focus and balance investments between prevention for building preparedness to disasters and towards post-disaster recovery and responsiveness;
- Ideally, each ministry supervising and managing climate-sensitive sectors should build its institutional and human capacities to deal with sector-specific climate challenges and monitor the performance of targeted measures;
- Actions for the Aral Sea Region restoration are interlinked with climate adaptation.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Supporting People and Places Most Impacted by Climate Policies

Session 7 02.12.2021 Uzbekistan, Tashkent



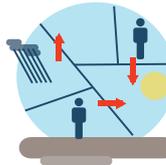
Promoting Social Stability, Employment and Education in Environmentally Stressed Areas and Sectors

The Aral Sea Region represents a stark case of socio-economic hardships and job loss caused by the infamous environmental crisis. On the other hand, it is also a bold example of government commitments, investments, and innovations to rehabilitate and develop this socially and environmentally stressed area.

Local experts estimate that up to 2 million people could lose their jobs and livelihoods by 2030 as a result of climate impacts. Thus, green growth is becoming an urgent priority requiring support through just transition and creation of job opportunities. The World Bank is supporting a number of projects to promote and advance education reforms, re-training, and skills improvement. As a result of these reforms about 1 million people from low-income and vulnerable social groups may become employed in the coming years.

Uzbekistan's population is growing rapidly. It is currently 35 million, including 13 million persons who are employed. Data on green jobs is not available. The Ministry of Employment and Labor Relations has major plans in terms of training and skills building related to green economy. The Ministry of Higher and Specialized Education is promoting professional and specialized education on ecology and environmental management. Tashkent Technical University, Tashkent University of Information Technologies, and Samarkand State Architectural and Civil Engineering Institute are collaborating with foreign partners to enhance their environment-related curricula and academic plans.

Uzbekistan's population dynamics and green transition challenges are as follows:

-  ✓ Population rapid growth and youth education needs
-  ✓ Outmigration or resettlement of residents from environmentally stressed regions
-  ✓ Job loss in certain sectors, re-training needs for new green jobs
-  ✓ Agricultural workers and women-led households affected by climate change, direct support and re-training

Accelerated transition to a green economy may trigger changes in the labor market structure, with certain professions losing their relevance, especially in coal mining and fossil fuel sectors. Simultaneously, the potential growth of energy, water, and food prices may limit their affordability and increase poverty. Considering that in Central Asia and Uzbekistan the key laborers in agriculture are women, heat and extreme weather events may increasingly affect them and impact women-led households the hardest. If no actions are taken, climate change may badly affect the economy, employment, and working conditions.

- Many countries are already providing solutions that include:
- ✓ direct support to poor and vulnerable groups;
 - ✓ targeted subsidies for green heating and electricity;
 - ✓ professional education and re-training;
 - ✓ special programs and financial assistance for women-led households, children, and disaster-affected people.

Speakers

• Ministry of Employment and Labor Relations • Ministry of Higher and Specialized Education • Ministry of Mahalla and Family Affairs
• Ministry of Economic Development and Poverty Reduction • World Bank

Uzbekistan's Social Specifics



Women-led households make up 20 percent of the country's total population (Ministry of Employment and Labor Relations). Rural communities are very dependent on water supply and access. People with disabilities spend more time and effort on fetching water and performing work. Both groups are particularly vulnerable to climate change impacts.



Local and traditional institutions are essential for local climate and disaster resilience. Uzbekistan's **mahallas** – local self-governance bodies – are actively involved in their members' lives and provide support in stressful situations. They are capable of conducting trainings, disseminating knowledge, raising awareness, as well as promoting and supporting local-level adaptation practices, such as tree planting.

The Government of Uzbekistan is taking numerous comprehensive social protection measures, especially for vulnerable population groups. A single registry was introduced in 2021 to manage and expand support to low-income families almost doubling the coverage in 2018. The recently adopted Women's Notebook is a new social protection system targeting women in difficult circumstances. It was developed based on a survey of more than 1 million women to identify challenges they face in employment, healthcare, education, housing, bank services, legal assistance and psychological support, as well as the potential ways to address these challenges (Ministry of Employment and Labor Relations).

Discussion and Conclusions

- Impacts of climate change, disasters and environmental degradation vary among Uzbekistan's regions and may cause internal displacement, migration, job losses and increased poverty;
- Just transition is a broad topic requiring special focus on vulnerable groups, especially workers at risk of losing their jobs because of the green transition and with limited transition pathways. Women, the youth, and older workers who are displaced need particular attention;
- The Government of Uzbekistan, with support from the World Bank and development partners, is focusing assistance on vulnerable communities and persons in environmentally stressed areas, and is promoting training and skills development in areas related to climate change and green transition;
- Special training centers engage the youth and adults to improve their knowledge and entrepreneurial skills; further collaborations and partnerships with international academic and research organizations may multiply their impact;
- Local self-governments – mahallas – can be actively engaged in climate solutions;
- Uzbekistan's [Rural Infrastructure Development Project](#) works with mahallas to identify local development priorities and can be leveraged to raise awareness of climate change risks and identify solutions;
- Global lessons for engaging community organizations identifying and implementing climate change solutions could be explored and applied by Uzbekistan. These include [Indonesia's National Community Empowerment Program "PNPM Green"](#) and [Kenya's Locally-Led Climate Action Program](#).
- Uzbekistan's Strengthening the Social Protection System project is supporting the expansion to the Single Registry for social protection to a new module for the identification and management of benefits for climate affected households
- Annual regional development plans could benefit from integrating more climate change and green economy related actions, including trainings that are tailored to each province or district to ensure successful and just transition;
- The green jobs created may be located in different regions than jobs that will be lost, or may require different skill sets. Hence, the green transition will not only require green investments, but also workers with the right skill sets and incentives to move across regions and sectors.
- Social protection and labor policies help people to respond to climate-induced shocks and are an essential pillar of many Climate Change and Green Just Transition policies in the EU countries and beyond. Even without explicit environmental objectives, social protection programs such as cash transfers, public works, training and employment programs help the poor and vulnerable better absorb the impacts of climate shocks and adapt to changing labor markets.

Additional references:

- On the role of mahallas in the Regional Risk and Resilience Assessment (WB, 2021): <http://documents.worldbank.org/curated/en/0993330012232131334/P1752340b67521097092610c048ec6641f8>
- Energy Vulnerability in Female-headed Households: Findings from the Listening to Citizens of Uzbekistan Survey (WB, 2020): <https://openknowledge.worldbank.org/handle/10986/33314>

Building Climate Resilience Through Cross-Cutting Measures: Sustainable and Efficient Use of Natural Resources



Session 8 | 09.12.2021 | Uzbekistan, Tashkent

Sustainable and efficient use of natural resources is an indispensable part of the green economy and essential for increase in agricultural production, productive ecosystem services, and better quality of life in rural areas. Driven primarily by agricultural practices, Uzbekistan is one of the world's most unsustainable and inefficient users of water (based on measuring the ratio of total water withdrawals to renewable resources) – as the near disappearance of the Aral Sea attests – with withdrawal rates exceeding 90 percent of the total renewable resource (Ministry of Water Resources). At the same time, the cost of land degradation in Uzbekistan is estimated at 3 percent of the Gross Domestic Product (GDP) (ELD 2016).

Where land is degraded, landscape restoration offers great opportunities and benefits for many sectors of the economy. Restoring lands damaged by overgrazing, fuel extraction, mining, irrigation or agriculture may return them to productive use. This is possible only if an integrated landscape approach is used.

Sustainable Agricultural Practices

Agriculture contributes almost a quarter of Uzbekistan's GDP and is the largest job sector. Currently, less than 10 percent of Uzbekistan's irrigated lands is equipped with water-saving technologies. Uzbekistan's agriculture consumes 90 percent of all water and is very sensitive to climate and water shocks (Ministry of Agriculture). Farmers respond to these challenges by adjusting the cropping calendar and water resource use, as well as planting drought-tolerant plants and protective tree belts.

Uzbekistan's Government is implementing the Concept of Sustainable Use of Land and Water Resources in Agriculture for 2020–2030, which covers irrigated and rainfed lands as well as pastures. Soil assessments and geo-botanical surveys support evidence-based decision making. Another Concept on water sector development for 2020–2030 promotes water-saving technologies and improvement of efficiency in irrigation networks.

Afforestation and Reforestation

The State Committee on Forestry administers 12 million hectares of land, which includes 3.3 million hectares of tree-covered area or 7.3 percent of the country's total. Tree-covered area has significantly expanded due to afforestation with saxaul trees in and around the dry parts of the Aral Sea, agroforestry in the mountain regions, and natural regeneration. In addition to the government and private funding, international development partners help to support afforestation of the Aral Sea region. Non-timber forest products of Uzbekistan include food and medicinal plants, honey production, and ecological tourism.

Forest sector development priorities include a national forest inventory, forest monitoring, expanding pistachio and almond plantations, creating shelterbelts and green spaces in cities, and expanding agroforestry and promoting pollinators.

Speakers

• Ministry of Employment and Labor Relations • Ministry of Agriculture • Ministry of Water Resources • State Committee on Forestry
• Samarkand State University • NGO "Suvchi" • World Bank

Water Resources

Increased temperatures and more rapid glacial and snow cover melt in the region may lead to long-term decreases in river flows and runoffs and severe water shortages along Uzbekistan's most important rivers. At the same time, the expected increases in average temperatures may cause increased evapotranspiration and higher water demand in particular for irrigated agriculture.

Key interventions in the water sector:



- ✓ Investing in multi-purpose water storage, dam safety and capacity building



- ✓ Investing in canals efficiency, reducing water losses



- ✓ Investing in irrigation efficiency, efficiency of pumped irrigation, reducing emissions and costs of maintenance



- ✓ Digitalizing water data, real-time monitoring and remote sensing

Discussion and Recommendations

Integrated Landscape Management

- Manage agriculture, water, and forest in a synergistic way through integrated landscape management (ILM) to connect protected areas, forests, woodlands, agro-silvo-pastoral land, cropland, irrigated land for increased productivity, ecosystem services (including water availability), and economic diversification;
- ILM requires an Integrated Land Use Plan and connectivity among land uses;
- Some successful examples of ILM are in China, where tree planting, land terracing, and other measures helped transform what was previously a “moonscape” into areas suitable for housing and agriculture; and in Costa Rica where the country through a tax imposed on fossil fuels and emissions, elimination of subsidies for cattle ranching, and good governance has managed to restore 60 percent of its degraded forests, which now has become a source of livelihoods through ecotourism.

Agriculture:

- Diversify agricultural production away from cotton into horticulture and climate-smart production;
- Re-purpose agricultural subsidies;
- Scale-up efficient technologies for crop irrigation: modern solar pumps, drip irrigation and sub-soil techniques;
- Implement sustainable grazing management.

Forestry:

- Plant climate resilient trees as a fundamental natural-based solution to decrease erosion, sand and dust storms, and increase resilience of ecosystems and infrastructure;
- Increase tree plantations along rivers for protection and for fruit, nuts and timber production.

Water management:

- Strengthen institutions for participatory planning and setting/enforcing/monitoring sustainable withdrawal limits to reduce overall water use and water stress;
- Invest in water saving irrigation technologies;
- Monitor, modernize, and digitize water information for more efficient water allocation and climate adaptation;
- Avoid overuse of groundwater by agriculture.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Enabling Policy Environment: Reforms, Legal and Policy Processes and Plans for Climate Change and Green Growth



Session 9 | 15.12.2021 | Uzbekistan, Tashkent

Legislation and Policy Processes



Uzbekistan is a party to the UNFCCC and ratified the Paris Agreement in 2018. The country's legislation addressing climate change issues is evolving. It includes: the Law on Ratification of the Paris Agreement, Law on Renewable Energy, Law on Environmental Audit, Law on Hydrometeorological Activity, a Strategy for Transition to a Green Economy, a Presidential Initiative and a special UN resolution on declaring the Aral region a zone of environmental innovations and technologies, and the Concept for the Development of Environmental Education. The Environmental Code of Uzbekistan has been drafted and includes climate change provisions.

While a lot has been done – for instance, current laws which create a favorable investment climate for the development of renewable energy sources – Uzbekistan has not yet adopted a climate law. Climate legislation and regulations, which provide certainty for the state, private sector, households and investors to accelerate implementation of climate solutions, foster interagency coordination, and ensure state budget allocation.

In 2020, the World Bank published the [Reference Guide to Climate Change Framework Legislation](#), consisting of 12 elements informed by the review of more than 30 pieces of climate legislation. This guide as well as international [toolkits](#) and [resources](#), serves as a starting point for Uzbekistan to strengthen legal frameworks for climate change and green economy.

The Ecological Party is a chief promoter of the green legislation in the Uzbekistan's Parliament. It is actively involved in public campaigns on tree planting, clean-up, cycling, and building public awareness on climate change. The Cabinet of Ministers of the Republic of Uzbekistan harmonizes climate change and green economy priorities at a high level. The National Hydrometeorological Service (UzHydromet) is a focal point of UNFCCC, and it coordinates climate change policy and reporting, including the national greenhouse gas inventory and climate impact assessments and data collection jointly with the State Statistics Committee. The Ministry of Investments and Foreign Trade is the national designated authority (NDA) for the Green Climate Fund. The Ministry of Economic Development and Poverty Reduction coordinates activities on green economy transition. The State Committee on Ecology and Environmental Protection is responsible for coordinating waste reforms, pollution controls, and maintaining environmental information and monitoring systems.

Uzbekistan's system of greenhouse gas (GHG) inventory is comprehensive. It covers the period 1990–2017 (2018–2019 under preparation) and the five GHG emission categories: 1) Energy, 2) Industrial processes, 3) Agriculture, 4) Forestry and land use, and 5) Waste. The GHG inventory process involves 26 ministries and agencies, with the State Statistics Committee as the leading data provider. The UzHydromet expert team ensures advisory support and quality control for the national GHG inventory. A monitoring, reporting and verification (MRV) system is currently under development. It will cover GHG emissions inventory, mitigation measures, and international projects on climate change.

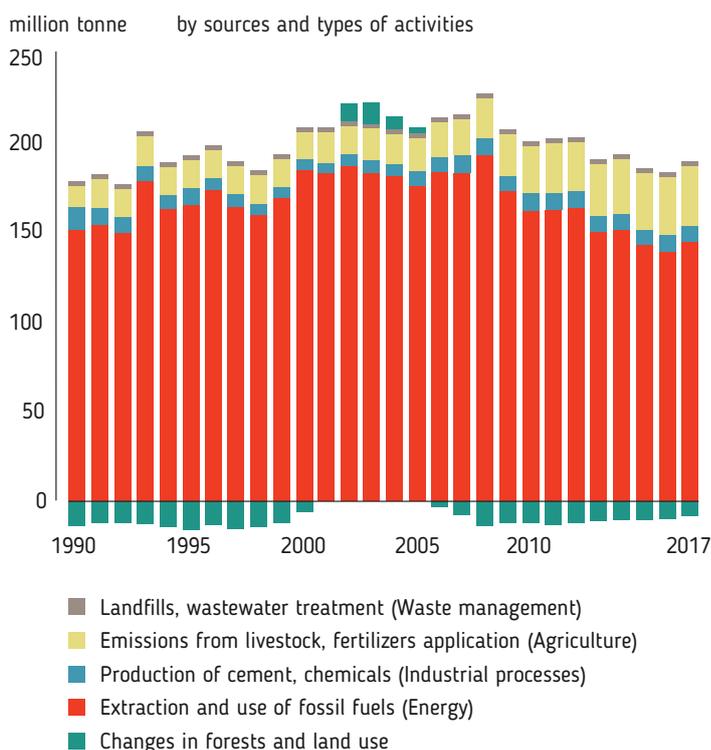
Speakers

- Uzbek Parliament and the Ecological Party • Ministry of Economic Development and Poverty Reduction
- Uzbekistan Hydrometeorological Service (UzHydromet) • State Committee on Ecology and Environmental Protection
- UN Environment Programme • World Bank • "Sreda" online publication • Qarshi Engineering and Economic Institute

According to Uzbekistan's first biennial update report under the UN Framework Convention on Climate Change (2021), the total GHG emissions of Uzbekistan amounted to 189 million tonnes of CO₂-equivalent in 2017. The energy sector is responsible for 76–80% of GHG emissions, including 50% from fossil fuel combustion and 26–30% from methane leaks in the coal, oil, and gas sector. Energy emissions have been declining over the past 10 years. In contrast, GHG emissions in agriculture are growing due to an increase in livestock and represent 18% of the total. Industrial processes contribute 5% of the total emissions. Emissions from waste management stand at only 1%, but these emissions are growing rapidly.

Uzbekistan plans to hold a high-level international forum on green economy in the Aral Sea region in 2022 and the 6th UN Environment Assembly (UNEA) in 2023;

Emissions of greenhouse gases in Uzbekistan



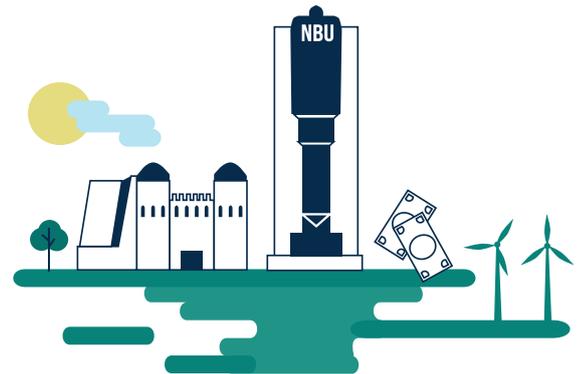
Discussion and Conclusions

- International experience, toolkits, and guidelines on climate legislation may help Uzbekistan to consider lessons learned, essential elements, and factors of success in shaping the country's legislation, and may help attract financial and technical resources;
- Uzbekistan's legislation on renewables, climate and environmental monitoring is evolving, and the MRV system has been designed to support climate change and green economy policy and reporting with some components such as adaptation measures under development. Relevant regulatory documents to enshrine the MRV system have been drafted and required to be enforced;
- Climate-related issues are already addressed indirectly through sector-specific legislation and regulations on energy efficiency, energy and water-saving, renewables, and afforestation;
- Digitalization and seamless exchange of data through modern information systems, including automation of the environmental monitoring system and integration of data systems, will help strengthen the material and technical capacities of the analytical centers and laboratories of the relevant authorities such as Uzhydromet, Ministry of Water Resources, State Committee for Ecology and Environmental Protection, Ministry of Health, State Committee for Forestry. This could result in a single geoinformation database and electronic environmental maps;
- Parliamentarians, particularly the Ecological Party of Uzbekistan, promote the climate change and environmental agenda through legislation, public actions and initiatives; however engagement of civil society into policy making is essential for successful implementation of legal reforms;
- Capacity building and human capital development will help strengthen climate change policy making;
- The revised draft Environmental Code should be further reviewed, adopted, and enforced as well as draft regulatory legal acts to strengthen responsibility for obstructing activities of inspectors of the State Committee for Ecology under Environmental Protection Concept until 2030. The country may consider introducing a climate law to strengthen messaging to the state, households, and the private sector.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

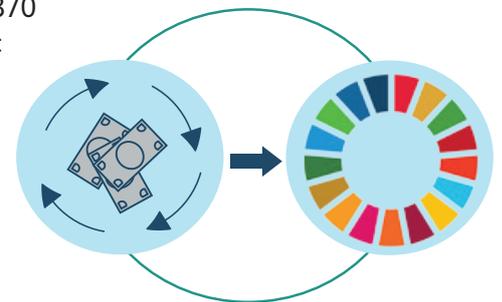
Mobilizing Green Finance and Innovative and Effective Green Public Investment

Session 10 13.01.2022 Uzbekistan, Tashkent



Greening Public Investments

The government plays a critical role in scaling up public investments and mobilizing innovative finance for the green transition. In 2021, Uzbekistan issued an 870 million US dollars sovereign bond that supports Sustainable Development Goals (SDGs) financing, including for land restoration, green transportation, and launched a “Green Sukuk” tool to finance energy efficiency and other innovations (Ministry of Finance). However, this will not be enough. The implementation of green transition under the new development strategy 2022–2030 will require substantial additional financial resources. International experience shows that countries need to mobilize financial resources equal to 6% of the Gross Domestic Product (GDP) to achieve the goals of the Paris Agreement. It is important to mobilize and attract both public and private investments and reduce exposure to climate risks for already planned investments.



The Ministry of Finance with support from development partners (UNDP and AFD) is leading green fiscal reform to support the green economy transition in line with President’s Decree No. 73, dated December 30, 2021, on 2022 State Budget. Work is underway to design a methodology for green budgeting, link public spending to SDGs, implementation of a monitoring system to track expenditures towards SDGs fulfillment, green tax and subsidy reform, and introduce green and sustainable procurement principles. In parallel, the Ministry of Investments and Foreign Trade is focusing on creating a favorable climate for green investments in Uzbekistan through its Green Investment Council.

Opportunities for Green Finance Instruments

Public sector investments. International experience has shown that aligning the fiscal policy framework with climate change mitigation and adaptation includes a package of reforms e.g. integration of environmental objectives into budgetary financing and tax policy reform. In Uzbekistan, 10% of GDP spent on fuel subsidies. This should be realigned to incentivize greener use of energy, innovation on green policy and natural resource use. The power sector alone would require 4 billion US dollars per year until 2030, equivalent to 4.8% of GDP to transition to low carbon (Ministry of Finance). Therefore, revising the fiscal policy and subsidies and introducing green public procurement can accelerate green transition. A carbon tax system is already applied in many countries as a tool to reducing emissions and could be considered.

Private sector investments. International best practice shows the need to create appropriate regulatory structures, tools, and incentives that would crowd in private sector investments. Developing roadmaps for green finance is a good starting point, with best practices from the UK, Indonesia, and South Africa. In the case of Uzbekistan, greening the banking sector plays a prominent role with an opportunity to develop a Green taxonomy. This would help build a repository of information for an investor, for example, on how a country presents information on its impact on the economy and social development, on pension fund activities for investing pension funds in green projects, etc.

Speakers

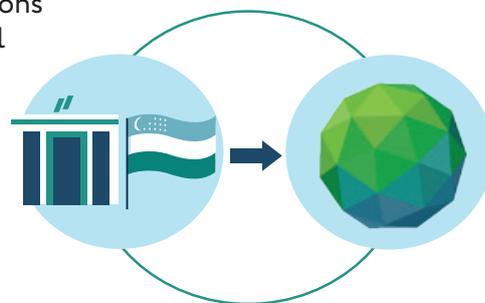
- Ministry of Economic Development and Poverty Reduction • Ministry of Finance • UNDP • AFD • Westminster International University in Uzbekistan
- HamkorBank • World Bank

In 2020, the World Bank issued a [Guide](#) to developing a national green taxonomy for transition economies. The green taxonomy, and its application in practice, is really very important, because it: (1) provides a clear mechanism for assigning a “green” designation to investment funds and increasing their transparency; (2) helps create demand for green investment, and allows you to choose between “green” and “brown” investments, and (3) helps build partnerships by engaging stakeholders – Central Bank, Government, commercial institutions, Stock Exchange etc.

Mobilizing Green and Innovative Finance: Greening the Banking Sector

[Russia adopted green taxonomy \(the criteria for green and sustainable projects\) in 2021](#), compatible with international best practices and introduced options for innovative instruments such as green mortgages and green social bonds. World Bank report “[Russia and Global Green Transition: Risks and Opportunities](#)” includes guidelines, scope, methodology, and criteria for green investments as well as green procurement to help assess impacts of climate and transition risks for banking sectors.

In Uzbekistan, HamkorBank is one of the first private banks offers green loans jointly with the Netherlands Development Bank to finance green technology or equipment that reduces emissions and energy consumption and provides energy-efficient heating and cooling. This is a new area for local entrepreneurs and the bank itself; therefore the European Bank for Reconstruction and Development (EBRD) is providing financial and technical support. HamkorBank has already received training and capacity building to potentially become the national institution accredited for direct access to the Green Climate Fund (GCF). The Regional Environmental Centre of Central Asia (CAREC) has helped design green and climate criteria and conduct evaluations on micro-loans for climate adaptation under the CAMP4ASB programme in selected provinces of Uzbekistan.



Discussion and Conclusions

- Transitioning to a green economy requires substantial investments, and the state budget alone is not enough. There is an urgent need to attract the private sector investments for low-carbon technologies .
- Uzbekistan is taking steps towards green transition, which could be supplemented by introducing innovative fiscal instruments. Economic modeling of carbon and fuel taxes may help the government to better define incentives for broader introduction of clean energy and fuels; as well as accommodate for the distributional aspects of green fiscal reform. Expanding green public procurement is another policy instrument to promote greener investments.
- Increasing access to international climate finance is critical. Access can be increased through accreditation of entities as implementing agencies for Green Climate Fund (GCF). The banking sector would require additional training and capacity building to acquire GCF accreditation and for successful preparation and submission of project proposals to GCF.
- Green legislation, appropriate regulatory structures, tools, and capacity building in planning, budgeting, and operation of green infrastructure are essential for the engaging the private sector and attracting private investments.
- A results monitoring system needs to be established to evaluate the effectiveness of green investments. International experience and World Bank guidelines can help Uzbekistan to introduce modern green taxonomy, including formulating the rationale for the scope, guidelines, and criteria for green investments and green procurement.
- Green investment opportunities require leveraging partnerships between public and private actors to connect investors and potential investments locally and internationally. Local companies know where to invest, and international companies are looking for opportunities to invest – developing partnerships may bring multiple benefits.
- Awareness-raising among local entrepreneurs about green loans and other green banking products and information on climate impacts and climate effectiveness of projects can catalyze interest.

TRANSITION TO A GREEN ECONOMY IN UZBEKISTAN

Strategic Framework for Green Economy for Moving Green Growth and Climate Change Agenda Forward



Session 11 | 17.02.2022 | Uzbekistan, Tashkent

Over the past three decades of independence and reforms, Uzbekistan has made remarkable progress in addressing the impacts of climate change through investments in environmental protection and afforestation of the Aral Sea area, among other interventions. Current national environmental action plans and targets have evolved to become the central elements of the transition to low-carbon and greener economy. However, challenges persist due to water scarcity, a lack of clean water, irregular energy supply as evidenced by the recent major power outages, and unprecedented sand and dust storms. With enormous impacts on people, communities, environment, and infrastructure, these challenges serve as a stark reminder that much remains done to ensure a green future for Uzbekistan.

Results of Policy Dialogues

The Ministry of Economic Development and Poverty Reduction (MEDPR) of the Republic of Uzbekistan, World Bank, and Central Asia Regional Environmental Centre (CAREC) jointly with national and international partners have held a series of [policy dialogues](#) on Green Growth and Climate Change in Uzbekistan. The policy dialogues featured renowned national and international experts who shared their knowledge and perspectives, discussed the green growth and climate change agenda, and proposed recommendations.

1. Through the policy dialogues, stakeholders have built consensus on a win-win case for Uzbekistan's [green transition](#) that is good for its people, economy, and the planet. Uzbekistan's transition to a green economy and its performance across four pillars – Resilience, Inclusion, Sustainability, and Efficiency (RISE) – will be key to achieving its development targets and goals. RISE priorities are reflected in the green growth strategic framework.
2. Each priority was examined with an overview of the challenges and best practices. Opportunities, including practical 'measures and actions,' were identified and captured within the thematic areas to help implement the green transition, as reflected in [brochures](#).

Key issues covered by the policy dialogues:



Climate change and disaster risk



The Aral Sea and landscape restoration



Financing SDGs and green economy



Clean energy and cities



Sustainable nature resource use



Just transition, policy reforms



Green jobs, education, awareness

3. MEDPR presented these priorities at the Central Asia Pavilion at the UNFCCC COP26 in Glasgow, UK, in November 2021, and benefited from regional and global exposure, thanks to CAREC.

Speakers

- Senate of the Oliy Majlis of Uzbekistan • Ministry of Economic Development and Poverty Reduction • Ministry of Finance • Ministry of Energy
- Ministry of Water Resources • State Committee for Forestry • UzHydromet • Westminster International School • Tashkent State Agrarian University
- UNDP • World Bank

In the course of the policy dialogues, ministries, and government agencies identified key actions needed to move the green agenda forward. For example:

- The Ministry of Finance has committed to greening the state budget and public procurement practices, and designing a SDGs financing monitoring system, and is interested in the implementation of green taxonomy;
- The Ministry of Energy will focus on economic incentives for clean energy investments and has established a special department for energy efficiency;
- The Ministry of Water Resources will continue upscaling of the water saving technologies and more efficient pumping stations;
- The State Committee on Forestry will continue to increase re/afforestation aiming to double the forest-covered area by 2030. To date, 600 000 ha of new forests, including 458 000 in the Aral Sea region have already been planted;
- Private sector will lead in climate-smart agriculture and waste recycling;
- Ministries of Higher Education and Labor will develop and introduce green educational curricula and offer opportunities for youth and innovative solutions, including digitization. Stakeholder mapping completed by academic partners calls for engagement of local traditional actors such as mahallas;
- UzHydromet will finalize the climate change strategy and roadmap for 2022–2026 and will provide adaptation plans for key sectors of the economy – agriculture and water management, healthcare, natural disasters management, and built environment.

Discussion and Conclusions – What Have We Achieved Together

Participants commended the open and participatory space provided for each of the 11 policy dialogue roundtables and the opportunity to strengthen technical capacity and knowledge on climate change and green growth.

- Convened from August 2021 to February 2022, the 11 policy dialogues brought together a diverse group for the first time in a hybrid offline and online format. More than 700 stakeholders participated in the dialogues, including policymakers, members of the Legislative Chamber of the Oliy Majlis, officials from more than 30 Uzbekistan ministries, agencies, and municipal authorities, as well as leading national and international experts, civil society, academia, development partners, and the public.
- Momentum built in the dialogue series resulted in strengthened awareness and capacity building for all stakeholders and elevating the green growth and climate agenda at all levels in the government. MEDPR found this to be critical to improve coordination to implement the green transition.
- Key issues, international best practices, and proposals presented at the policy dialogues contributed to a shared understanding among the stakeholders. Government agencies have endorsed the policy recommendations and actions, which will inform the next steps, including World Bank’s capacity development support of MEDPR; climate change institutional assessment; issue papers on macro-economics, green jobs, and fiscal incentives; analysis of the energy sector decarbonisation; and a conference on green growth.
- As per MEDPR, policy dialogues will contribute to the development of national strategic documents on climate change, green transition, and green growth – all vital for Uzbekistan. In January 2022, the Government of Uzbekistan released a new five-year national strategy for 2022–2026, which emphasizes, among other priorities, the efficient use of energy and natural resources, power sector transformation to reduce emissions, update of climate and sectoral legislation, incentives for green investments, optimized use of natural resources, and investments in landscape restoration.
- Based on the identified priorities, the green growth strategic framework has been developed with development partners (e.g., UNDP) supporting MEDPR in the design by April 2022 of the green economy strategy framework and roadmap. World Bank will provide further support on the long-term strategy, including lending instruments under the Country Partnership Framework 2022–2026.
- 200 000 people were reached directly with key climate change and green growth messaging through a robust communications campaign that accompanied the policy dialogues.

